U.S. DEPARTMENT OF ENERGY

DOE Program and Functional Offices Evaluation/Evidence-Building Activities, Learning Agenda, FY 2025 Evaluation Plan, and Capacity Assessment

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March 2024

Office of the Chief Financial Officer (CF)

U.S. Department of Energy

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TABLE OF CONTENTS

1 Introduction

This paper provides the Department's approach to evaluation and evidence-building to improve performance across the broad range of the Department's program and functional offices. This documents the Department's means for making available to the public the wide range of information concerning the Department's broad range of programs. The implementation of evaluation and evidence-building actions (i.e., statistics, research, studies, and analysis) is embedded as part of the planning and execution efforts of each of the program and functional offices. This paper also discusses the methodologies currently used across the Department for evaluation and evidence-building. These different methodologies reflect the broad diversity in programs' missions and functional office responsibilities.

Given the variety of DOE activities the Department relies on Program Managers to accomplish program management objectives and related evaluation requirements, Program Managers tailor program strategies and oversight, including documentation of program information, program phases, the timing and scope of decision reviews and decision levels, to fit the conditions of that program, consistent with applicable laws and regulations and the time sensitivity of the capability need.[1]

DOE Portfolios and Programs utilize a tailored management approach based on program complexity[2]. This tailored approach to program management is based on risk and complexity of the program and, if needed, definition of different program categories to address risk and complexity. DOE programs cover a wide spectrum (ranging from nuclear security to research and development to building weatherization).

Based on this broad spectrum of programs, the broad range of players (DOE, other Federal agencies, national laboratories, universities, private sector, general public, international) and the myriad of interests, the Department invests significant emphasis and resources in making the Department's activities available through an extensive network of publicly accessible websites, document archives, budget allocations, performance results, etc. The Department's functional offices (Office of Chief Financial Officer (OCFO), Procurement, Project Assessment, Enterprise Assessment, etc.) also have extensive websites which make their activities available to the general public.

DOE's goal is to establish Program Management guidance that addresses the following attributes:[3]

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[1] NNSA Policy 413.2, Program Management Policy, page 1: https://directives.nnsa.doe.gov/nnsa-policy-documents/nap-0413-002/@@images/file

[2] DOE Policy (P) 410.3, Program Management: https://www.directives.doe.gov/directives-documents/400-series/0410-3-apolicy

[3] NNSA Policy 413.2, Program Management Policy, Page 4: https://directives.nnsa.doe.gov/nnsa-policy-documents/nap-0413-002/@@images/file

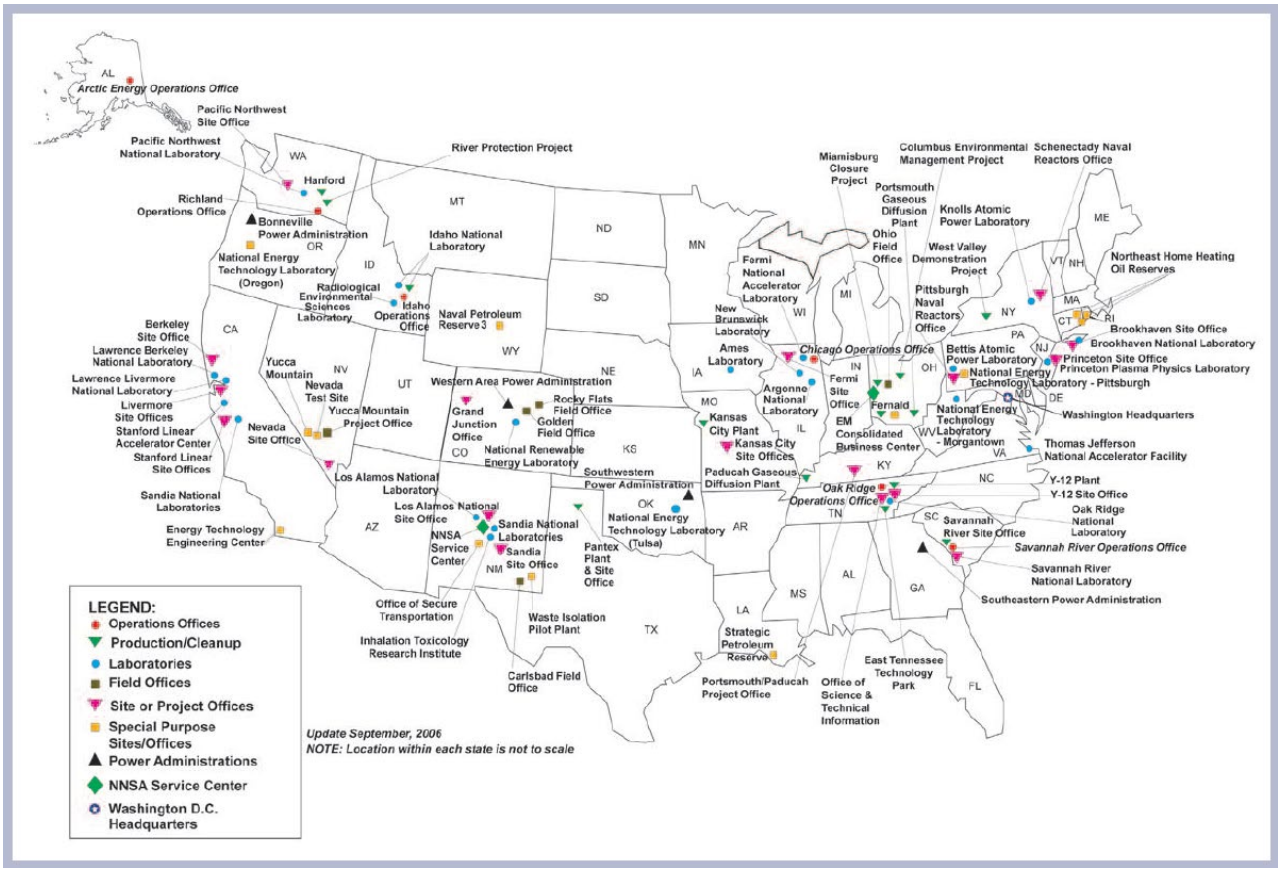
- Tailored and Flexible – Program management approaches are based on program complexity and the particular conditions related to that program.
- Streamlined and Effective Management – Program responsibility should be decentralized when practicable and use a streamlined management structure during program execution, characterized by short, clearly defined lines of responsibility, authority, and accountability.
- Responsive and Cost-Effective – Programs should utilize an approach that aligns capability with available technology and resources to satisfy operational needs, while recognizing fiscal constraints.
- Cross-program coordination where appropriate – in support of agency-wide improvement efforts, cross-agency goals and standards will be established when beneficial.

This paper is based on open-source research using information available on Department of Energy (DOE) websites as well as open-source platforms. Links to the websites of some of the key program and functional offices are provided.

Also provided in this paper is the FY 2025 Evaluation Plan for several specific Learning Agenda efforts the Department plans to pursue. For information concerning the more detailed evaluation and evidence building efforts by each of the program and functional offices for enhancement of their knowledge base and to inform decision makers – as well as monitoring implementation of the Infrastructure Investment and Jobs Act (IIJA), Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022, Inflation Reduction Act (IRA), and Fiscal Responsibility Act (FRA) of 2023 – refer to the websites for each of the program offices and functional offices.

The following figure reflects the Department's headquarters and field offices, as well as the national laboratories.

Figure 1: DOE Locations



2 Performance Evaluation Information

This paper presents the methodologies currently used across the Department. These different methodologies reflect the broad diversity in programs and missions. This paper is based on open-source research using information available on Department of Energy (DOE) websites as well as some open-source platforms.

3 Strategic Plan

Each of the program and functional offices are engaged in supporting strategic goals. DOE is preparing a new Strategic Plan intended to cover FY 2022 – FY 2026. This Plan will include Goals and Objectives for the Department; Offices will then develop specific milestones to meet these. The requirements for this Plan are set in the Government Performance and Results Act Modernization Act (GPRA-MA). DOE's preliminary Strategic Plan defines seven strategic goals:

1. Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050
2. Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability
3. Advance Science Discovery and National Laboratory Innovation
4. Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities

5. Promote Equity and Energy Justice
6. Advance Clean-Up of Radioactive and Chemical Waste
7. Operational Excellence

These goals are further refined into 25 Strategic Objectives assigned to specific Programs and Offices. A same Program or Departmental Element can be assigned more than one Strategic Goal and Strategic Objective.

OMB Memoranda M-19-23[4] M-20-12[5], and M-21-27[6] discuss the process of developing and implementing a multi-year learning agenda that coincides with the four-year timeframe defined for agency strategic plans.[7] An agency learning agenda sets out priority questions (i.e., questions relevant for programmatic, operational, regulatory, or policy decision-making) across the entire agency.[8]

3.1 DOE-wide Planning, Programming, Budgeting, and Execution (PPBE)

On May 9, 2022, the Secretary of Energy sent to Departmental elements a memorandum titled, *Implementing a Planning, Programming, Budgeting, and Execution (PPBE) Process to Improve Outcomes of Long-Term Initiatives*. The process, established by the Deputy CFO, will assess the DOE's requirements in the context of the Department's strategic objectives, capabilities, capacity, and budget to determine cross-departmental achievements, gaps, barriers, opportunities for improvement, and potential near- and long-term budgetary implications. The output from this process will be used to develop the Department's Future-Years Energy Program (FYEP), required by Public Law 112-74, *Consolidated Appropriations Act, 2012*, and Future Years Nuclear Security Program (FYNSP).

To provide transparency of each portfolio, program, and project, DOE plans to use its PPBE process to allocate resources and develop its Future-Years Energy Program (FYEP) (and FYNSP), a plan that identifies five-year program resource requirements. The FYEP will provide the Department's annual President's Budget Request (PBR) and encourage efficiency in the execution – and phasing throughout the life cycle – of portfolios, programs, and projects (i.e., large construction projects) and allocation of resources (i.e., funding, facilities, equipment, and people) by enhancing transparency and accountability in the process, and by providing a

[4] OMB Memorandum M-19-23, Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance: https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf
[5] OMB Memorandum M-20-12, Phase 4 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Program Evaluation Standards and Practices: https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf
[6] OMB Memorandum M-21-27, Evidence-Based Policymaking: Learning Agendas and Annual Evaluation Plans: https://www.whitehouse.gov/wp-content/uploads/2021/06/M-21-27.pdf
[7] OMB Memorandum M-19-23, Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance: https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf
[8] GSA Evidence Act Toolkit, A Guide to Developing Your Agency's Learning Agenda: https://oes.gsa.gov/assets/toolkits/A_Guide_to_Developing_Your_Agency's_Learning_Agenda_updated.pdf

mechanism for the systematic evaluation and review of performance, priorities, and commitments.

3.2 Significant Program Evaluation Activities for FY 2025

The U.S. Department of Energy and its predecessor organizations have supported evidence-building for the purpose of improving outcomes for more than 50 years. This work includes rigorous implementation, outcome, and impact evaluations; grants to researchers for basic science, applied research, and evidence synthesis; and data collection in support of official statistics and performance improvement. This Annual Evaluation Plan presents each Departmental Element according to the Strategic Goal deemed most relevant to evaluation activities.

For FY 25, DOE is focused on the following five (5) areas:

- Optimizing Carry-Over Balances for DOE Program and Support Functions
- Development of a Statistical Methodology Improvement Plan (SMIP)
- Management of Procurement Systems to utilize DOE and NNSA Category Management
- Improve Automation to Increase Efficiency and Effectiveness of DOE Corporate Business Systems
- Ensure 40% of the Benefits from DOE's Clean Energy, Energy Efficiency, and Climate Programs Flow to Underserved Communities
- Improving data collection and scoping new evaluations

The following evaluation has been implemented/completed:

- Optimizing DOE Corporate Business Systems & Services for Cloud-Based Delivery

A detailed discussion of the Department's significant evaluations is found in Chapter 7: FY 2025 Annual Evaluation Plan for the Department of Enegy.

4 Program Evaluation Methodologies

Successful programs are essential to the effective accomplishment of the Department of Energy's (DOE) strategic and operational goals. These programs are diverse and reflect the scope and breadth of the Department's missions. These include (but are not limited to):

- Research and Development (R&D), including Laboratory Directed Research and Development[9] (LDRD) Programs;
- Environmental Management Programs;
- Legacy Management Programs;
- Nuclear Power Research and Development (including naval reactors);

[9] DOE O 413.2C Laboratory Directed Research And Development: https://www.directives.doe.gov/directives-documents/0413.2-BOrder-c-chg1-minchg/@@images/file

- Nuclear Weapons Research, Development, Production, and Oversight;
- Energy Information Administration;
- Staff offices (e.g., Office of the Chief Financial Officer (OCFO), Office of the Chief Information Officer (OCIO), etc.); and,
- Capital Asset Programs[10].

Evaluation of programs is key for the DOE as it manages this myriad of dis-similar programs. Program evaluation is a systematic assessment using quantitative and/or qualitative data and analysis methods to answer specific questions about current or past programs, with the intent to assess their effectiveness and efficiency[11]. Often, the term "program evaluation" and "evaluation" are used synonymously. Evaluations include the following:

- A systematic method for collecting, analyzing, and using information to answer questions about projects, policies, and programs[12], particularly about their effectiveness and efficiency.
- Systematic outcome and impact studies to assess whether a program is achieving its goals, and why (or why not).
- Periodic assessments of a program's progress, including process implementation studies to determine where and how to make improvements, improve efficiencies, and ensure that the program is running as planned.

Evaluation means "an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency."[13] Evaluation standards (from OMB M-20-13)[14] include the following:

- **Relevance and Utility** - Evaluations must address questions of importance and serve the information needs of stakeholders to be useful resources.
- **Rigor** - Evaluations must produce findings that can be confidently relied upon, while providing clear explanations of limitations.
- **Independence and Objectivity** - Evaluations must be viewed as objective for stakeholders, experts, and the public to accept their findings.
- **Transparency** - Evaluations must be transparent in the planning, implementation, and reporting phases to enable accountability and help ensure that aspects of an evaluation are not tailored to generate specific findings.
- **Ethics** - Evaluations must be conducted to the highest ethical standards.

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[10] DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets: https://www.directives.doe.gov/directives-documents/400-series/0413.3-border-b-chg6-minchg
[11] EERE Program Evaluation: https://www.energy.gov/eere/analysis/eere-program-evaluation
[12] Administration for Children and Families (2010) The Program Manager's Guide to Evaluation. Chapter 2: What is program evaluation?
[13] Evidence Act§ 101(e)(4)(B) (citing 5 U.S.C. § 311(3)), Public law 115-435, January 14, 2019: https://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf
[14] OMB Memorandum M-20-13, Phase 4 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Program Evaluation Standards and Practices, page 4: https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf

As a tool to support good management practice, evaluation helps inform key planning and budget decisions and enables managers to determine if adjustments are needed in program design to improve the rate or quality of achievement relative to the committed resources. Evaluations also help programs quantify achieved impacts. While program evaluation first focuses on this definition, important considerations[15] often include:

- Program costs;
- Potential program improvements;
- Determining whether it is worthwhile to continue with the program;
- Identifying better alternatives, if there are unintended outcomes; and,
- Verifying whether program goals are appropriate and useful.

Methodologies used at the Department to evaluate programs and program performance include examination of both objective and subjective information. These methodologies vary based on:

- Office Standards and Requirements;
- Organizational Mission/Requirements;
- Implementation methodology (including contract type, grant, etc.); and,
- Oversight requirements.

DOE's Agency Level Performance Management, Strategic Reviews, and Quarterly Program Reviews are three key processes driven by evidence.

4.1 Strategic Reviews

All agencies are required to conduct frequent data-driven performance reviews and strategic reviews. All agencies must follow the public reporting guidelines defined for strategic plans, Annual Performance Plans and Annual Performance Reports which will include a progress update by strategic objective.[16]

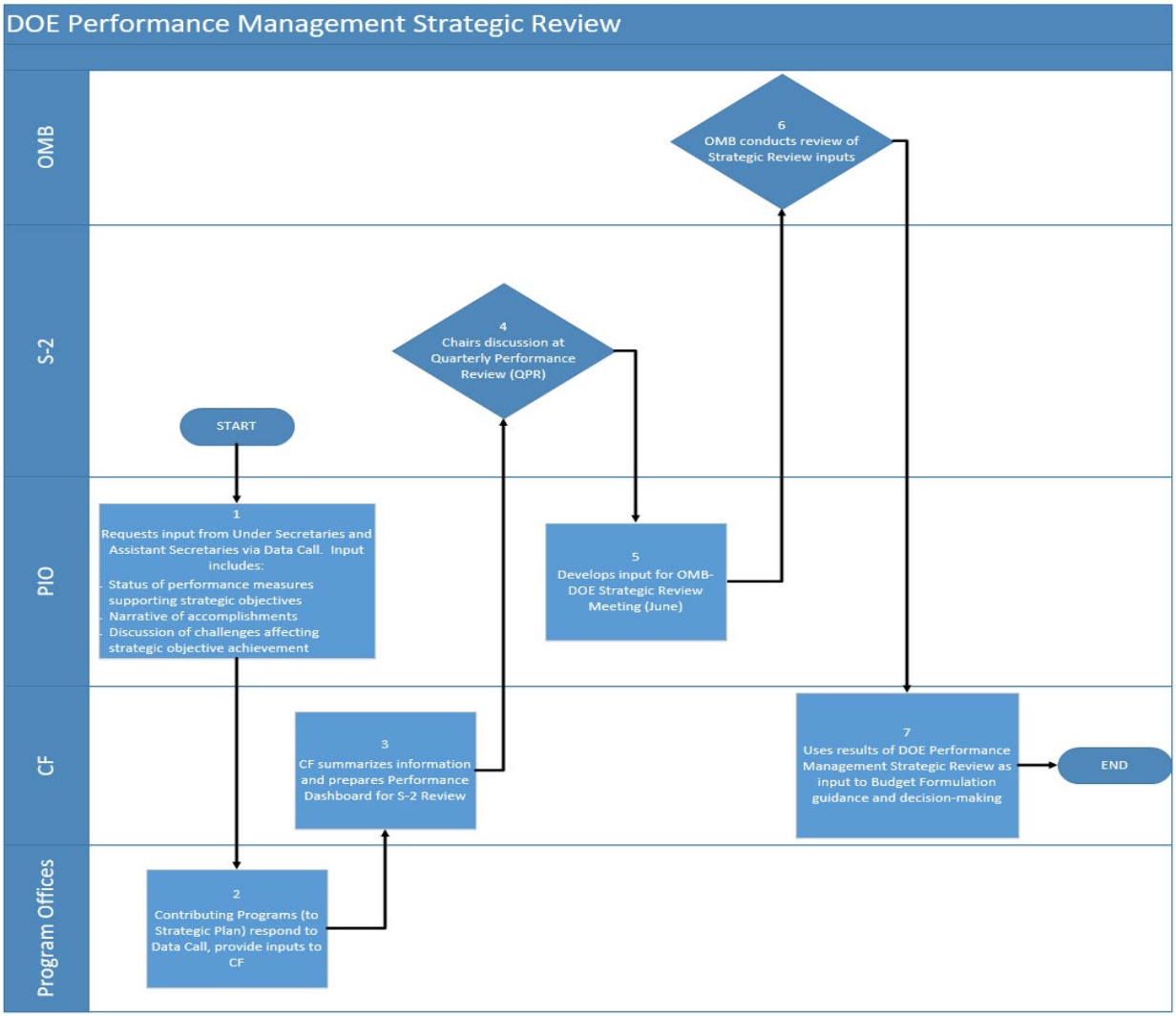
The strategic review serves as the agency's internal management process or set of processes which provide for an annual assessment of progress being made to improve program outcomes, assess whether the agency is using the best measures to identify progress on program outcomes, and look at opportunities for productivity gains using a variety of analytical, research, and evaluation methods to support the assessment. The results of these reviews should inform many

[15] Social Science Research Network (SSRN), What is Program Evaluation?: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3060080
[16] SECTION 270—Program and Project Management, OMB Circular No. A-11 (2020) Page 2 of Section 270: https://www.whitehouse.gov/wp-content/uploads/2018/06/s270.pdf

of the decision-making processes at the agency, as well as decision-making by the agency's stakeholders. [17]

The strategic review process, facilitated by the Office of the CFO (CF) and overseen by the Department's Performance Improvement Officer (PIO), concludes with DOE leveraging the data collected (documented in the Strategic Planning Budget Formulation Performance Management (BFEM) system) and inputs provided by OMB to inform DOE's Budget Formulation.

Figure 2: DOE Performance Management Strategic Review Process



[17] SECTION 260—Performance and Strategic Reviews, OMB Circular No. A-11 (2020) Page 7 of Section 260: https://www.whitehouse.gov/wp-content/uploads/2018/06/s260.pdf

4.2 Agency-Level Performance Management

The Fiscal Year DOE Annual Performance Report / Future Fiscal Year Annual Performance Plan contains details of the Department of Energy's (DOE) program performance, showing the historical targets and results future fiscal year performance targets for the Department's annual performance goals. It fulfills the statutory requirements in the Government Performance and Results Act (GPRA) of 1993 and the GPRA Modernization Act of 2010 related to production of an annual report on past program performance and an annual performance plan. For more info, visit: https://www.energy.gov/cfo/listings/annual-performance-reports.

4.3 Quarterly Program Reviews (QPR)

QPRs (which are to be informed by program-level evaluations and evidence-building activities) are conducted between Federal headquarters staff, M&O contractor staff, and Federal field office staff. QPRs, chaired by the Deputy Secretary, are attended by DOE senior leadership and Goal Leaders; program management and subject matter experts attend as needed.

Senior leadership is informed of the Department's progress over the past quarter and of any impending challenges (including risks) that may disrupt program success. QPRs allow for senior leadership to ask in-depth questions of program management and for programs to request assistance from the highest levels of the Department.

5 Strategic Goals and Evidence Building Activities

5.1 Strategic Goal 1: Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050

5.1.1 Office of State and Community Energy Programs (SCEP)

The Office of State and Community Energy Programs (SCEP) was established in January 2022 and is responsible for managing a portfolio of nearly $6 billion in funding from the Bipartisan Infrastructure Law and annual appropriations.

The Office of State and Community Energy Programs works with state and local organizations to significantly accelerate the deployment of clean energy technologies, catalyze local economic development and create jobs, reduce energy costs, and avoid pollution through place-based strategies involving a wide range of government, community, business, and other stakeholders.

Foundational programs like the Weatherization Assistance Program and State Energy Program, which both have more than 40 years of successfully delivering energy savings across the country, will complement newly formed programs such as the Local Government Energy Program and Energy Futures Grants, enabling DOE to work for the first time ever, with local governments and communities for the long term. WAP and SEP provide funding and technical assistance to states, territories, the District of Columbia, and Native American tribes to enhance energy security, advance state-led energy initiatives, maximize the benefits of decreasing energy waste, and reduce energy costs for low-income households. Each state is the decision maker and

administrator for SEP and WAP program activities tailored to their unique resources, delivery and production capacity, and energy goals.

Through the disbursement of formula grants, DOE will extend the core capabilities of state energy offices and expand the weatherization provider network to assist low-income families with home energy retrofits. Competitive awards will further the innovation by states and local governments seeking to implement high-impact and self-sustaining clean energy projects. In addition, technical assistance will help to facilitate clean energy programs and practices through "best practice" tools, “lead-by-example” methods, peer-to-peer forums, and other strategic partnerships.

Programs led by the Office of State and Community Energy Programs include:

- Building, Training, and Assessment Centers
- Career Skills Training
- Energy Auditor Training Grant Program
- Energy Efficiency Materials Pilot Program
- Energy Efficiency Revolving Loan Fund Capitalization Grant Program
- Energy Efficiency and Conservation Block Grant Program
- Grants for Energy Efficiency Improvements and Renewable Improvements at Public School Facilities
- State Energy Program
- Weatherization Assistance Program

WAP and SEP provide funding and technical assistance to extend the capabilities of states, tribes, local governments, schools, and community-serving organizations to implement high-impact, self-sustaining clean energy projects that center the needs of low-income and disadvantaged communities and tangibly improve the lives of their citizens. The SCEP Project Map highlights the annual formula and competitive funding for WAP and SEP.

For more, refer to:

- SEP FY21 ALRD and Grant Application Instructions
- SEP FY17 Competitive Awardees
- Apply for Weatherization Assistance
- WIP Fact Sheet
- WAP Fact Sheet
- SEP Fact Sheet
- Partnerships and Technical Assistance Fact Sheet
- Strategic and Interagency Initiatives Fact Sheet

WAP:

- Bipartisan Infrastructure Law Funds for WAP
- Visual Guides for Home Energy Efficiency Upgrades
- E&I and SERC Project Selections Announced

SEP:

- Program Activities and Outcomes
- State Energy Program Impacts
- State Energy Program National Evaluation

5.1.2 Loan Programs Office (LPO)

The [18]Loan Programs Office (LPO) finances large-scale, all-of-the-above energy infrastructure projects in the United States. LPO administers three distinct loan programs, but each offers a similar value to borrowers:

1. Provide first-of-a-kind projects and other high-impact energy-related ventures with access to debt capital that private lenders cannot or will not provide.
2. Provide flexible, custom financing that helps to meet the specific needs of individual borrowers.
3. Encourages early engagement and is a valuable partner to applicants throughout the entire lifetime of a project.

Once LPO closes a loan or loan guarantee, projects are monitored and evaluated throughout project development, construction, commissioning, and operation until the loan has been repaid in full. LPO's team of financial, technical, environmental, and legal professionals is dedicated to advancing an all-of-the-above energy strategy that avoids, reduces, or sequesters greenhouse gases.

After financial close or first funding, responsibility for managing a project transfers from the LPO Origination Division to the Portfolio Management Division (PMD). PMD provides ongoing monitoring and oversight to ensure that the construction and completion phase of a project is executed in accordance with the terms and conditions of the loan documents. PMD is also responsible for maintaining compliance with the loan documents terms and conditions after project completion. Some of PMD's responsibilities include, but are not limited to, monitoring borrower activities to ensure compliance with the loan documents; monitoring and analyzing project costs, schedule, and performance quality; and review borrowers requests for amendments, consents, or waivers to the loan documents.

Technical monitoring activities performed by LPO's Technical and Project Management Division (TPMD) during construction and after project completion are focused on monitoring that the project is completed on budget, on schedule, and at a performance level that produces revenue sufficient to repay the loan.

An assigned project engineer provides technical monitoring support for specific projects. The federal project engineer retains the services of an independent engineer to perform detailed

[18] DOE-LPO-Brochure-2020-AA (energy.gov)

project monitoring activities, including validation of project status, evaluation of project risk, review and certification of milestone completion, evaluation of payment requests, and evaluation of change requests. The federal project engineer serves in a technical oversight capacity, directing and reviewing the activities of the independent engineer, summarizing, and interpreting borrower and independent engineer technical input for submission to PMD, and recommending responses to borrower requests.

Each month, the LPO Monthly Application Activity Report (MAAR) updates:

1. The total number of current active applications that have been formally submitted to LPO;
2. The cumulative dollar amount of LPO financing requested in these active applications;
3. The 24-week rolling average of new applications per week as of the close of the previous month;
4. Technology sectors represented by applications;
5. Proposed project locations represented by applications; and
6. Status of where applications stand in the review process.

NOTE: For more, refer to MAAR Metrics-Tech Sector Breakdown or MAAR Proposed Project Locations**.**

LPO publishes an Annual Portfolio Status Report for each FY. The latest can be found here: LPO-APSR-FY-2022.pdf (energy.gov).

5.1.3 Office of Clean Energy Demonstrations (OCED)

Office of Clean Energy Demonstrations (OCED) was established in December 2021 with a mission to deliver clean energy technology demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.

OCED is a technology-neutral office that serves as a project management center of excellence, implementing key multi-billion dollar demonstration projects in the Bipartisan Infrastructure Law, as well as supporting the applied programs and other offices to ensure a consistent approach to implementing capital intensive late-stage technology demonstrations across the Department of Energy (DOE). OCED supports commercial-scale demonstration projects that have viability at scale and an expectation of achieving cost competitiveness and bankability. OCED investments are part of a clear progression between the research, development, and early-stage demonstration projects within DOE technology offices and initial deployments supported by the private sector or other programs, such as the Loan Programs Office, ensuring coherent strategies for advancing and deploying clean energy technologies and systems. Funding decisions are made to support scalable outcomes that lead to commercialization and deployment,

while focusing on greenhouse gas emission reductions, job creation, environmental justice and Justice40 Initiative priorities[19], and energy transition communities.

OCED is hiring employees from all backgrounds across America to help tackle the climate crisis, create good-paying American jobs, and spur economic growth.

Scope of OCED in the Bipartisan Infrastructure Law includes:

- Advanced Reactor Demonstration Program
- Carbon Capture Large-Scale Pilot Projects
- Carbon Capture Demonstration Projects Program
- Clean Energy Demonstration Program on Current and Former Mine Land
- Energy Improvement in Rural and Remote Areas
- Energy Storage Demonstration and Pilot Grants
- Industrial Emissions Demonstration Projects
- Long Duration Demonstration Initiative and Joint Program
- Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency
- Regional Clean Hydrogen Hubs

Other OCED initiatives and programs include:

- In collaboration with the Office of Technology Transitions and the Office of Energy Efficiency and Renewable Energy, OCED announced a $30M prize competition, called MAKE IT, to boost domestic manufacturing and ensure a robust, secure supply chain of critical clean energy technology components. The MAKE IT Prize is spread over two tracks:
    - Facilities Track: Each winner can receive up to $5M to get their manufacturing facility shovel-ready
    - Strategies Track: Each winner can receive up to $250K if they develop a roadmap to promote a clean energy manufacturing activity in their region and show interest from one entity considering a new facility
- OCED, in collaboration with the Office of Technology Transitions and the Office of Energy Efficiency and Renewable Energy, is making nearly $30M available to small businesses, authorities having jurisdiction, and other non-traditional partners needing commercialization support in the form of vouchers for third-party subject matter expertise, access to testing facilities or to entities providing industry-accepted certifications needed to enter the market and deploy new technologies. The voucher program includes three opportunities and is intended to make it easy for entities to take

[19] Department of Energy's Environmental Justice Scorecard, as of August 28, 2023: https://ejscorecard.geoplatform.gov/scorecard/department-of-energy/

advantage of these funds, with a streamlined application process and simplified contracting mechanism executed through DOE's recent partnership intermediary agreement with ENERGYWERX. OCED is currently offering three voucher opportunities, each with a specific goal and intended for a specific group of stakeholders:
    - *Pre-Demonstration Commercialization Support*
    - *Performance Validation, Modeling, and Certification Support*
    - *Clean Energy Demonstration Project Siting/Permitting Support*
- OCED and the Office of Technology Transitions launched a $15M Collaborative Alignment for Critical Technology Industries (CACTI) Lab Call for DOE National Laboratories to establish two industry working groups to increase communication across entities working within clean energy technology industries. The goal of this funding is to bring together stakeholders across the value chain, facilitate discussion around divergent practices, identify commercialization challenges, and work collaboratively to develop recommendations and best practices for resolving these challenges. DOE will focus on clean hydrogen and long duration energy storage industries.
- The GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies) model is used to calculate the lifecycle of greenhouse gas emissions. Developed by Argonne National Lab, GREET helps industries, government and academia get a complete picture of the energy and emissions impacts of different fuel pathways, materials, and technologies, including clean hydrogen, sustainable aviation fuel, and batteries. OCED, in collaboration with the Office of Technology Transitions, is making $2M available to Argonne National Lab to develop the next generation of the GREET model with structured databases, enhanced functionality, and intuitive user-friendly interfaces for individual modules.
- OCED, in collaboration with the Office of Technology Transitions and the Office of Fossil Energy and Carbon Management, is investing $15M to accelerate the commercialization of carbon dioxide removal (CDR) technologies with advanced measurement, reporting and validation (MRV) capabilities. Four projects led by DOE National Laboratories and supported by more than 50 industry stakeholders, aim to develop a harmonized MRV framework, formulate best practices, build up capabilities, and implement robust MRV practices with industry partners, government agencies, and other relevant stakeholders. These projects will also increase trust and transparency among CDR practitioners, buyers, and companies.

5.1.4 Office of Manufacturing and Energy Supply Chains (MESC)

The Office of Manufacturing and Energy Supply Chains is responsible for strengthening and securing manufacturing and energy supply chains needed to modernize the nation's energy infrastructure and support a clean and equitable energy transition.

The office is catalyzing the development of an energy sector industrial base through targeted investments that establish and secure domestic clean energy supply chains and manufacturing, and by engaging with private-sector companies, other Federal agencies, and key stakeholders to collect, analyze, respond to, and share data about energy supply chains to inform future decision making and investment. The office manages programs that develop clean domestic manufacturing and workforce capabilities, with an emphasis on opportunities for small and medium enterprises and communities in energy transition.

The Office of Manufacturing and Energy Supply Chains coordinates closely with the Office of Clean Energy Demonstrations for the management of major demonstration projects, and across all of DOE's programs on manufacturing and supply chain issues, including with the Advanced Manufacturing Office in the Office of Energy Efficiency and Renewable Energy.

DOE Bipartisan Infrastructure Law Provisions led by MESC include:

- Advanced Energy Manufacturing and Recycling Grant Program
- Battery and Critical Mineral Recycling - Retailers as Collection Points, and State and Local Programs
- Battery Manufacturing and Recycling Grants
- Battery Material Processing Grants
- Energy Efficient Transformer Rebates
- Extended Product System Rebates
- Implementation Grants for Industrial Research and Assessment Centers
- Industrial Assessment Centers
- Rare Earth Elements Demonstration Facility
- State Manufacturing Leadership

5.1.5 Office of Nuclear Energy (NE)

The Office of Nuclear Energy's (NE) primary mission is to advance nuclear power as a resource capable of making major contributions in meeting U.S. energy supply, environmental, and energy security needs utilizing the following reactor technologies:

- Light Water Reactors
- Advanced Reactors
    - Advanced Reactor Demonstration Program
- Versatile Test Reactor
- Small Modular Reactors

NE publishes the **NE Scorecard Summary**, which documents progress regarding new plant construction, operating fleet status, and international status. The following are scorecards issued since 2020:

- NE Scorecard Summary - March 2023
- NE Scorecard Summary - January 2023

- NE Scorecard Summary - November 2022
- NE Scorecard Summary - February 2022
- NE Scorecard Summary - December 2021
- NE Scorecard Summary - October 2021
- NE Scorecard Summary - January 2021
- NE Scorecard Summary - April 2021
- NE Scorecard Summary - November 2020
- NE Scorecard Summary - August 2020
- NE Scorecard Summary - May 2020
- NE Scorecard Summary - March 2020

The Nuclear Energy Advisory Committee (NEAC) (formerly the Nuclear Energy Research Advisory Committee) was established on October 1, 1998, to provide independent advice to the Office of Nuclear Energy (NE) on complex science and technical issues that arise in the planning, managing, and implementation of DOE's nuclear energy program. NEAC meets biannually to advise the Secretary and the Assistant Secretary for Nuclear Energy on a number of issues, including:

- National policy and scientific aspects of nuclear issues of concern to DOE,
- Periodic reviews of the various program elements within DOE's nuclear programs and recommendations based thereon,
- The needs, views, and priorities of stakeholders of DOE's nuclear programs, and long-range plans, priorities, and strategies to address more effectively the technical, financial, and policy aspects of such programs, and
- Appropriate levels of resources to develop those plans, priorities, and strategies.

The committee includes representatives from universities, industry, foreign nationals, and national laboratories. Particular attention was paid to obtaining a diverse membership with a balance of disciplines, interests, experiences, points of view, and geography. NEAC operates in accordance with the Federal Advisory Committee Act (FACA) (Public Law 92-463), 92nd Congress, H.R. 4383' October 6, 1972) and all applicable FACA Amendments, Federal Regulations and Executive Orders.

NE manages the Idaho National Laboratory (INL) M&O Contract.[20] INL is the nation's leading center for nuclear energy research and development. INL works in each of the strategic goal areas of DOE: energy, national security, science, and environment. NE follows a Science and Energy Lab approach to evaluate its M&O contractor that uses broad, office-wide performance criteria that are mostly subjective.[21]

[20] Idaho National Laboratory Management and Operation Contract: https://www.id.energy.gov/doeid/INLContract/INL-Contract.htm

[21] GAO 19-5, Appendix VII: Additional Information on the Office of Nuclear Energy's Performance Evaluations, page 99: https://www.gao.gov/assets/700/697103.pdf

This performance evaluation provides a standard by which to determine whether the M&O contractor is acting in a managerially and operationally responsible manner and is meeting the mission requirement and performance expectations/objectives of the Department as stipulated within their contract.

In partnership with the Contractor, the DOE Office of Nuclear Energy (NE) and DOE-Idaho Operations Office (DOE-ID) define the measurement basis that serves as the Contractor's performance-based evaluation. The Performance Goals, Performance Objectives and set of Notable Outcomes are developed in accordance with expectations set forth within the contract. The Notable Outcomes for meeting the Objectives set forth within this plan have been developed in coordination with NE program offices as appropriate.

This performance-based approach focuses the evaluation of performance against Performance Goals. Progress against these Goals is measured using a set of Objectives. The success of each Objective will be measured based on demonstrated performance by the INL, and on a set of Notable Outcomes that focus Laboratory leadership on the specific items that are the most important initiatives and highest risk issues the Laboratory must address during the year. These Notable Outcomes should be objective, measurable, and results-oriented to allow for a definitive determination of whether the specific Outcome was achieved at the end of the year.[22]

The DOE policy for implementing performance-based management, as implemented at INL, are detailed in annual Performance Evaluation and Measurement Plans[23], and include the following guiding principles:

- Performance Objectives are established in partnership with affected organizations and are directly aligned to the DOE strategic goals;
- Resource decisions and budget requests are tied to results; and
- Results are used for management information, establishing accountability, and driving long-term improvements.

For FY 23 the following performance goals were established for the INL contract[24]:

[22]2023 INL Performance and Measurement Plan, Contract No. DE-AC07-05ID14517: https://www.id.energy.gov/Contracts/File/DownloadFile/86
[23] 2023 INL Performance and Measurement Plan, Contract No. DE-AC07-05ID14517: https://www.id.energy.gov/Contracts/File/DownloadFile/86

[24] For the most part, these performance criteria have remained unchanged from fiscal year 2007, GAO-19-5 Management and Operating Contracts, p. 99: https://www.gao.gov/assets/700/697103.pdf

Table 8: FY 23 Performance Goals for INL

Performance Goal	Weight
GOAL 1.0 Efficient and Effective Mission Accomplishment	70%
GOAL 2.0 Efficient and Effective Stewardship and Operation of Research Facilities	15%
GOAL 3.0 Sound and Competent Leadership and Stewardship of the Laboratory	15%
GOAL 4.0 Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health and Environmental Protection	30%
GOAL 5.0 Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)	25%
GOAL 6.0 Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs	20%
GOAL 7.0 Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems	25%

Table 9: Award Fee Pool linked to Adjectival Ratings

Award-Fee Pool Available To Be Earned	Adjectival Rating
91%-100%	Excellent
76%-90%	Very Good
51-75%	Good
No Greater Than 50%	Satisfactory
0%	Unsatisfactory

In a manner similar to the Laboratories managed by the Office of Science, NE provides a proposed grade and a score from the corresponding numerical range for each Objective (see Figure below) for Letter Grade Scale). Each evaluation will measure the degree of effectiveness and performance of the Contractor in meeting the corresponding Objectives.

Table 10: NE Scoring/Letter Grades

Score/Letter Grade Scale											
Final Grade:	A+	A	A-	B+*	B	B-	C+	C	C-	D	F
Score:	**4.3 - 4.1**	**4.0 - 3.8**	**3.7 - 3.5**	**3.4 - 3.1**	3.0 - 2.8	2.7 - 2.5	2.4 - 2.1	2.0 - 1.8	1.7 - 1.1	1.0 - 0.8	0.7 - 0

5.1.6 Office of Energy Efficiency and Renewable Energy (EERE)

The Office of Energy Efficiency and Renewable Energy (EERE) conducts program evaluations to assess whether programs are meeting planned goals and achieving commercialization and market results. Evaluations identify opportunities for efficient and effective management of public investments. Evaluations also identify opportunities to improve programs to more effectively and efficiently manage public investments.

Technology development programs in DOE extensively and successfully utilize peer review to evaluate research and development (R&D) activities at the project and program levels. In addition to peer review, R&D Program Managers are encouraged to use other evaluation methods to obtain information on program effectiveness and realized benefits that cannot be provided using the peer review method.[25]

The potential benefits of periodically doing systematic studies using other R&D evaluation methods are considerable. Programs could:

- Generate additional important information for use in continuous program improvement
- Document knowledge benefits that are often unaccounted for when communicating programs' value to stakeholders
- Document realized market benefits associated with past research successes
- Better answer questions about cost-effectiveness of the longer-term research

EERE consists of several offices that support EERE's mission:

[25]Overview of Evaluation Methods for R&D Programs: https://www.energy.gov/sites/prod/files/2015/05/f22/evaluation_methods_r_and_d.pdf

Table 5: EERE Functional Areas and Programs

Functional Area	Program	Description
Principal Deputy Assistant Secretary's Office	Communications	Leads strategic communications and outreach activities for the Office of Energy Efficiency and Renewable Energy (EERE) by ensuring that key information about the nature and impact of EERE activities is accessible, reliable, and delivered through multiple communications channels to stakeholders and the public. • Manages and continually updates the EERE web enterprise and its digital tools, including EERE's corporate website, the EnergySaver.gov content on Energy.gov, and several other EERE sites. Ensures compliance with federal requirements and enables the broad distribution and management of content. • Leads the planning and execution of EERE's press and public announcements, media outreach, social media, multimedia activities, and major cross-cutting media communications campaigns to maximize impact. • Conducts consumer research, creates cross-cutting outreach materials, and executes national informational campaigns to increase consumer adoption of energy-efficient and renewable technologies. • Develops, coordinates, and manages internal and external strategic messaging and cross-cutting EERE materials to ensure effective targeting and use by the EERE community, including EERE's senior leadership. • Leads EERE's internal communication activities that aim to ensure sufficient use of information flows across the EERE organization and engage staff on internal and external efforts of interest to the EERE community. • Responds to letters and inquiries from the public and congressional members and maintains comprehensive EERE publications. Work includes: • Branding and quality control with Communication Standards and Guidelines • EERE News

Functional Area	Program	Description
		• EERE Blog and Success Stories • Contributions to DOE's Energy Blog • Creating Consumer-Friendly Resources
	External Relations	Provides strategic advice to EERE's leadership team and program offices on interactions with key external stakeholders that involve relevant policy and opportunities to advance the office's mission. The team helps lead interactions with stakeholders to leverage relationships and educate audiences about the impact of EERE's activities. Spans three (3) focus areas: 1. Communications 2. Stakeholder Engagement 3. Legislative Affairs
	Strategic Analysis	The EERE Strategic Analysis (SA) team performs cross-cutting, gap-filling, and corporate analysis associated with the research, development, demonstration, and deployment of EERE technologies. SA develops tools and methods to enable consistent evaluation and analysis across EERE and serves a leadership role in related analysis across DOE, other government agencies, and external stakeholders. SA's mission is to provide evidence-based, portfolio-wide analysis for energy decision makers in EERE and beyond.
Energy Efficiency	Advanced Manufacturing	Supports R&D projects, R&D consortia, and early-stage technical partnerships with national laboratories, companies (for-profit and not-for profit), state and local governments, and universities through competitive, merit reviewed funding opportunities designed to investigate new manufacturing technologies. For more regarding AMO's resources for industry participants, refer to next Stakeholder Webinar.
	Buildings	Building Technologies Office (BTO) develops, demonstrates, and accelerates the adoption of cost-effective technologies, techniques, tools, and services that enable high-performing, energy-efficient and demand-flexible residential and

Functional Area	Program	Description
		commercial buildings in both the new and existing buildings markets, in support of an equitable transition to a decarbonized energy system by 2050, starting with a decarbonized power sector by 2035. BTO conducts work in three (3) key areas in order to continually develop innovative, cost-effective, energy-saving solutions: **1.** Research and Development (R&D) • Spearhead the development of new, energy-efficient technologies. • Lead R&D activities that reduce home energy use through Building America. • Collaborate with industry to improve the energy efficiency of new and existing commercial buildings. **2.** Market Stimulation • Help communities improve efficiency through the Better Buildings Residential Network. • Work with partners to offer whole-house upgrades through Home Performance with ENERGY STAR®. • Promote the adoption of energy-efficient technologies and methods in new homes through the DOE Zero Energy Ready Home program. • Provide home owners, buyers, and renters information about a home's energy use and offer cost-effective solutions to improve efficiency through Home Energy Score.™ • Encourage building owners and operators to commit to an energy-savings pledge with the Better Buildings Challenge. • Improve commercial retail, real estate, and health care buildings through Better Buildings Alliance. • Help grow new technologies through awareness programs like Solid-State Lighting. • Inspire the next generation of builders and architects through the U.S. Department of Energy Solar Decathlon.

Functional Area	Program	Description
		• Give engineers, architects, and designers better insight into building energy use through modeling software for programs such as EnergyPlus and OpenStudio Plug-in for SketchUp. • Develop and demonstrate tools, resources, and strategies for residential efficiency technologies and trade practices through the Home Improvement Catalyst. **3.** Building Codes and Equipment Standards • Set test procedures and minimum efficiency standards for residential appliances and commercial equipment. • Help states implement building energy codes, provide compliance tools to building professionals, and participate in developing the technical basis cost-effective codes that continue to drive greater efficiency.
	Industrial Efficiency and Decarbonization	The Industrial Efficiency & Decarbonization Office (IEDO) accelerates the innovation and adoption of cost-effective technologies that eliminate industrial GHG emissions. • **Cross-Sector Technologies** – IEDO supports Research, Development, and Demonstration into technologies that enable decarbonization across U.S. Manufacturing Sectors. • **Energy- and Emissions-Intensive Industries** – IEDO supports research, development, and demonstration into technologies that enable decarbonization in specific energy-intensive industries. • **Technical Assistance and Workforce** – IEDO supports American businesses and communities transition to energy-efficient, low carbon technologies and systems through direct, hands-on training and technical assistance.

Functional Area	Program	Description
		IEDO conducts a range of analyses to explore energy use and trends by sector, technology, or system. The analytical references shared here provide insights for public and private-sector decision-makers, researchers, developers, and those interested in studying the changing industrial energy sector. Both fundamental and future-looking resources are linked here and will be available on a future searchable analysis library: https://www.energy.gov/eere/iedo/energy-analysis-data-and-reports.
Renewable Power	Geothermal	Includes program areas such as: • Enhanced Geothermal Systems (EGS) hold the potential to power tens of millions of American homes and businesses. GTO actively supports R&D initiatives that guide enhanced geothermal toward a commercially viable platform by 2030, including technology validation, cost reduction, and improved performance. • Development of advanced exploration tools and technologies will accelerate the discovery and utilization of the U.S. Geological Survey's estimated 30,000 MWe of undiscovered hydrothermal resources in the Western United States by increasing exploration and confirmation well success rates. More effective exploration methods address a major barrier to increased geothermal energy production by lowering the high upfront risk and cost of project development. Locating undiscovered geothermal resources will support the near-term expansion of renewable energy because once found, hydrothermal resources can be brought online quickly using current technologies. ○ Play Fairway Analysis ○ Roadmap for Strategic Development of Geothermal Exploration Technologies • Low Temperature & Coproduced Resources

Functional Area	Program	Description
		represent a small but growing sector of hydrothermal development in geothermal resources below 150°C (300°F). Considered non-conventional hydrothermal resources, these technologies are bringing valuable returns on investment in the near-term, using unique power production methods. The Geothermal Technologies Office (GTO) works with industry, academia, and national laboratories to develop and deploy new low-temperature and coproduction technologies that will help the geothermal community achieve widespread adoption of under-utilized low-temperature resources. • Systems Analysis program in the Geothermal Technologies Office focuses primarily on: o Environmental issues o Policy, regulatory, and financing o Economic analysis and validation o Data and tools that support geothermal exploration and development As a key part of the Systems Analysis portfolio, a two-year, comprehensive Vision Study for geothermal energy development is underway to project growth scenarios over the coming decades. To support these primary functions, GTO's analysis activities support: o Environmental Analysis: GTO works to address the environmental impacts of geothermal technologies through research and analysis of geothermal project life cycles and water use, and seismicity issues related to enhanced geothermal systems. • New Studies Aid in Optimizing Water Use in Geothermal Applications

Functional Area	Program	Description
		○ Market and Policy Analysis: GTO analysts strive to help the geothermal community increase the use of geothermal resources in the marketplace and provide options for strengthening current geothermal policies through vigorous market and policy analysis. The Energy Department's 2013 Geothermal Market Report is now available online. ○ Strategic Planning: GTO develops a detailed Geothermal Technologies Multi-Year RD&D Plan that is updated every two years. This document provides input to program planning, budgeting, and analysis. ○ Geothermal Data Systems: GTO collects nationwide geothermal data, conducts analyses and maintains this information in a National Geothermal Data System (NGDS) for widespread public use to reduce the risk of geothermal energy development. More information about NGDS is available in our NGDS Fact Sheet. ▪ DOE Geothermal Data Repository (DOE-GDR) Data Provision Instructions ○ Economic Impact Tools: GTO evaluates each geothermal technology's benefits and risks by reviewing the costs and economic impacts of geothermal development to recognize possible technology outcomes. A variety of analysis methodologies are used in combination to provide a sound understanding of GTO. Working closely with technology managers and developers is key to including realistic assumptions, both market- and technology-based. The GTO Strategic Planning and Analysis Working

Functional Area	Program	Description
		Group provides a peer review of analytical efforts. Featured publications include: • Doubling Geothermal Generation Capacity by 2020: A Strategic Analysis • NREL Doubling Geothermal Capacity • Geothermal Exploration Policy Mechanisms • Geothermal Regulatory Roadmap • National Geothermal Data System (NGDS) Fact Sheet • Seismicity Protocol • Geothermal Electricity Technology Evaluation Model (GETEM)
	Solar	Solar Energy Technologies Office (SETO) funds research and development across the solar energy spectrum to drive innovation, lower costs, and support the transition to a decarbonized power sector by 2035 and a decarbonized economy by 2050. Research areas include: • Photovoltaics • Concentrating Solar-Thermal Power • Systems Integration • Manufacturing and Competitiveness • Soft Costs • Solar Workforce Development • Equitable Access to Solar Energy **NOTE:** For more, refer to the Solar Energy Research Database. SETO research priorities and highlights include: • Solar Futures Study • Solar Energy Technologies Office Multi-Year Program Plan • 2020 SETO Portfolio Book • SETO 2020 Peer Review Report • 2018 SETO Portfolio Book • 2018 SETO Peer Review Report • PV Innovation Roadmap • Concentrating Solar Power Gen3 Demonstration Roadmap

Functional Area	Program	Description
		• On the Path to SunShot • SunShot 2030 • SunShot Vision Study
	Wind	Wind Energy Technologies Office (WETO) invests in applied energy science research and development (R&D) activities that enable industry technological innovation and deployment. While some of these investments are targeted at a specific sector, many of them are relevant across all wind applications: land-based utility-scale, offshore, and distributed wind. These activities are conducted in partnership with the academic community, national laboratories, and industry, and are aimed at improving performance, lowering costs, and reducing market barriers for U.S. wind energy. **5.1.6.1 WIND RESOURCE CHARACTERIZATION AND PLANT OPTIMIZATION** The Atmosphere to Electrons (A2e) initiative will play a major role in optimizing wind plant systems that produce more power and need less maintenance, leading to the wind plant of the future—a collection of intelligent and innovative machines operating in a highly coordinated way. • Measure and characterize domestic wind energy resources for both land-based and offshore wind energy systems • Improve the understanding of wind farm design conditions and complex aerodynamics • Leverage the high-performance computing (HPC) abilities at the national laboratories to model the complexity of the atmosphere and wind plant flow physics, and enable industry to take the next steps in developing both evolutionary and transformational technologies • Improve the reliability of wind plant systems that address the complex dynamics of winds created by turbulent weather, variable terrain, and rotor wakes • Develop and validate open-source design tools for evaluating new concepts and enabling

Functional Area	Program	Description
		industry innovation in next-generation wind turbine designs. **5.1.6.2 WIND COMPONENT AND SYSTEM RESEARCH, DEVELOPMENT, AND TESTING** • Partner with industry, universities, and national laboratories on aerodynamic, structural and electrical test centers for wind plants, wind turbines, rotor blades, and drivetrains • Investigate new drivetrain configurations that weigh less and have higher efficiency than current designs and are installed on taller towers that can access the stronger wind resources at greater heights • Conduct research needed to address U.S.-specific offshore wind challenges such as deep water, weak soils, and hurricanes • Enable industry to meet performance and safety standards by establishing frameworks for small wind turbine certification • Participate in the development of national and international wind energy standards. **5.1.6.3 MARKET BARRIER MITIGATION** • Conduct research aimed at understanding and mitigating the impacts of wind energy on bird, bat, marine, and insect species and their habitats • Investigate and mitigate potential impacts of wind energy on society, including auditory, visual, radar, and competitive-use impacts • Understand critical wind integration challenges related to electricity supply and demand, wind forecasting, wind speed variability, and cyber security • Develop solutions and best practices for wind energy grid integration • Provide independent cost of energy analyses, economic assessments, and market information publications • Use the WINDExchange platform to help communities weigh the benefits and costs of wind energy, understand the deployment process, and make wind development decisions supported

Functional Area	Program	Description
		by fact-based, relevant, and actionable information. WETO held its last virtual Peer Review in August 2021. The purpose of the Peer Review is to evaluate projects funded by DOE to assess their contribution to the mission and goals of the office, track progress against stated objectives, and assess the office's overall management and performance. Approximately 90% of the projects in WETO's Fiscal Year 2019–2020 research and development portfolio were publicly presented and systematically reviewed by external subject-matter experts from industry, academia, and federal agencies. The 2021 Peer Review included two parallel tracks across 10 focus areas: 1. Analysis and Modeling 2. Atmospheric Science 3. Distributed Wind 4. Environmental Research 5. Grid Integration 6. Materials and Manufacturing 7. Offshore Wind Demonstrations 8. Offshore Wind 9. Regulatory and Siting 10. Stakeholder Engagement and Workforce Past peer reviews include: • 2021 Peer Review Report and Presentations • 2019 Peer Review Report and Presentations • 2017 Peer Review Report and Presentations • 2014 Peer Review Report and Presentations • 2012 Peer Review Report • 2010 Peer Review Report WETO projects are listed here: Wind Energy Technologies Office Projects Map | Department of Energy For more, visit: WINDExchange | Department of Energy

Functional Area	Program	Description
	Water	The mission of the Water Power Technologies Office (WPTO) is to enable research, development, and testing of new technologies to advance marine energy as well as next-generation hydropower and pumped storage systems for a flexible, reliable grid. To reduce marine energy costs and fully leverage hydropower's contribution to the grid, WPTO invests in research and technology design; validates performance and reliability for new technologies; develops and enables access to necessary testing infrastructure; and disseminates objective information and data for technology developers and decision makers. WPTO's work directly supports EERE's strategic objectives of increasing the Nation's energy affordability, integration, and storage capabilities. This, in turn, supports DOE's mission to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. WPTO consists of two R&D programs: the Marine Energy Program and the Hydropower Program. WPTO's Multi-Year Program Plan (MYPP) serves as an operational guide to help the Water Power Technologies Office manage and coordinate its activities, as well as a vehicle to communicate WPTO's mission, goals, and plans to water power stakeholders and the public. The Office's first MYPP, this report details WPTO's research, development, demonstration, and commercial activities for the coming years and outlines how these efforts are important to meeting the nation's energy and sustainability goals. WPTO projects are listed here: Water Power Technologies Office Projects Map | Department of Energy

Functional Area	Program	Description
Sustainable Transportation	Bioenergy	The Bioenergy Technologies Office (BETO) supports research, development, and demonstration to enable the sustainable use of domestic biomass and waste resources for the production of biofuels and bioproducts. This includes: • Advanced Algal Systems program supports research and development (R&D) to lower the costs of producing algal biofuels and bioproducts. • Bioproduct Production program develops bio-based products and chemicals that can enable biofuel production. • CO_2 Utilization portfolio investigates technical pathways for converting carbon dioxide into biofuels and bioproducts. • Conversion Technologies program supports research and development in technologies for converting biomass feedstocks into finished liquid transportation fuels—such as renewable gasoline, diesel, and jet fuel—co-products or chemical intermediates, and biopower. • Data, Modeling, and Analysis program supports research, analysis, and tool development to address the economic and environmental dimensions of bioenergy and bioproducts. • Feedstock Technologies program focuses on technologies and processes that transform renewable carbon sources into conversion-ready feedstocks. • Systems Development and Integration program works to lower the risk of bioenergy production technologies through verified proof of performance at the pilot or lower scales, facilitating further development and validation at demonstration and pioneer scales by private stakeholders. • BETO's transportation biofuels research aims to accelerate the production of advanced biofuels capable of decarbonizing heavy modes of transportation, such as the aviation and maritime sectors. • Research on converting waste to energy as potential high-impact resources for the domestic production of biofuels, bioproduct precursors, heat, and electricity.

Functional Area	Program	Description
		A list of BETO publications by name, description, and date that showcase key research and development activities for all BETO technologies can be found here: BETO Publications | Department of Energy
	Hydrogen and Fuel Cells	Hydrogen and Fuel Cell Technologies Office (HFTO) conducts work in several key areas to advance the development of hydrogen and fuel cell technologies. **Research, Development, and Demonstration** Key areas of research, development, and demonstration (RD&D) include the following: • Fuel cell R&D, which seeks to improve the durability, reduce the cost, and improve the performance of fuel cell systems, through advances in fuel cell stack and balance of plant components • Hydrogen fuel R&D, which focuses on enabling the production of low-cost hydrogen fuel from diverse renewable pathways and addressing key challenges to hydrogen delivery and storage • Manufacturing R&D, which works to develop and demonstrate advanced manufacturing technologies and processes that will reduce the cost of fuel cell systems and hydrogen technologies • Technology validation, which demonstrates and validates pre-commercial technologies before the deployment phase. To ensure that advances in the laboratory can be realized in the marketplace, the Hydrogen and Fuel Cell Technologies Office conducts a range of activities to address economic and institutional barriers: • Education and outreach activities aim to increase public awareness and understanding of the technologies, facilitating the implementation of near-term demonstration projects and early

Functional Area	Program	Description
		market fuel cell installations, while easing the way for long-term market adoption. • Market transformation activities provide financial and technical assistance for the use of hydrogen and fuel cell systems in early market applications, with the goals of achieving sales volumes that will enable cost reductions through economies of scale, supporting the development of a domestic industry, and providing feedback to testing programs, manufacturers, and potential technology users. • Safety, codes and standards efforts develop information resources and best practices to address safety issues, and to provide critical information needed for technically sound codes and standards—these efforts in codes and standards will be ongoing as new technologies emerge and mature. **Advisory Panels** The National Research Council and the Hydrogen and Fuel Cell Technical Advisory Committee provide technical and programmatic advice for DOE's Hydrogen Program. **Hydrogen and Fuel Cell Technical Advisory Committee** The Hydrogen and Fuel Cell Technical Advisory Committee (HTAC) was established under Section 807 of the Energy Policy Act of 2005. Selected in June 2006, committee members advise the Energy Secretary on issues related to hydrogen and fuel cell technology development. For more information about HTAC, its committee members, and related publications, visit the DOE Hydrogen Program website. **National Research Council** The National Academy of Sciences, through its National Research Council (NRC), reviews the research and demonstration programs of DOE's

Functional Area	Program	Description
		Hydrogen Program every fourth year as directed by the Energy Policy Act of 2005. The NRC is administered jointly by the National Academy of Science, the National Academy of Engineering, and the Institute of Medicine through the NRC Governing Board. For more information about NRC and related publications geared toward DOE's Hydrogen Program, visit the DOE Hydrogen Program website. **Consortia** The Hydrogen and Fuel Cell Technologies Office funds lab-led consortia to coordinate national laboratory research and development activities and serve as a resource for universities and industry. **H2@Scale** H2@Scale is a DOE initiative that brings together stakeholders to advance affordable hydrogen production, transport, storage, and utilization to increase revenue opportunities in multiple energy sectors. It is a framework in which national laboratories and industry can work together through government co-funded projects to accelerate the early-stage research, development, and demonstration of applicable hydrogen technologies. **Systems Integration** The breadth and complexity of the overall DOE Hydrogen Program RD&D effort, as well as the interaction of program elements, requires an integrated approach to reduce risk and maximize the potential for success. The focus of systems integration is to understand the complex interactions among program areas, components, and the tradeoffs between them. **Partnerships and International Activities**

Functional Area	Program	Description
		Cooperative hydrogen and fuel cell technology R&D will play a central role in advancing the transition to widespread adoption of hydrogen and fuel cell technologies. **H2USA** H2USA is a public-private collaboration focused on addressing the key challenges of hydrogen infrastructure. **International Energy Agency** Member countries across the globe address the technological, financial, and institutional barriers to widespread commercialization of hydrogen and fuel cells. International Partnership for Hydrogen and Fuel Cells in the Economy This multinational partnership coordinates research, development, and deployment programs to advance the commercialization of hydrogen and fuel cell technologies. **OVERVIEW** Program Accomplishments: Web page and fact sheet describing how DOE efforts have advanced the state of the art of hydrogen and fuel cell technologies, making significant progress toward overcoming key challenges to widespread commercialization. Technology Overview Fact Sheets: Easy-to-understand fact sheets and other information designed to introduce hydrogen and fuel cell technologies to non-technical audiences.

Functional Area	Program	Description
		Organization Chart and Contacts: Organizational structure and contact information for the Hydrogen and Fuel Cell Technologies Office. Hydrogen and Fuel Cell Technologies Office News: Recent news stories and press releases. Hydrogen and Fuel Cell Technologies Office Newsletter: Quarterly recap of office news, funding opportunities, workshops, events, and recent publications. **PLANS** Hydrogen and Fuel Cell Technologies Office Multi-Year Research, Development, and Demonstration Plan: Describes the goals, objectives, technical targets, tasks, and schedules for all activities within the Hydrogen and Fuel Cell Technologies Office. DOE Hydrogen Program Plan: Outlines the strategy, activities, and plans of the DOE Hydrogen Program, which includes hydrogen and fuel cell activities within the EERE Hydrogen and Fuel Cell Technologies Office and the DOE offices of Fossil Energy, Nuclear Energy, Electricity, Science, and ARPA-E. U.S. DRIVE Technical Team Technology Roadmaps: Current roadmaps and previous accomplishments reports from U.S. DRIVE (Driving Research and Innovation for Vehicle efficiency and Energy sustainability), a non-binding and voluntary government-industry partnership focused on advanced automotive and related infrastructure technology research and development. Hydrogen and Fuel Cell Technologies Office Budget: Outline of the Hydrogen and Fuel Cell Technologies Office's major activities and budget.

Functional Area	Program	Description
		DOE Hydrogen Program Budget: Budget information for hydrogen and fuel cell research, development, and other activities for DOE's Offices of Energy Efficiency and Renewable Energy, Fossil Energy, Nuclear Energy, Science, and ARPA-E. **IMPLEMENTATION** **Technology Evaluations** Independent Peer Reviews: Independent technical reviews convened by DOE's System Integrator to gauge progress toward meeting specific technical targets and to provide technical information necessary for key decisions. Technical Publications: Technical information about hydrogen; fuel cells; safety, codes, and standards; hydrogen and fuel cell technology market analysis; and jobs and economic impacts resulting from fuel cell deployment. **Deployment and Diffusion** Fuel Cell Technologies Market Reports: Data on trends in the fuel cell industry. State of the States Reports: Snapshots of fuel cell and hydrogen activity in the 50 states and District of Columbia. **In-Progress Peer Reviews and Process Assessments** Annual Merit Review and Peer Evaluation Reports: Summaries of the comments of expert peer reviewers at the Annual Merit Review and Peer Evaluation, where each year projects funded by DOE's Hydrogen Program are reviewed for their merit. U.S. DRIVE: Technical accomplishment highlights and other publications from U.S. DRIVE (Driving

Functional Area	Program	Description
		Research and Innovation for Vehicle efficiency and Energy sustainability), a government-industry partnership among DOE; USCAR, representing FCA US LLC, Ford Motor Company, and General Motors; five energy companies—BP America, Chevron Corporation, ExxonMobil Corporation, Phillips 66 Company, and Shell Oil Products US; Tesla Motors; two utilities—Southern California Edison and Michigan-based DTE Energy; and the Electric Power Research Institute. Hydrogen and Fuel Cell Technical Advisory Committee (HTAC): Reports and meeting presentations from HTAC, which was established under Section 807 of the Energy Policy Act of 2005 to provide technical and programmatic advice to the Energy Secretary on DOE's hydrogen research, development, and demonstration efforts. U.S. Government Accountability Office Report: A review of the status and progress of the DOE-led Hydrogen Fuel Initiative established in 2003 to perform research, development, and demonstration for developing hydrogen fuel cells for use as a substitute for gasoline engines. **Internal Controls, Project Tracking, and Progress Reports** DOE Hydrogen Program Annual Progress Reports: Summaries of annual hydrogen and fuel cell research and development and analysis activities and accomplishments from work conducted by industry, academia, and national laboratories for the DOE Hydrogen Program and the offices of EERE, Fossil Energy, Nuclear Energy, and Science. Reports to Congress: Reports to Congress prepared by the DOE Hydrogen Program to fulfill the provisions of the Energy Policy Act of 2005 (EPACT).

Functional Area	Program	Description
		Graduations, Redirections, Terminations, Watch-List Annual Merit Review and Peer Evaluation Reports: Summaries of the comments of expert peer reviewers at the Annual Merit Review and Peer Evaluation, where each year projects funded by DOE's Hydrogen Program are reviewed for their merit. **RESULTS** **R&D Enabling Market Success** Pathways to Success: Innovations Enabled by the Fuel Cell Technologies Office: Reports describing the results of an effort to identify and characterize commercial and near-commercial (emerging) technologies and products that benefited from the support of the Hydrogen and Fuel Cell Technologies Office and its predecessor programs within DOE's Office of Energy Efficiency and Renewable Energy. **Technical Outcomes** Annual Merit Review and Peer Evaluation Reports: Summaries of the comments of expert peer reviewers at the Annual Merit Review and Peer Evaluation, where each year projects funded by DOE's Hydrogen Program are reviewed for their merit. **Case Studies** Case Studies: Easy-to-understand case studies fact sheets from the Hydrogen and Fuel Cell Technologies Office. Success Stories: Stories about EERE successes in advanced fuel cell and hydrogen technologies that pave the way for the adoption of cleaner fuels and more efficient energy storage in vehicles and buildings.

Functional Area	Program	Description
	Vehicles	Vehicle Technologies Office (VTO) provides low cost, secure, and clean energy technologies to move people and goods across America. Technology areas include: • Batteries, Charging, and Electric Vehicles • Energy Efficient Mobility Systems • Advanced Engine and Fuels Technologies • Lightweight and Propulsion Materials • Technology Integration VTO carries out its mission through collaboration with others in the Department and other federal agencies, national laboratories and universities, industry partners, and community leaders. Partners within the Department of Energy such as the DOE Office of Science, ARPA-E, the Advanced Manufacturing Office, the Bioenergy Technologies Office, the Fuel Cell Technologies Office, and others help remove technology and institutional barriers. VTO also coordinates research efforts with a number of other agencies across the federal government, including the Department of Transportation, the Environmental Protection Agency, and the Department of Defense. **U.S. DRIVE** U.S. DRIVE (Driving Research and Innovation for Vehicle efficiency and Energy sustainability), facilitates pre-competitive technical information exchange among experts in government and industry. These leaders identify research and development needs, develop technology-specific roadmaps, and evaluate progress toward jointly-developed goals and technical targets. **21st Century Truck Partnership** The 21st Century Truck Partnership is addressing important national challenges related to medium-duty and heavy-duty truck efficiency, safety, and emissions by pursuing collaborative research and development among government and industry partners.

Functional Area	Program	Description
		Clean Cities Coalitions Clean Cities coalitions support the nation's energy and economic security by building partnerships to improve transportation energy efficiency. The national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and private sectors to advance alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies. **National Clean Fleets Partnership** Through the National Clean Fleets Partnership, Clean Cities coalitions works with large private fleets to reduce petroleum use. The initiative provides fleets with specialized resources to incorporate alternative fuels and fuel-saving measures into their operations. **Vehicle Technologies Annual Merit Review** Annually, the Vehicle Technologies Annual Merit Review is held as advanced vehicle technologies projects funded by VTO are presented and reviewed for their merit. Reviewers come from a variety of backgrounds, including current and former members of the vehicles industry, academia, National Laboratories, and government. Each reviewer evaluates a set of projects based on how much they contribute to or advance the Energy Department's missions and goals. The reviewer considers the project's breadth, depth, appropriateness, accomplishments, and potential. The final reviews are described in the Vehicle Technologies Office Annual Merit Review Results Reports. Full list of VTO reports and publications can be found here: Reports and Publications.

Functional Area	Program	Description
Operations	Business Services Management	Office of Business Services Management (OBSM) works to ensure that EERE has clear and accessible business processes, world-class information systems, and a highly talented workforce to execute its mission effectively and efficiently. OBSM supports EERE in its effort to be an open and collaborative learning organization that recruits and retains top talent, builds and renews its intellectual capital, continuously improves its business processes, fosters creative problem-solving, and shares best practices. OBSM includes the work of three offices and an internal Business Administration Team: **Information Technology Services Office:** The Information Technology Services Office (ITSO) manages EERE's IT systems and assets and ensures their compliance with federal and Departmental requirements. ITSO implements IT solutions that create operational efficiencies and increase the integrity and quality of information and data management; oversees EERE's IT facilities management, IT acquisitions, and EERE data architecture; and ensures that EERE technical controls, processes, and procedures are effective in mitigating risks and cyber threats, while complying with DOE cybersecurity directives. **Knowledge Management and Systems Office:** The Knowledge Management and Systems Office (KMSO) delivers and manages the policies and procedures, systems, tools, training, and data analytics necessary for EERE to consistently, efficiently, and effectively execute its mission in accordance with DOE guidelines and leadership priorities. KMSO leads business process management and systems efforts, as well as related data, training, and collaboration activities. **Workforce Management Office:** Workforce Management Office (WMO) provides assistance and advice to EERE offices and employees in the areas of talent management, staffing and onboarding, performance management, employee engagement, and training. WMO also oversees EERE Headquarters facilities management activities.

Functional Area	Program	Description
		Business Administration Team: OBSM's Business Administration Team provides direct oversight of conference management, controlled correspondence, and Congressional Report activities to ensure timely and consistent action across EERE, as well as alignment with federal and Departmental policies. The team also manages EERE audit coordination and resolution activities. This includes developing policies and procedures to guide the management and execution of audit resolution; collecting and validating corrective action data; and performing reviews and evaluations of internal controls to ensure effective operation and compliance with policies and best practices.
	Golden Field Office	Golden Field Office was designated a Department of Energy (DOE) field office in December 1992 to provide the Office of Energy Efficiency and Renewable Energy (EERE) with enhanced capability to develop and commercialize renewable energy and energy-efficient technologies. Golden's mission is to support EERE as its Business Service Center by awarding grants and contracts for clean energy projects, facilitating research and development (R&D) partnerships to support those technologies, and overseeing the National Renewable Energy Laboratory (NREL), the only national lab solely dedicated to researching and developing renewable energy and energy efficiency technologies. Federal and contractor staff award and manage grants. Staff members also ensure that the legal, environmental, and administrative elements of projects and contracts meet regulatory requirements. The awards provide funding to industry, non-profits, academia, and DOE's national laboratories to support R&D projects in areas like photovoltaics (solar cells), wind energy, biomass and biofuels, hydrogen and fuel cells, advanced vehicles and industrial and building energy efficiency. Golden-based staff also helps implement the State Energy Program and

Functional Area	Program	Description
		Weatherization Assistance Program and support EERE with technology deployment activities. Employees have expertise in engineering, scientific research, project management, procurement, finance, information systems, environmental protection, safety, law, and human resource management.

EERE prioritizes energy equity and environmental justice (EEEJ) to improve the health, safety, and energy resilience of communities that have been disproportionately affected by fossil fuels, by ensuring all Americans have access to affordable clean energy. EERE aligns its efforts with the Office of Economic Impact and Diversity and the Justice40 Initiative, which directs 40% of the overall benefits from federal investments to flow to disadvantaged communities.

EERE has conducted nearly 500 evaluations, including 80 impact evaluations, since 2000 (can be found here: https://www.energy.gov/eere/analysis/eere-evaluation-publications). EERE programs use a variety of evaluation methods to quantify impacts, assess progress, and promote improvement.[26] These methods include:

- Outcome Evaluations
- Impact Evaluations
- In-Progress Peer Reviews

As noted in the Strategic Evaluation Planning section, the type of evaluations performed depend on the evidence needed and questions that need to be answered. This includes a consideration of questions that if answered are expected to help provide the organization or program with evidence it can use to improve how it does business. Example evaluations include:

- An Investigation of Innovative Energy Technologies Entering the Market between 2009 - 2015, Enabled by EERE: This report documents technologies that have been commercialized by the private sector and other partners—such as technology developers in startups, companies, and universities—in part because of R&D funding from EERE. The findings are based primarily on technology tracking performed by the Pacific Northwest National Laboratory (PNNL) for select EERE technology offices. PNNL has collected technology data for multiple EERE R&D offices since the late 1970s, using a unique approach that links technologies to specific EERE-funded projects. The report provides a snapshot of commercial technologies enabled by EERE with primary focus on the period 2009-2015 when data was collected for 6 of 9 EERE R&D offices,

[26] EERE Types of Evaluations: https://www.energy.gov/eere/analysis/types-evaluations

corresponding to sixty-two percent (62%) of EERE total R&D budget over the same period. The longer time period 1976-1999 includes only data from a single office.

- Location-dependent Public-private Interaction in Catalyzing Solar Technology Commercialization: This report assesses the impact of Federal funding in the context of the solar startup landscape and ecosystem. One of the metrics measured and evaluated is follow-on funding—any private funding, like equity, debt, acquisition, and initial public offering (IPO)—raised by small businesses after a SETO award. Overall, SETO was able to track nearly $11 billion of follow-on funding, corresponding to a 29x investment multiplier.

Performance measures are derived from various sources including the Office of Energy Efficiency and Renewable Energy's (EERE) Strategic Plans, Annual Operating Plans, etc., aligned with the elements of the SOW, and that directly support EERE's strategic goals and commitments.

Performance measures consist of critical outcomes, performance objectives, and performance indicators. Critical Outcomes - The M&O Contractor for the National Renewable Energy Laboratory (NREL) is assessed against all elements of the SOW.[27] EERE provides a proposed grade and a score from the corresponding numerical range for each Goal (see Table 6 below) for Letter Grade Scale). Each evaluation will measure the degree of effectiveness and performance of the Contractor in meeting the corresponding Objectives.[28]

Table 6: EERE Scoring/Letter Grade Scale

Score/Letter Grade Scale											
Final Grade:	**A+**	**A**	**A-**	**B+***	**B**	**B-**	**C+**	**C**	**C-**	**D**	**F**
Score:	**4.3 - 4.1**	**4.0 - 3.8**	**3.7 - 3.5**	**3.4 - 3.1**	3.0 - 2.8	2.7 - 2.5	2.4 - 2.1	2.0 - 1.8	1.7 - 1.1	1.0 - 0.8	0.7 - 0

To further support evidence building and informed decision-making, NREL developed OpenEI, which is a free and open knowledge sharing platform created to facilitate access to energy-related data, models, tools, and information to make energy-related data and information searchable, accessible, useful to both people and machines. All users can search, edit, contribute,

[27] DE-AC36-08GO28308 Modification M1130: https://www.nrel.gov/extranet/primecontract/assets/pdfs/m1130_section_b.pdf

[28] Annual Performance Evaluation of the Alliance for Sustainable Energy at the National Renewable Energy Laboratory, FY 15, Part 2: https://www.energy.gov/sites/prod/files/2016/06/f32/GO-16-025%20Egger_Part2.pdf

and access data in OpenEI, which contains a wide variety of topics ranging from renewable energy, to policy and regulations, to analyzed data and raw data.

In addition, EERE's Strategic Analysis Team (SA) performs cross-cutting, gap-filling, and corporate analysis associated with the research, development, demonstration, and deployment of EERE technologies. SA develops tools and methods to enable consistent evaluation and analysis across EERE, and serves a leadership role in related analysis across DOE, other government agencies, and external stakeholders. EERE evaluation publications can be found here: https://www.energy.gov/eere/analysis/eere-evaluation-publications.

5.1.7 Office of Fossil Energy and Carbon Management (FECM)

The Office of Fossil Energy and Carbon Management (FECM) is responsible for Federal research, development, and demonstration efforts on advancing technologies to meet our climate goals and minimize the environmental impacts of fossil fuel use, including low carbon power generation and low carbon supply chains; carbon capture and storage (CCS) technologies; methane emissions reductions; critical minerals production; and carbon dioxide removal. FECM is committed to **improving the conditions of communities impacted by the legacy of fossil fuel use and to supporting a healthy economic transition** that accelerates the growth of good-paying jobs.

The Hydrogen with Carbon Management Program invests in research, development, and demonstration (RD&D) to gage whether carbon-based hydrogen as a fuel is a cost-competitive alternative to traditional fossil fuels. The program focuses on developing a new generation of carbon neutral or net-negative greenhouse gas emissions technologies, such as the gasification of wastes, reversible solid oxide fuel cells, hydrogen turbine technology, advanced materials, and sensors and controls. The program is an integral part of the U.S. Department of Energy's (DOE's) Hydrogen Energy Earthshots Initiative, which has a goal of achieving clean hydrogen costs of $1 per kilogram within one decade while maintaining and expanding employment of the U.S. energy workforce.

5.1.7.1 Carbon Transport and Storage Program

The Carbon Transport and Storage Program supports the foundation for carbon storage by making key investments in advanced technology RD&D, large-scale transport scenarios, commercial-scale storage facilities, and regional hubs. DOE's Office of Fossil Energy and Carbon Management (FECM) is uniquely positioned to help build a carbon transport and storage industry at the scale necessary to decarbonize the U.S. economy. Some critical program components include strategies to improve performance and reduce the cost of reliable carbon storage, creating educational partnerships for growing the workforce, and technology transfer and technical assistance to stakeholders.

5.1.7.2 Minerals Sustainability Division

The Minerals Sustainability Division helps create an environmentally, economically, and geopolitically sustainable supply chain of critical minerals (CM) while protecting the

environment and bolstering America's transition to a clean energy economy. Building on existing DOE research, the division's mission centers on advancing the technologies necessary to advance critical minerals production. The division is also pursuing research and development of unconventional and secondary feedstocks containing critical minerals and carbon ore derived from legacy and sustainable mining operations, as well as fossil energy byproduct streams like produced water from natural gas and oil operations.

5.1.7.3 Carbon Dioxide Removal (CDR) Program

The Carbon Dioxide Removal (CDR) Program's mission is to advance diverse CDR approaches to help achieve gigaton-scale removal by 2050. The program also emphasizes a robust analyses of life cycle impacts of various CDR approaches and a deep commitment to equitable and sustainable CDR.

5.1.7.4 Carbon Dioxide Removal (CDR) Program

The Carbon Conversion (CC) Program invests in RD&D and supports networks to deploy technologies that recycle CO2 into value-added products on an economic scale. The program focuses on several pathways, including mineralization, catalytic conversion, and biological approaches to create CO2-based building materials, fuels, and chemicals. Through these investments, the CC Program can help the United States achieve the goals of a net-zero carbon economy by 2050 while developing the industries of the future in an equitable and just manner.

5.1.7.5 Methane Mitigation Technologies Division

The mission of the Methane Mitigation Technologies Division is to eliminate non-trivial methane emissions from the oil and gas supply chain by 2030. This effort is part of FECM's broader mission to reduce both environmental and climate impacts of fossil fuels and includes constraining the emission of all greenhouse gases. The division is working to mitigate methane emissions across the natural gas supply chain – from production to processing, transportation, storage, and end use.

5.1.8 Office of International Affairs (IA)

The Office of International Affairs coordinates Department efforts to ensure a unified voice in DOE's international energy policy. IA works closely with other Federal departments and agencies, and the private sector, to align DOE's international energy objectives with national energy policies and activities. IA also coordinates and manages DOE cooperation with counterparts from other nations and international organizations. IA leads over two dozen bilateral and regional energy dialogues, partnerships, councils, and other forums to help countries achieve their energy security, energy access, and climate goals. Through high-level diplomacy and mobilization of world class technical expertise – including through our 17 national labs – IA is helping to solve some of the world's most complex energy challenges, especially in emerging economies, at a time when geopolitical conflicts are stressing energy markets.

Among other areas, IA experts maintain extensive knowledge of the following issues:

Table 14: IA Areas and Issues

Area	Issues
Multilateral Engagement	• The International Energy Agency (IEA) is at the heart of the global dialogue on energy, providing authoritative analysis, data, policy recommendations, and real-world solutions to help its 31 member countries provide secure and sustainable energy for all. The IEA recommends policies that enhance the reliability, affordability, and sustainability of energy for all sources. The Office represents the U.S. alongside the State Department at the IEA's Governing Board and numerous other committees to advance our energy security through the clean energy transition. • The Group of Twenty (G20) is an intergovernmental organization consisting of major economies, including Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, Japan, India, Indonesia, Italy, Mexico, Russia, South Africa, Saudi Arabia, South Korea, Turkey, the United Kingdom, and the United States. It is a forum for international economic and financial cooperation, extending into matters of energy security, energy transition, and implementation of sustainable development goals. The Office serves as Head of Delegation for negotiations in the Energy Track, advancing U.S. interests in areas such as the clean energy transition, unabated fossil fuels transition, critical mineral supply chains, and just transitions. • The Group of Seven (G7) is an intergovernmental organization consisting of major economies, including Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States, in addition to participation from the European Union. G7 members share like-minded views regarding democratic principles in advancing the clean energy transition to meet our most urgent climate goals while ensuring no communities are left behind. As of 2020, G7 members account for over half of global net wealth (at over $200 trillion), 30 –43% of global gross domestic product, and 10% of the world's population (770 million people). The Office serves as Head of Delegation for energy-related negotiations, forging a strong consensus among members that forms the basis for clean energy outcomes in other negotiated forums. • Founded by the United States and key country partners in 2010, the Clean Energy Ministerial (CEM) is a high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy. Initiatives are based on areas of common interest among participating governments and other stakeholders. The CEM brings together a community of the world's largest and leading countries, companies, and international experts to achieve one mission – accelerate clean energy transitions. The Office leads on CEM governance issues by participating in its Steering Committee and coordinates engagement among the numerous CEM initiatives and campaigns. • Formed in 1949 with the signing of the Washington Treaty, the North Atlantic Treaty Organization (NATO) is a security alliance of 31 countries from North America and Europe. NATO's fundamental goal

Area	Issues
	is to safeguard the Allies' freedom and security by political and military means. NATO's Energy Planning Group seeks to advance security of alliance energy supply, grid resilience, undersea energy infrastructure, clean energy supply chains, and recruiting civil expertise. The Office advances U.S. energy security and resilience priorities at the Alliance. • The International Renewable Energy Agency (IRENA) is a leading global intergovernmental agency for energy transformation that serves as a platform for international cooperation, supports countries in their energy transitions, and provides state of the art data and analyses on technology, innovation, policy, finance and investment. IRENA drives the widespread adoption and sustainable use of all forms of renewable energy in the pursuit of sustainable development, energy access, and energy security, for economic and social resilience and prosperity and a climate-proof future. The Office helps guide the organization's technical engagement, participating regularly in Council meetings. • The United Nations' stated purposes are to maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and serve as a center for harmonizing the actions of nations. The Office works with the U.S. government and partner countries to achieve the UN's current Sustainable Development Goals (SDGs), particularly SDG 7 which seeks to ensure access to affordable, reliable, sustainable, and modern energy. The Office also demonstrates the latest U.S. clean energy ambitions, technologies, and partnerships at the annual Conference of the Parties (COP) to the UN Framework Convention on Climate Change.
Europe & Asia	• For nearly a decade, the office has provided support to the government of Ukraine, and that support has only deepened since Russia's invasion of Ukraine in February 2022. The Office continues to play a leading role in supporting Ukrainian allies through this crisis, including through the provision and transportation with the Department of Defense of ten military cargo loads of emergency electrical equipment starting in December 2022, policy and energy planning support, cybersecurity support, and more. Hear the Department's podcast on this effort featuring Assistant Secretary Light here. • Through our signature program, the Partnership for Transatlantic Energy and Climate Cooperation (P-TECC), the office provides policymakers and civil-society stakeholders within Eastern and Central Europe with the resources and technical tools to build secure, resilient, climate-conscious energy systems. The initiative brings together 24 European countries and the European Union for annual events, including technical trainings, policy exchanges, and a high-level ministers' meeting and business forum. • The U.S.-EU Energy Council is the leading forum to guide bilateral energy cooperation between the U.S. and the EU. The Council is a high-level body launched in 2009 to deepen coordination on strategic energy issues and R&D. The Secretary of Energy co-chairs the Energy Council with the Secretary of State on the U.S. side. The EU's High

Area	Issues
	Representative for External Affairs, Vice President for Energy Union and Commissioner for Energy and Climate serve as co-chairs on the EU side. The US-EU Energy Council last met in April 2023 in Brussels, Belgium. • The office coordinates several bilateral partnerships and dialogues, including those with France, Germany, and the United Kingdom. Through these platforms, IA works with its international partners on energy policy, technology and innovation, advance energy transitions, and collaborate on reaching our mutual climate goals.
International Economic Opportunity	• Monitor international energy markets to inform Department leadership of critical developments in trade and geo-economics • Provide technical oil markets research and analysis in the design and implementation of a price cap on Russian oil exports • Analyze current trade flows to assist in compliance and enforcement of sanctions and other export restrictions • Lead natural gas and LNG analysis to support the U.S.', EU allies', and the IEA's efforts to reduce natural gas demand and ensure supply security in response to Russia's weaponization of energy supplies
Asia & the Indo-Pacific	• The Department and the Government of India's combined energy ministries launched a revitalized Strategic Clean Energy Partnership (SCEP) in September 2021, building upon decades of U.S.-India energy cooperation. Through technical collaboration, dialogue, and private sector engagement, the SCEP supports India's ambitious clean energy goals. • Established in 2011 and elevated to the ministerial level in 2021, the U.S.-Republic of Korea (ROK) Energy Policy Dialogue (EPD) promotes bilateral collaboration across three pillars – policies and planning, technologies and research, and commercialization and deployment • The Department and the Japanese Ministry of Economy, Trade, and Industry established CEESI to serve as the primary ministerial-level initiative to promote collaboration between the United States and Japan on clean energy technologies and common energy security issues. Technical task forces include Industrial Decarbonization, Carbon Capture Utilization and Storage, Energy Conservation, Renewable Energy, Hydrogen/Ammonia, Nuclear Energy, Batteries and Zero Emission Vehicles, and Technology Marketization. • Indonesia is an inaugural country of the Department's New Zero World (NZW) Initiative, and in 2023, the Department and the Indonesian Ministry of Energy and Mineral Resources finalized a work program to plan Indonesia's path to net zero emissions by 2060. These activities compliment the multilateral Just Energy Transition Partnership recently agreed to with Indonesia, which offers substantial financial and technical support for clean energy transition in Indonesia. • The Department and the Department of State's Bureau of Energy Resources hold an annual Energy Security Dialogue (ESD) with

Area	Issues
	Australia. The Net-Zero Technology Acceleration Partnership, signed by Secretaries Jennifer M. Granholm and Chris Bowen in 2022, reports through the Energy Security Dialogue. • The Department participated in the first annual U.S.-ASEAN Energy Ministers Meeting (EMM) in 2021 to catalyze energy engagement with this rapidly growing region. • Following on the Southeast Asia Clean Energy Forum co-hosted by Secretary Granholm in 2022, the Department and Singapore's Ministry of Trade and Industry recently launched a co-sponsored Net-Zero World regional initiative focused on clean energy integration in Southeast Asia. • The Department, the Department of State's Bureau of Energy Resources, and the Philippines Department of Energy are co-launching an inaugural Energy Policy Dialogue in 2023 to serve as a sustained platform for collaboration and solutions to accelerate the clean energy transition. • Following COP27, the Department and Thailand's Ministry of Energy launched a Net-Zero World work program focused on energy storage systems, energy efficiency, and frontier energy technologies, such as hydrogen and Carbon capture utilization and storage. • The Department builds energy cooperation with Vietnam through participation in the Department of State's Bureau of Energy Resources-led Energy Security Dialogue. • A Department representative serves as the Lead Shepherd of the Asia-Pacific Economic Cooperation (APEC) Energy Working Group, which supports regional energy programming. Secretary Granholm will host the first APEC Energy Ministers meeting since 2015 in August 2023 in Seattle as part of the United States' APEC host year. • The Department leads negotiations on the Clean Economy Pillar of the Indo-Pacific Economic Framework (IPEF), the Administration's flagship economic initiative in the region. This pillar focuses on catalyzing economic opportunities presented by the energy transition.
The Middle East & Africa	• These programs, which are administered by the BIRD Foundation, promote investment in innovation by fostering collaboration between U.S. and Israeli companies, government, and academic institutions. From 2009 to 2021, the BIRD Energy program has funded 60 projects with a total government investment of approximately $47.5 million. The initiative has attracted more than $840 million in venture capital and other follow-on investment to commercialize clean energy technologies. BIRD Energy grantees that went public raised $149 million. The US-Israel Energy Center is administered by the BIRD Foundation. There are four consortiums established since 2018 promoting research in innovation in the water energy nexus, fossil energy innovation, battery storage, and cyber. • Founded in 2021, this forum leads multilateral collaboration among major hydrocarbon-producing economies to increase the scale and speed of action toward net-zero carbon and methane emissions. Canada, Norway, Qatar, Saudi Arabia, and UAE are members of the forum

Area	Issues
	along with the United States. The Department hosts monthly steering committee meetings, an annual ministerial, and it is working on next steps and potential projects to announce at COP28. • Coordinated by USAID, POWER Africa brings together the collective resources of over 170 public and private sector partners to double access to electricity in sub-Saharan Africa. The initiative supports African nations' efforts to electrify the continent, helping more than 600 million people achieve access to sustainable and reliable power, while accounting for and reducing the impact on global carbon and methane emissions. The Department, as one of 12 key U.S. interagency partners in this initiative, supports POWER Africa programs on: o Geothermal technical training in Kenya and Djibouti o Green hydrogen in South Africa o Renewable energy integration and hybridization support in Ghana o Long-term energy sector planning in Chad o Energy transitions in Africa, including support to South Africa's Just Energy Transitions Partnership (JETP) o The Department is an active observer in the East Mediterranean Gas Forum (EMGF), which includes Egypt, Israel, Jordan, the Palestinian Territories, Greece, Cyprus, Italy, and France. The World Bank and the European Union are observers along with the U.S. The organization is moving forward on various decarbonization initiatives and harmonizing regulatory environments to maximize investments with aspirations to broaden its mandate to include all forms of energy. • The Department has a key role in leading several pillars of this partnership signed in September 2022. This partnership aims to accelerate priority projects and programmatic cooperation in the U.S., UAE, and in third countries. All activities are focused around four pillars: o Clean Energy Innovation o Carbon and Methane Management o Nuclear Energy o Industrial and Transport Decarbonization • The Department has a key role in this partnership signed in July 2022, which aims to promote partnerships in clean energy technology development and deployment with an initial focus on carbon management and hydrogen. • The Department assists in strengthening and expanding collaboration in Africa to support U.S. civil nuclear exports, planning for the role of nuclear technology (particularly SMRs) in Africa's clean energy future, and developing capacity to ensure nuclear security and safety, including in Ghana, Kenya, and South Africa.

Area	Issues
International Science & Technology Collaboration	• To respond to the global climate crisis and to harness the power of the Department's National Labs, the United States launched the Net Zero World Initiative, a flagship, whole-of-government partnership with priority countries to accelerate global energy systems decarbonization. This program works with partner countries – which include Argentina, Chile, Egypt, Indonesia, Nigeria, Singapore, Thailand, and Ukraine—to implement climate and clean energy targets, and to accelerate transitions to net-zero, resilient, and inclusive energy systems in every region of the world. • Launched in 2015 by the Department, Mission Innovation's first phase originally centered around doubling clean energy research budgets of over 20 countries in five years. During this period, it also launched eight Innovation Challenges (now referred to as Innovation Communities), aimed at catalyzing global collaboration on clean energy research, development, and demonstration. Mission Innovation began its second phase on June 2, 2021, evolving into a minister-led forum of major economies that cooperate on transformative technical innovations through "research Missions," while raising ambition for public research, development, and demonstration investments and encouraging commercialization through the private sector and stakeholders. The office supports the work of the United States, which currently co-leads three of these Missions, including the Zero Emissions Shipping Mission, the Clean Hydrogen Mission, and the Carbon Dioxide Removal Mission. In addition, the office's Principal Deputy Assistant Secretary serves as the Chair of Mission Innovation's Steering Committee.
The Americas	• Secretary of Energy co-chairs, with Brazil's Minister of Mines and Energy, the U.S.-Brazil Energy Forum (USBEF), the primary bilateral energy framework between the governments of the United States and Brazil. USBEF organizes cooperation between the United States and Brazil (the two largest countries in the Western Hemisphere) in the areas of carbon management, civil nuclear power, renewable energy, grid modernization, and energy efficiency. The Office coordinates the USBEF with other Federal agencies, and more recently, has inaugurated the U.S.-Brazil Clean Energy Industry Dialogue (CEID), a new bilateral framework co-led by the private sectors from both countries that will increase bilateral clean energy trade, investment, partnership, and deployment while advancing climate ambition. • Collaborate with Canada's Natural Resources department (NRCAN) on carbon capture, utilization, and storage (CCUS); a clean electric grid; clean fuels; energy security; and Diversity, Equity, Inclusion, and Accessibility. In June 2021, DOE and NRCAN reinvigorated their Memorandum of Understanding (MOU) to expand energy cooperation, identifying 15 areas for strategic bilateral energy cooperation. • Support the North American Leaders Summit (NALS), which brings together energy leaders from the United States, Canada, and Mexico to

Area	Issues
	promote cooperation in areas, such as hydrogen, electric vehicles, and nuclear security. • Actively involved in the Hydrogen Americas Summit by co-hosting the event in 2022 and the upcoming event October 2-3, 2023. • In conjunction with the Department of State, represent the United States at the Energy and Climate Partnership of the Americas (ECPA), the only ministerial-level organization in the Western Hemisphere devoted to energy and climate security. • Workforce Development and Closing the Gender Gap in Energy: In April 2022, the Office and Mexico's Business Coordinating Council co-hosted a conference on "Women in Energy," a capacity-building exchange aimed to educate women in energy on experiences and best practices to prepare themselves and pursue career advancement. Throughout the workshop, participants exchanged views on women in the energy industry and discussed existing challenges to overcome gender barriers by building more diverse and inclusive organizations. Panelists also identified issues to address in their organizational culture.
Foreign Investment and National Security	• The Office of Foreign Investment and National Security manages the Department's responsibilities as a statutory member of the Committee on Foreign Investment in the United States (CFIUS), an organization made up of nine Federal agencies and chaired by the Department of Treasury. This committee is responsible for reviewing certain transactions involving foreign investment in the United States and certain real estate transactions, to determine their potential impact on the country's national security. For more information about CFIUS, refer to the CFIUS Annual Report. • The Office also assists United States' allies, including 27 of the European Union's members, in developing more effective foreign investment screening capabilities to protect mutual national security interests and deter malign influence by countries of concern.
Research, Technology & Economic Security	• The Office of Research, Technology, and Economic Security supports the Department's programs in due diligence reviews and risk mitigation to ensure our national security, economic competitiveness, and technological leadership imperatives are duly incorporated into its financial assistance and loan activities. • The Office's responsibilities include identifying and addressing potential security risks that threaten the scientific enterprise; establishing best practices for programs; conducting outreach activities for stakeholders; educating Department programs on potential security risks; and conducting or facilitating risk assessments of DOE proposals, loans, and awards. It is also responsible for implementing the Department's pilot vetting process, which is intended to streamline and strengthen existing due diligence processes.

5.2 Strategic Goal 2: Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability

5.2.1 Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

The Office of Cybersecurity, Energy Security, and Emergency Response (CESER) addresses the emerging threats of tomorrow while protecting the reliable flow of energy to Americans today by improving energy infrastructure security and supporting the Department of Energy's (DOE) national security mission. CESER's focus is preparedness and response activities to natural and man-made threats, ensuring a stronger, more prosperous, and secure future for the Nation. CESER's cybersecurity priorities are:

- ***Priority 1: Increase Cyber Visibility of Critical Energy Systems and Networks*** *– We are continuing to advance technologies and systems that increase the visibility of cyber threats targeting energy companies' industrial controls systems across the nation. With enhanced cyber visibility, detection, monitoring capabilities, we can respond and curtail confront malicious cyberattacks before they compromise critical systems.*
- ***Priority 2: Build Security Into Future, Clean Energy Grid*** *– As we transition to a 100% clean energy economy, it is critical to build effective cybersecurity measures into the evolving grid to ensure a reliable flow of energy across the nation. CESER and its stakeholders are ensuring renewable technologies – from wind to solar – will be able to deliver a high volume of energy while addressing grid vulnerabilities.*
- ***Priority 3: Manage Supply Chain Risks in Digital Components of Nation's Critical Energy Infrastructure*** *– Digital components in our national critical infrastructure are increasingly becoming the strategic target for adversary nations. We're partnering across the energy sector to identify high priority digital components prevalent in the nation's critical energy systems, perform expert testing, and share information about vulnerabilities in the digital supply chain.*
- ***Priority 4: Strengthen the Current and Future Energy Cyber Workforce*** *– A highly skilled cybersecurity workforce across the energy sector is critical to protecting the nation's energy systems. CESER is developing exercises, trainings, and resources that improve preparedness and coordination across governments and industry, while promoting a robust cybersecurity education for the next generation of cyber professionals. We are also utilizing Cyber-Informed Engineering – a methodology to ensure that cybersecurity is a core component in technologies from ideation to deployment.*
- ***Priority 5: Establish Policies, Procedures, and Capabilities to Enable Cyber Preparedness and Incident Response*** *– Through risk-based energy security planning and strategic partnerships across a broad range of stakeholders, CESER is establishing policies, procedures, and capabilities needed to improve energy sector cyber resilience, address new threats, conduct more efficient and effective response, and mitigate disruptions to energy infrastructure in case of a cyberattack.*

These priorities – as well as DOE's Multiyear Plan for Energy Sector Cybersecurity – drive the following CESER initiatives:

- **Cybersecurity for Energy Delivery Systems Research and Development** – CESER is

investing in the ideas of partners in the Energy Sector, the cybersecurity community, academia, state and local governments, and the National Laboratories to reduce the risk of energy disruptions due to cyber events.

- **Cybersecurity Testing for Resilient Industrial Control Systems** – CESER works closely with energy sector owners and operators to better detect risks and mitigate them.
- **Cybersecurity for the Operational Technology Environment (CyOTE)** – Through CyOTE™, CESER looks to further its vision of secure and reliable energy delivery systems nationwide.
- **Department of Energy CyberForce Program** – The U.S. Department of Energy's CyberForce Competition™ challenges the next generation of cyber professionals to actively secure critical control.
- **Clean Energy Cybersecurity Accelerator Program** – As DOE works towards a zero-emissions future, CESER is also tackling the growing cyber threats to the U.S. energy sector.
- **OT Defender Fellowship** – The Operational Technology (OT) Defender Fellowship is a highly-selective education program created, funded, and led by CESER.
- **Securing Energy Infrastructure Executive Task Force** – Securing Energy Infrastructure Executive Task Force (SEI ETF) evaluates technology and standards for industrial control systems (ICS), identifying new categories of ICS vulnerabilities, and developing a National Cyber-Informed Engineering (CIE) Strategy.

Also, CESER's Office of Petroleum Reserves (OPR) manages the Strategic Petroleum Reserve Office (SPRO) M&O Contract. The Strategic Petroleum Reserve (SPR), the world's largest supply of emergency crude oil), consisting of salt caverns storing crude oil in Texas and Louisiana. This was established primarily to reduce the impact of disruptions in supplies of petroleum products and to carry out obligations of the United States under the international energy program. CESER manages this support using an M&O Contract.

CESER follows a Site-Specific approach to evaluate its M&O contractors that uses detailed performance criteria. Under this approach, most performance criteria are objective criteria, and a few are broader, subjective criteria. CESER's objective performance criteria are defined based on quantifiable metrics and performance targets[29] performance goals are established in the overarching M&O contract for the Strategic Petroleum Reserve.[30] The Available Award Fee shall be established considering the level of complexity, difficulty, cost effectiveness, and risk associated with specific objectives/incentives defined in the Performance Evaluation and Measurement Plan (PEMP).[31] The Performance Evaluation and Measurement Plan(s) sets out the criteria upon which the Contractor will be evaluated relating to any technical, schedule,

[29] GAO-19-5 DEPARTMENT OF ENERGY - Performance Evaluations Could Better Assess Management and Operating Contractor Costs, page 84. https://www.gao.gov/assets/700/697103.pdf
[30] Contract DE-FE 0011020, M&O Contract for the Strategic Petroleum Reserve: https://www.spr.doe.gov/reports/FFPOContract/Contract%20For No.%20DE-FE0011020.pdf

[31] Contract DE-FE0011020, Modification 0021, Page 3, Paragraph B.2.(b) Total Available Award Fee: https://www.spr.doe.gov/reports/FFPOContract/21/Attachment%20to%20Mod%200021.pdf

management, and/or cost objectives selected for evaluation. These criteria are generally objective, but may also include subjective criteria.[32]

5.2.2 Office of Electricity (OE)

The Office of Electricity (OE) provides leadership to ensure that the Nation's energy delivery system is secure, resilient, and reliable. The office includes three (3) divisions:

Table 7: OE Divisions and Priorities

Division	Priorities
Grid Systems and Components Division (OE-10)	The Grid Systems and Components Division is responsible for leading national efforts to develop "next generation" technologies, tools, and techniques for the electricity delivery system, ensuring an efficient, reliable, and resilient electric grid in the U.S. and providing global technology leadership. The Division manages research, development, and demonstration programs aimed at modernizing the Nation's electricity delivery system, spanning hardware components (and associated software) and integrated grid systems. Programs include: • **Transformer Resilience and Advanced Components**: Accelerates grid modernization by addressing challenges with large power transformers. It also develops systems and components to advance Solid State Power Substations and develops other critical grid equipment, components, and materials. • **Microgrids**: Accelerates the modernization of the nation's electrical infrastructure using microgrids as a core operational element that provides both local and system-wide benefits. • **Grid Enhancing Technologies:** Includes a family of technologies including dynamic line rating, power-flow control devices, and supporting analytical tools to defer or reduce the need for significant investment in new infrastructure projects and support the integration of renewables by maximizing the capacity of the current infrastructure.

[32] Contract DE-FE0011020, Modification 0049, Performance Evaluation and Measurement Plan(s), Section I, Page I-19, paragraph I.109, (d): https://www.spr.doe.gov/reports/FFPOContract/49/Attachment%20to%20Mod%200049.pdf

Division	Priorities
Grid Controls and Communications Division (OE-20)	The Grid Controls and Communications Division manages research, development, and demonstration programs aimed at modernizing the Nation's electricity delivery system including secure communications, controls, and protection systems. The Division is responsible for engineering end-to-end systems for communications, grid modeling, measurement and controls, and operations and planning. Programs include: • **Transmission Reliability**: Supports collaboration between the national labs, the electric industry, and DOE to develop technologies that keep the nation's electric grid resilient and secure, while reducing electricity bills and facilitating the integration of renewable energy. The program improves grid observability and situational awareness and develops tools to support grid operators. • **Advanced Grid Modeling**: Supports building capacity and capability within the electric sector to analyze the electricity delivery system using Big Data, advanced mathematical theory, and high-performance computing to assess the current state of the grid, mitigate reliability risks, and understand future needs. • **Resilient Distribution Systems**: Develops transformative technologies, tools, and techniques to enable industry to modernize the distribution system; supports transformation of the electric grid through the growing convergence of transmission and distribution portions of the electricity delivery system; and develops solutions that enable all consumers to participate in the clean-energy economy. • **Energy Delivery Grid Operations Technology**: Supports operations, further development, and maintenance for the North American Energy Resilience Model to transition to a new energy planning, investment, and operations paradigm that is capable of proactively informing infrastructure investment strategies. • **SecureNET**: Addresses R&D for critical energy sector secure data communications associated with electricity delivery systems and developing security-by-design solutions based on data and physics to address grid vulnerabilities and critical operational

Division	Priorities
	data processing, management, and communications systems that could expose the electricity system to cyber threats.
Energy Storage Division (OE-30)	The Division prepares the "next generation" of energy storage technologies to provide system reliability, resilience, and efficiency. The Division supports applied materials development, which identifies safe, low-cost, and earth-abundant elements that will enable cost-effective long duration storage. The Division facilitates early adoption through improving storage reliability and safety; applying modeling and analysis; and validating performance for rapid commercialization. Programs include: • **Energy Storage RD&D**: Accelerates development of longer-duration grid storage technologies by increasing amounts of stored energy and operational durations, reducing technology costs, ensuring safe, long-term reliability, developing analytic models to find technical and economic benefits, as well as demonstrating how storage provides clean and equitable energy access for consumers and communities. ○ **Rapid Operational Validation Initiative (ROVI)**: This initiative intends to address critical gaps in data needs to evaluate energy storage, such as the lack of access to large and uniform sets of performance data that are necessary to accelerate the pace at which technology development can occur. ROVI's overall focus is to accelerate the time from lab to market for new energy storage technologies by employing data-driven tools to predict their operational lifetimes. • **Grid Storage Launchpad**: Provides access to DOE, multidisciplinary researchers, and industry to a world class research center to lower the barriers to innovation and deployment of grid-scale energy storage. The facility will enable independent testing of next-generation grid energy storage materials and systems under realistic grid operating conditions. The Launchpad will also accelerate the development of new technologies by propagating rigorous performance requirements.

In October 2023, DOE will hold the 2023 DOE Office of Electricity, Energy Storage Program Annual Meeting and Peer Review to assembled researchers from across the DOE landscape – national laboratories, industry, government, and academia – to summarize the state of the art in energy storage research, development, and application. Program reviews solicit feedback from formal peer reviewers and attendees to ensure that program activities remain centered in high-impact focus areas, thereby optimizing the use of federal resources to fill critical R&D gaps. OE uses expert feedback to improve the program quality, and project principal investigators review evaluations to improve project efforts. In addition, reviews provide attendees with an opportunity to learn more about OE's vision, direction, and ongoing activities. Prior program valuations/peer reviews of OE programs include:

TRANSFORMER RESILIENCE AND ADVANCED COMPONENTS

- 2021 Transformer Resilience and Advanced Components Peer Review, *virtual*, February 1-3, 2022
- 2019 Transformer Resilience and Advanced Components Program Review, *Knoxville, TN*, August 13-14, 2019

TRANSMISSION RELIABILITY

- 2018 Reliability & Markets Program Peer Review, June 5, 2018
- 2018 Transmission Reliability Program Peer Review, June 6, 2018
- 2017 Transmission Reliability Program Peer Review, Washington, DC, June 13, 2017
- 2017 Reliability & Markets Agenda and Presentations, Washington, DC, June 14, 2017
- 2016 Reliability & Markets Agenda and Presentations, *Arlington, VA, June 9-10, 2016*
- 2016 Transmission Reliability Program Peer Review, *Washington, DC, June 7-8, 2016*
- 2015 Reliability & Markets Agenda and Presentations, *Ithaca, NY, August 4-5, 2015*
- 2015 Transmission Reliability Program Peer Review, *Washington, DC, June 10-11, 2015*

NOTE: Evaluations conducted prior to 2015 can be found here: https://www.energy.gov/oe/reviews-archived

5.3 Strategic Goal 3: Advance Science Discovery and National Laboratory Innovation

5.3.1 Artificial Intelligence & Technology Office (AITO)

The Artificial Intelligence & Technology Office (AITO) mission is to coordinate responsible and trustworthy artificial intelligence (AI) governance and capabilities. This includes conducting the following, all in support of national AI leadership and innovation:

- Advocate for program offices;
- Provide advice on trustworthy AI/machine learning (ML) strategies; and
- Expand public, private, and international partnerships, policy, and innovations

Developed in consultation with the National Institute of Standards and Technology (NIST), the DOE's AI Risk Management Playbook (AI RMP) is an interactive reference guide that contains

recommended mitigations to advance responsible and trustworthy (R&T) AI use and development. AI leaders, practitioners, and procurement teams are advised to use the AI RMP to:

- Educate and upskill the workforce on AI risk management to further organizational resiliency;
- Accelerate prevention planning by integrating AI RMP risks and recommended mitigations into procurement and project life cycles including edge AI;
- Augment risk management methodologies with integrated ethical and equity AI governance and suggested practices;
- Inform AI risk assessment development and implementation planning;
- Generate customized checklists that contain specific risks and recommended mitigations; and/or
- Describe the necessity of R&T AI to advance mission imperatives.

5.3.2 Advanced Research Projects Agency-Energy (ARPA-E)

In 2005, leaders from both parties in Congress asked the National Academies to "identify the most urgent challenges the U.S. faces in maintaining leadership in key areas of science and technology," as well as specific steps policymakers could take to help the U.S. compete, prosper, and stay secure in the 21st Century. In its report for Congress, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*, the National Academies called for decisive action, warning policymakers that U.S. advantages in science and technology – which made the country a world leader for decade – had already begun to erode. The report recommended that Congress establish an Advanced Research Projects Agency within the U.S. Department of Energy (DOE) modeled after the successful Defense Advanced Research Projects Agency (DARPA) – the agency credited with such innovations as GPS, the stealth fighter, and computer networking.

Authorized via Public Law 110-69, America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act, ARPA-E's goals include:

- Enhancing the economic and energy security of the United States through the development of energy technologies that result in:
    - Reductions of imports of energy from foreign sources;
    - Reductions of energy-related emissions, including greenhouse gases; and
    - Improvements in the energy efficiency of all economic sectors; and
- Ensuring that the United States maintains a technological lead in developing and deploying advanced energy technologies.

Advanced Research Projects Agency-Energy (ARPA-E) funds a wide range of individual technology projects (1,366). Typically, these projects are organized into focused technology programs (78) that revolve around a common technical area. All ARPA-E programs and projects are created through a process of rigorous debate over the technical and scientific merits and challenges of potential research areas. ARPA-E Program Directors are constantly exploring potential topics for future program areas.

ARPA-E also issues periodic open funding solicitations[33] for a broader range of projects that do not fall into a single technical area to address the full range of energy-related technologies, as well as targeted funding solicitations aimed at supporting America's small business innovators. ARPA-E also funds projects on a rolling basis through "special projects" funding opportunities that are meant to inform potential new program areas for the future.

ARPA-E Exploratory Topics are developed through the FOAs, and include:

2023-Present:

- **Exploratory Topic A: Low-Energy Nuclear Reactions –** Low-energy nuclear reactions (LENR) could be the basis for a potentially transformative carbon-free energy source.
- **Exploratory Topic B: Intermodal Freight Transportation System** – Deployment of energy infrastructure and logistics for moving goods across maritime, rail, and road transportation in the United States.
- **Exploratory Topic C: Creating Revolutionary Energy And Technology Endeavors (CREATE)** – Identify and support disruptive energy-related technologies.
- **Exploratory Topic D: Aviation Contrails** – Aviation is an important part of our domestic and international transportation networks. Fuel consuming aircraft emit a range of emissions. From a climate-forcing standpoint, the most significant are carbon dioxide and water vapor. The Schmidt-Appleman criterion describes specific temperature, pressure and humidity conditions where the mixing of aircraft exhaust water with colder ambient humid air can result in the formation of condensation trails (contrails).
- **Exploratory Topic E: Algal Mining** – ARPA-E is investigating the feasibility of extracting critical minerals, specifically Rare Earth Elements (REEs) critical for the production of electric motors and generators, and high-value Platinum Group Metals (PGMs), from macroalgae cultivated and/or harvested within the U.S. Exclusive Economic Zone (EEZ).
- **Exploratory Topic F: Superconducting Tape** – The goal of this Exploratory Topic is to focus the attention of the scientific and technical community on specific areas of interest related to the manufacturing processes of high-performance, rapidly produced superconducting tapes, encourage dialogue among those interested in this area, and provide a timetable for the submission of full applications.

[33] OPEN Programs | arpa-e.energy.gov

2019-2022:

- **Exploratory Topic A: Extremely Durable Concretes and Cementitious Materials –** Extremely durable concretes and cementitious materials to tackle technology challenges in the development of widely applicable concrete and cement.
- **Exploratory Topic B: Downhole Tools to Enable Enhanced Geothermal Systems** – Novel, low-cost sensor technologies that can help mitigate risks and lower costs for deep, extremely hot enhanced geothermal systems (EGS) by better characterizing rock formations and fluid enthalpy at depth.
- **Exploratory Topic C: Leveraging Innovations Supporting Nuclear Energy** – Advancements in nuclear facility sensors, tools, analytics, and controls.
- **Exploratory Topic D: Diagnostic Resource Teams to Support the Validation of Potentially Transformative Fusion-Energy Concepts** – State-of-the-art diagnostic measurements to be made on potentially transformative, ARPA-E-supported fusion-energy concepts to validate their performance, uncover problems, and guide research priorities.
- **Exploratory Topic F: High Value Methane Pyrolysis** – High value methane pyrolysis, including approaches that can economically convert natural gas to both fuel cell-grade hydrogen and higher value carbon materials (e.g., carbon fiber) with a low CO2 footprint.
- **Exploratory Topics G & T: Supporting Entrepreneurial Energy Discoveries** – An ongoing funding opportunity for a range of the most innovative and unconventional ideas across the energy technology spectrum, exploring high-risk R&D that could lead to the development of disruptive technologies
- **Exploratory Topic H: Establishing Validation Sites for Field-Level Emissions Quantification of Agricultural Bioenergy Feedstock Production** – "Ground truth" solutions to establish measurements and protocols for emissions monitoring at the field level to create publicly available, open-source, high-resolution datasets to support testing and validation of emerging biofuel production monitoring technologies.
- **Exploratory Topic I: Electricity System Models for Carbon Capture Resources** – Electricity system models and associated analysis that can inform technology development for new grid resources.
- **Exploratory Topic J: Biotechnologies to Ensure a Robust Supply of Critical Materials for Clean Energy** – Novel approaches in microbiology, synthetic biology, and process engineering in support of addressing mining industry challenges to ensure a robust mineral supply chain for clean energy applications.
- **Exploratory Topic K: Recycle Underutilized Solids to Energy** – Processes to convert plastics, rubber, composites, and paper to create a high-energy content liquid that can be easily shipped to and stored at points of aggregation.
- **Exploratory Topic L: Insulating Nanofluids and Solids to Upgrade our Large Aging Transformer Equipment** – Vital insulating elements in large power transformers (LPTs) to increase their durability, reliability, and resilience.
- **Exploratory Topic M: Mining Incinerated Disposal Ash Streams** – Recovery and reclamation of critical materials (CMs) and other valuable elements from Municipal Solid Waste Incineration (MSWI) ashes.
- **Exploratory Topic N: Waste into X** – Improvement of the physical or chemical properties of Municipal Solid Waste Incineration (MWSI) ash into valuable products.

- **Exploratory Topic O: Direct Removal of Carbon Dioxide from Oceanwater** – Direct removal of carbon dioxide from oceanwater and other natural waters by addressing challenges and opportunities specifically found in operation in an oceanic environment.
- **Exploratory Topic P: Direct Removal of Carbon Dioxide from Ambient Air** – Robust, energy efficient, and low-cost strategies for direct removal of carbon dioxide from ambient air.
- **Exploratory Topic Q: Connecting Aviation By Lighter Electric Systems** – Medium-voltage (>10 kV) power distribution cables, connectors, and circuit breakers for fully electric aviation applications.
- **Exploratory Topic R: Lowering CO_2: Models to Optimize Train Infrastructure, Vehicles, and Energy Storage** – Planning tools for identification, evaluation, and prioritization of energy storage-related technology developments whose deployment would significantly reduce GHG emissions from the rail freight sector.
- **Exploratory Topic S: Topology Optimization and Additive Manufacturing for Performance Enhancement of High Temperature and High Pressure Heat Exchangers** – Design and manufacture of high-temperature, high-pressure, and compact heat exchangers.
- **Exploratory Topic U: Sulfur Hexafluoride (SF_6)-Free Routes for Electrical Equipment** – Technologies aimed at reducing sulfur hexafluoride (SF6) emissions from the electric transmission and distribution sector.
- **Exploratory Topic V: Life Cycle Assessment for Carbon Negative Buildings** – Life cycle assessment tools and frameworks associated with transforming buildings into net carbon storage structures.

The Seeding Critical Advances for Leading Energy technologies with Untapped Potential (SCALEUP) program builds on ARPA-E's primary research and development focus to support the scaling of high-risk and potentially disruptive new technologies across the full spectrum of energy applications. The goal of the program is to support ARPA-E-funded technologies, past and present, transition from proof-of-concept prototypes to commercially scalable and deployable versions of the technology and be well-positioned for investment from the private sector.

The ARPA-E Technology-to-Market program provides practical training and business information to equip awardees with a clear understanding of market needs to guide technical development. Technology-to-Market milestones include:

- Secure IP on inventions
- Learning about markets & applications
- Product definition, refinement, and validation
- Cost-performance model
- Competitive analysis
- Identify & engage with potential customers / partners
- Knowledge of regulatory issues
- Knowledge of production processes
- Identify scalability risks
- Identify / engage suppliers
- Map out next stage goals and resource needs

- Identify appropriate next stage funding sources
- Engage with next stage funding sources
- Identify / engage resources for tech to market work

In addition, ARPA-E hosts the annual Energy Innovation Summit, which brings together leaders from academia, government, and business to discuss the foremost energy issues, showcases the latest technology innovations, and cultivates relationships to help advance cutting-edge technologies toward deployment. In 2023, the Summit hosted nearly 2,700 registered for the Summit, from 49 states and 27 countries, and featured nearly 400 transformational energy technologies and innovations.

ARPA-E provides an annual report to Congress[34], summarizing ARPA-E's activities. The latest, available report is for FY2020. ARPA-E also issued (in August 2022) to Congress the ARPA-E Strategic Vision Roadmap, which helps guide ARPA-E's technology investments for Fiscal Years 2022-2025.

5.3.3 Office of Technology Transitions (OTT)

The Office of Technology Transitions (OTT) was established in 2015 to oversee and advance the mission of technology transfer[35] by expanding the public impact of the department's research and development (R&D) portfolio to advance the economic, energy and national security interests of the nation. OTT develops the Department's policy and vision for expanding the commercial impact of its research investments, and it streamlines information and access to DOE's national labs and sites to foster partnerships to move innovations from the labs into the marketplace.

OTT conducts data management and analysis, evidence-based impact evaluations, and stakeholder engagement. The office also oversees two major DOE initiatives, the Technology Commercialization Fund (TCF) and the Lab Partnering Service. OTT also oversees implementing new funding under the Bipartisan Infrastructure Law TCF (BIL TCF), which provides over $275 million of funding over five years to support a broad array of new programs. Developed by OTT, the Practices to Accelerate the Commercialization of Technologies (PACT) Laboratory Call encouraged Labs to develop new ways to increase technology commercialization by reducing barriers to accessing Labs' capabilities, lowering transaction costs and improving the complex's ability to serve the private sector effectively. In 2020, OTT launched the COVID-19 Technical Assistance Program (CTAP) to support efforts against the

[34] Annual Reports | arpa-e.energy.gov

[35] "Technology transitions" is a dynamic process, with numerous and varying handoffs between scientists, innovators, and entrepreneurs, that begins with an idea that ultimately becomes a technology commercialized by the private sector. Every technology follows its own unique path and requires a variety of exchanges and partnerships to advance it along the developmental spectrum. OTT provides support in each step of this process.

global pandemic, providing targeted funding for DOE's National Labs to offer short-term engagements with U.S. external entities in the fight against the novel coronavirus.

Additionally, OTT implements public laws passed by Congress. The office derives much of its mission, responsibilities, and oversight authority from the Bayh-Dole Act of 1980, Stevenson-Wydler Technology Innovation Act of 1980, and Energy Policy Act of 2005. These legislations require OTT to develop two reports to Congress annually— the "Technology Transitions Execution Plan" and the "Report on Technology Transfer and Related Technology Partnering Activities at the National Laboratories and Other Facilities."

The Chief Commercialization Officer serves as Director of OTT, whose responsibilities include oversight of the TCF, Technology Transfer Working Group, and the coordination of technology transfer activities and best practices across the DOE complex.

At the headquarters level, OTT works with the Technology Transfer Policy Board (TTPB), which includes representation from DOE's Program Offices that fund and manage much of DOE's national R&D portfolio. OTT also works with the National Laboratory Tech Transfer (NLTT) Working Group and the Laboratory Policy Council for insight and perspective on the key issues and priorities at the National Laboratories.

In addition, OTT provides and fosters the following resources:

Table 18: OTT Resources and Analysis

Resource	Description
Lab Partnering Service	Lab Partnering Service (LPS) offers unprecedented access to the world's most advanced scientific facilities and researchers across the Department's National Lab complex. LPS provides investors—and other parties looking to advance energy innovation—a single online platform to connect with leading DOE National Laboratory technical experts to quickly answer innovation questions, as well as discover opportunities for building partnerships. Visitors can easily search hundreds of technologies, patents, experts, facilities, and success stories tailored to their individual needs, including: • Facility descriptions • Technical summaries • Visual Patent Search
Solutions Exchange	Solutions Exchange connects industry challenges with DOE-powered innovations. Businesses share their technical or scientific challenges and partnership interests with OTT and receive a menu of approaches to tackle these hurdles in collaboration with our National Labs. With the OTT team directly facilitating solutions development with the Labs, business are able to quickly access resources and identify the best opportunities to move forward.
InnovationXLab	Innovation*X*Lab summits facilitate a two-way exchange of information and ideas between industry, universities, manufacturers, investors, and end-use

Resource	Description
	customers with innovators and experts from across the National Labs and broader DOE R&D complex. Innovation*X*Lab summits: • Catalyze public-private partnerships and commercial hand-offs utilizing DOE's extensive assets: technology, intellectual property, facilities, and world-leading scientists and researchers. • Engage the private sector to ensure DOE understands industry's technical needs, risk appetite, and investment criteria, thereby incorporating "market pull" into DOE's portfolio planning. • Inform DOE R&D planning to increase commercialization possibilities. Innovation*X*Lab Summits are not dense technical workshops, but enable connections and commercialization opportunities at the decision-maker level. They highlight promising technologies from across all 17 DOE National Labs.
Spotlights	OTT periodically releases reports highlighting the Department of Energy's work in emerging technology areas, including energy storage, grid optimization, and artificial intelligence. In addition, OTT compiles success stories from selected DOE-derived research projects that have resulted in commercial outcomes, celebrating the successful public-private relationships that seek to drive U.S. innovation and ensure the nation's continued competitiveness and security.
Market Analysis	The Market Analysis team at the OTT produces research in market analysis, including trend forecasts, supply chain, and technology maturation, to support OTT's mission of accelerating advanced energy technologies from across the Department of Energy and National Lab complex. The goal is to provide research to better integrate understanding and analysis of market pull factors into the R&D process of novel technologies throughout the development and commercialization processes. The Market Analysis team leads the Market Analysis Community of Practice (MACOP) at the Department, which is made up from representatives from all 17 National Labs and meets monthly to share best practices in market analysis and hear from expert speakers with deep knowledge of various aspects of the commercialization process. OTT also compiles market analysis reports, technology roadmaps, and other analyses of technology-market fit and pathways to commercialization from across the Department of Energy, which OTT have compiled to highlight the most useful ones.
STEM Tools	To better connect students and universities with the necessary resources they need to engage with the Department, OTT has compiled an array of materials to help discover the best and most beneficial path forward. • OTT University Resources Toolkit 2020-2021

Resource	Description
	• DOE Laboratory Partnership Opportunities for Colleges and Universities

OTT is statutorily required to develop and submit three reports to Congress annually: the "Technology Transfer Execution Plan", the "Report on the Utilization of Federal Technology, formerly the Report on Technology Transfer and Related Technology Partnering Activities at the National Labs and Other Facilities", and the "Technology Commercialization Fund Outcomes Report". In addition, since 2015 OTT has administered the Department's Annual Technology Transitions Data Call, whereby OTT collects from all DOE Labs, Plants, and Sites, manages, analyzes, and evaluates technology transfer performance data and contracts data in accordance with DOE Policy 482.2, *Laboratory Technology Transfer Data and Management*, and DOE O 471.7, *Controlled Unclassified Information*. Contracts data include partnership agreements - Federal and Non-Federal Strategic Partnership Projects (SPPs), Cooperative Research and Development Agreements (CRADAs), and Agreements for Commercializing Technologies (ACTs). Analyses are performed to support DOE technology transfer and commercialization activities, DOE programmatic evidence-based evaluation and decision-making, placed-based regional innovation, communications and external outreach, and reporting to OMB, Congress, and the public.

5.3.4 Office of Science (SC)

The Office of Science (SC) supports scientific research for energy and the physical sciences both by directly supporting such research, for example, through grants to and cooperative agreements with universities, and by supporting the development, construction, and operation of scientific user facilities. The Office builds and maintain an array of large-scale scientific facilities at the DOE national laboratories.[36] This includes SC administering management and operating (M&O) contracts at 10 national laboratory sites:

- Ames Laboratory in Ames, Iowa (https://www.ameslab.gov/)
- Argonne National Laboratory in Argonne, Illinois (https://www.anl.gov/)
- Brookhaven National Laboratory in Upton, New York (https://www.bnl.gov/world/)
- Fermi National Accelerator Laboratory in Batavia, Illinois (https://www.fnal.gov/)
- Lawrence Berkeley National Laboratory in Berkeley, California (https://www.lbl.gov/)
- Oak Ridge National Laboratory, in Oak Ridge, Tennessee (https://www.ornl.gov/)
- Pacific Northwest National Laboratory in Richland, Washington (https://www.pnnl.gov/)
- Princeton Plasma Physics Laboratory in Princeton, New Jersey (https://www.pppl.gov/)
- SLAC National Accelerator Laboratory in Stanford, California (https://www6.slac.stanford.edu/)
- Thomas Jefferson National Accelerator Facility in Newport News, Virginia (https://www.jlab.org/)

[36] Office of Science: https://www.energy.gov/science/mission

SC is responsible for 11 Government Owned, Contractor Operated (GOCO) facilities and laboratories, including 10 FFRDC national laboratories; all supported by M&O Contracts:

Table 3: SC Site Facility Management Contracts

NAME	AWARD DATE	CURRENT CONTRACT END DATE	FFRDC?
Ames Laboratory (Ames)	12/4/2006	12/31/2025	Yes
Argonne National Laboratory (ANL)	7/31/2006	9/30/2025	Yes
Brookhaven National Laboratory (BNL)	12/22/2014	1/4/2025	Yes
Fermi National Accelerator Center (FNAL)	11/1/2006	12/31/2023	Yes
Lawrence Berkeley National Laboratory (LBNL)	4/19/2005	5/31/2025	Yes
Oak Ridge Institute for Science and Education (ORISE)	3/10/2016	9/30/2025	No
Oak Ridge National Laboratory (ORNL)	10/18/1999	3/31/2025	Yes
Pacific Northwest National Laboratory (PNNL)	12/30/2002	9/30/2027	Yes
Princeton Plasma Physics Laboratory (PPPL)	4/1/2009	3/31/2027	Yes
SLAC National Accelerator Laboratory (SLAC)	11/1/1962	9/30/2027	Yes
Thomas Jefferson National Accelerator Facility (TJNAF)	4/14/2006	5/31/2024	Yes

SC is the nation's largest federal sponsor of basic research in the physical sciences and has been a major supporter of research in such key scientific fields as physics, materials science, and chemistry. The Office is also the lead federal agency supporting fundamental scientific research

related to energy and sponsors research at hundreds of universities, national laboratories, and other institutions across the country.

Various methodologies are used by SC to evaluate programs. This includes (but not limited to):

- Project Assessments
- Laboratory Appraisal Process
- Merit Reviews for research grant applications
- Peer Reviews for review and selection of research projects, including:
    - Advanced Scientific Computing Research (ASCR) peer reviews
    - Basic Energy Science (BES) peer reviews
    - Biological and Environmental Research (BER) peer reviews
- Federal Advisory Committees (FAC), which provide independent advice to SC regarding complex scientific and technical issues influencing the planning, management, and implementation of research programs. SC FACs include:
    - **Advanced Scientific Computing Advisory Committee (ASCAC)** provides valuable, independent advice to DOE on a variety of complex scientific and technical issues related to the ASCR program. ASCAC holds regular meetings.
    - **BES Advisory Committee (BESAC)** provides independent advice to DOE on the BES program regarding the complex scientific and technical issues that arise in the planning, management, and implementation of the program. BESAC's recommendations include advice on establishing research and facilities priorities; determining proper program balance among disciplines; and identifying opportunities for inter-laboratory collaboration, program integration, and industrial participation.
    - **BER Advisory Committee (BERAC)** provides advice on a continuing basis to DOE on the many complex scientific and technical issues that arise in the development and implementation of the biological and environmental research program.
    - **FES Advisory Committee (FESAC)** provides independent advice to DOE on complex scientific and technological issues that arise in the planning, implementation, and management of the fusion energy sciences programs. FESAC holds public meetings and submits reports containing its advice and recommendations to the Director of SC.
    - **High Energy Physics Advisory Panel (HEPAP)** is chartered jointly by DOE and the National Science Foundation (NSF). HEPAP reports both to DOE's Office of High Energy Physics and the NSF's Mathematical & Physical Sciences. HEPAP's activities include: periodic reviews of existing high energy physics programs; providing advice on the formulation of long-range plans, priorities, and strategies for the nation's high energy physics program; recommending appropriate levels of funding to assure a world leadership position; and making recommendations to help maintain appropriate balance between competing elements of the program.
        - HEP also seeks advice from the **Astronomy and Astrophysics Advisory Committee (AAAC)**, a FAC that serves the NSF, the National Aeronautics and Space Administration (NASA), and DOE. It advises all three organizations on selected issues within the fields of astronomy and

astrophysics that are of mutual interest and concern. DOE participates in the selection of committee members.

- **Nuclear Science Advisory Committee (NSAC)** is an advisory committee that provides official advice to DOE's Office of Nuclear Physics and the National Science Foundation (NSF) on the national program for basic nuclear science research. The Committee of Visitors (COV) also provides advice to the Office of Nuclear Physics; the NSAC provides advice for general directions in nuclear physics nationwide.

Merit/Peer reviews provide SC program managers with independent, critical assessments of the scientific and/or technical merit of research activities by practitioners with knowledge and expertise at levels equal to those attained by the researchers whose work is being reviewed. When coupled with an internal evaluation of the proposed or ongoing research activity's expected contribution to the program objectives, peer review provides the critical input needed to foster prudent program decisions.

5.4 Strategic Goal 4: Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities

5.4.1 National Nuclear Security Administration (NNSA) (S5)

Major missions of the National Nuclear Security Administration include[37]:

- Maintaining the Stockpile - NNSA ensures the United States maintains a safe, secure, and reliable nuclear stockpile through the application of unparalleled science, technology, engineering, and manufacturing.
- Nonproliferation - NNSA works to prevent nuclear weapon proliferation and reduce the threat of nuclear and radiological terrorism around the world. The agency endeavors to prevent the development of nuclear weapons and the spread of materials or knowledge needed to create them.
- Counter-terrorism and Counter-proliferation - NNSA plays a key role in preventing, countering, and responding to a terrorist or other adversary with a nuclear or radiological device.
- Powering the Nuclear Navy - NNSA provides militarily effective nuclear propulsion plants and ensures their safe, reliable, and long-lived operation.

The NNSA is responsible for eight (8) Government Owned, Contractor Operated (GOCO) facilities and laboratories, including three (3) FFRDC national laboratories; all supported by M&O Contracts:

[37] NNSA Missions: https://www.energy.gov/nnsa/missions

Table 1: NNSA Site Facility Management Contracts

NAME	AWARD DATE	CURRENT CONTRACT END DATE	FFRDC?
Kansas City National Security Campus	7/9/2015	9/30/2025	No
Lawrence Livermore National Laboratory (LLNL)	10/1/2007	9/30/2026	Yes
Los Alamos National Laboratory (LANL)	6/8/2018	10/31/2028	Yes
Savannah River Site (SRS)	1/10/2008	9/30/2026	No
Naval Nuclear Laboratory, formerly known as Bettis/Knolls Atomic Power Laboratories (Bettis/KAPL)	7/12/2018	9/30/2023	No
Nevada National Security Site (NNSS)	5/12/2017	11/30/2027	No
NNSA Production Office (NPO) Pantex Plant and Y-12 National Security Complex	3/3/2014	9/30/2025	No
Sandia National Laboratory (SNL)	12/16/2016	9/30/2026	Yes

Every fiscal year, the NNSA completes an assessment of their management and operating (M&O) partners' effectiveness in meeting the performance expectations as established by NNSA in NNSA NAP 540-3.[38] This assessment is based on an evaluation of the annual Performance Evaluation and Measurement Plans (PEMPs) linked to each NNSA site.[39] NNSA performance assessments are documented annually in a Performance Evaluation Report (PER), and award fee amounts are documented in a Fee Determination Memorandum.[40] This involves assessment against standardized strategic performance goals outlined in an annual PEMP for each M&O

[38] NNSA Policy Letter NAP 540.3, Corporate Performance Evaluation Process for Management and Operating Contractors: https://directives.nnsa.doe.gov/nnsa-policy-documents/nap-0540-003
[39] NNSA Partnership and Acquisition Services (PAS): https://www.energy.gov/nnsa/partnership-and-acquisition-services
[40] NNSA releases Performance Evaluation Summary for Consolidated Nuclear Security, June 23, 2020: https://www.energy.gov/nnsa/articles/nnsa-releases-performance-evaluation-summary-consolidated-nuclear-security

Contract. NNSA uses five (5) standardized performance evaluation goal areas as the basis for award fee determination, including the following performance goals for each site:

1) **Goal-1:** Mission Delivery: Nuclear Weapons
2) **Goal-2:** Mission Delivery: Global Nuclear Security
3) **Goal-3:** Mission Innovation: Advancing Science and Technology
4) **Goal-4:** Mission Enablement
5) **Goal-5:** Mission Leadership

These goals are refined annually in the PEMP for each location. Supplemental Award Fee Definitions for NNSA Performance Evaluation and Master Plans (PEMPs) are contained in NAP 540.3, Appendix 1:

Table 2: Supplemental Definitions for FAR 16.401(e)(3) as used by NNSA[41]

Rating	%	Supplemental Award Fee Rating Definitions For NNSA Performance Evaluation and Measurement Plan (PEMP)
Excellent	91-100%	Contractor has exceeded almost all of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period. *This performance level is evidenced by at least one significant accomplishment, or a combination of accomplishments that significantly outweigh very minor issues, if any. No significant issues in performance exist.*
Very Good	76-90%	Contractor has exceeded many of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period. *This performance level is evidenced by accomplishments that greatly outweigh issues. No significant issues in performance exist.*
Good	51-75%	Contractor has exceeded some of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.

[41] NNSA Policy Letter NAP 540.3 Corporate Performance Evaluation Process for Management and Operating Contractors, Appendix I: https://directives.nnsa.doe.gov/nnsa-policy-documents/nap-0540-003/@@images/file

Rating	%	Supplemental Award Fee Rating Definitions For NNSA Performance Evaluation and Measurement Plan (PEMP)
		This performance level is evidenced by accomplishments that slightly outweigh issues. No significant issues in performance exist.
Satisfactory	No Greater than 50%	Contractor has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period. *This performance level is evidenced by issues that slightly outweigh accomplishments.*
Unsatisfactory	0%	Contractor has failed to meet overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period. *This performance level is evidenced by issues that significantly outweigh accomplishments, if any.*

The NNSA provides summary documents that feature easy-to-read and transparent assessment scorecards for each lab and site assessment. The summaries include links to the corresponding contract and the Performance Evaluation and Measurement Plan (PEMP). Performance Evaluation Reports (PERs) provide a detailed summary report detailing the award fee (via a scorecard) and providing specific comments against each performance objective/goal. Fee determination memorandums including ratings earned in each of the Accomplishments and issues for the six performance evaluation goals, at-risk fees available for each, and the final fees awarded by goal are listed in each M&O summary.[42]

5.4.1.1 Partnership and Acquisition Services (NA-PAS); Environment, Safety, and Health (NA-ESH); and Infrastructure (NA-90)

In July 2022, NNSA completed a reorganization that resulted in the transformation of the Office of Safety, Infrastructure and Operations (NA-50) and the Office of Acquisition and Project Management (NA-APM) to address the growth in both the weapons and infrastructure programs. This reorganization established three new organizations to focus on the challenges facing the Nuclear Security Enterprise, the Nation, and the world:

- Office of Partnership and Acquisition Services (NA-PAS), including:
  - **Acquisition Policy & Oversight Division (AP&OD) (NA-PAS-11)**: Provides cost and price analysis, advice, and assistance.
  - **Personal Property Branch (PPB) (NA-PAS-112):** Provides recommendations

[42] Contracts, modifications, and performance evaluations for NNSA's sites: https://www.energy.gov/nnsa/partnership-and-acquisition-services

for system approvals to NNSA Contracting Officers, including the furnishing of technical advice in the annual development and negotiation of performance measures for the evaluation of Contractors' personal property functions.
    - **Strategic Initiatives Branch (SIB) (NA-PAS-213):** Manages the contractor performance evaluation process (CPEP) and award fee determinations.
- Office of Environment, Safety, and Health (NA-ESH), including:
    - **Nuclear Materials Integration Division (NA-ESH-12):** Provides technical assistance to DOE and NNSA in matters related to nuclear materials technical support, analysis, and stabilization; packaging; consolidating; storing; and disposing of accountable nuclear materials.
    - **Office of Safety (NA-ESH-20):** Supports the development, evaluation, and consistent implementation of corporate safety and health programs and requirements across the NSE.
        - **Safety Oversight Transformation Division (NA-ESH-24):** Identifies, tracks, and performs statistical analysis of safety oversight metrics providing platforms for data-driven decision making.
- Office of Infrastructure (NA-90), including:
    - **Office of Project Analysis, Oversight and Review (NA-90.2):** Conducts independent project reviews of capital projects on behalf of project management executives (PME) to assesses readiness to proceed to the next milestone, identifies opportunities to improve project performance, and to shares lessons learned across the enterprise.
    - **Office of Infrastructure Lifecycle Management (NA-91):** Leads the integrated planning, systems analyses, and real estate services for NNSA's infrastructure.
    - **Office of Design & Construction (NA-92):** Oversees and manages the Federal Project Directors (FPD) assigned to NNSA capital asset projects managed in accordance with DOE O 413.3B who are not assigned to other NA-90 elements; oversees the NNSA portfolio of capital asset projects for performance monitoring and reporting, enterprise-wide collaboration, and process commonality; continuously assesses projects through on-site reviews, document review, metrics analysis, and frequent interaction with the FPDs; develops and enforces project management policies and processes; and manages centralized design, construction, and project management service contracts.

These offices allow NNSA to strategically manage their M&O partnerships for mission delivery; position NNSA for the growing infrastructure revitalization efforts; and continuously improve environment, safety, and health. NA-PAS, NA-ESH, and NA-90 facilitate the attainment of these goals through the repositioning of the work units from both NA-50 and NA-APM.

5.4.2 NNSA PPBE

In support of these missions, the NNSA has established procedures to ensure that the planning, programming, budgeting, and evaluation (PPBE) activities of the NNSA comply with sound financial management principles, specifically to assess and determine whether progress has been made toward achieving identified performance measures at multiple levels within the NNSA. NNSA's Office Management & Budget Office (NA-MB), specifically its Office of Programming, Analysis, and Evaluation (NA-MB-90), provides fiscal planning, programming,

cost estimating and associated analytics services to the NNSA. NA-MB-90 (PA&E) enhances the PPBE process using sound financial and fiscal management principles. NA-MB-90 coordinates and collaborates with Program Offices to ensure data-informed program fiscal plans are developed and provide defensible cost estimates for the fiscal planning and programming process. NA-MB-90 leads the NNSA planning and programming process with a goal of informing decision makers on fiscal requirements for the Future Years Nuclear Security Program (FYNSP). NA-MB-90 provides decision support to Program Offices including DOE O 413.3B analyses of alternatives (AoAs) and other studies, including business case analysis. NA-MB-90 is responsible for interfacing with the Office of Corporate Budget (NA-MB-50); the Resource and Matrix Directorate (NA-MB-80); and, when appropriate, Office of Financial Performance (NA-MB-60) and Business Systems and Integration (NA-MB-1.4). The Office of Cost Estimating and Program Evaluation (NA-1.3) provides the NNSA Administrator with independent, data-driven analysis on all aspects of the Nuclear Security Enterprise, leading to better mission planning and performance. Accurately estimating costs, assessing alternatives, and evaluating NNSA's program performance are vital to national security and the responsible expenditure of taxpayer dollars.[43]

5.5 Strategic Goal 5: Promote Equity and Energy Justice

5.5.1 Office of Economic Impact and Diversity (ED)

The Office of Economic Impact and Diversity (ED) develops and executes Department-wide policies to implement applicable legislation and Executive Orders that strengthen justice, diversity, equity, inclusion, and accessibility goals affecting equal employment opportunities, minority business entities (MBEs), minority serving institutions (MSIs), and Black, Indigenous, people of color (BIPOC) communities.

ED's mission is to ensure that MBEs, MSIs, and BIPOC communities have equal opportunities to participate in the Department of Energy's opportunities, programs, and resources. ED's divisions work to assure equal opportunity for BIPOC, women, persons with disabilities, and people with limited English proficiency; and develop and administer Departmental policies, practices, and procedures under certain laws and titles. Further, ED works to identify and implement ways of ensuring that everyone is afforded an opportunity to participate fully in the Department of Energy's programs, opportunities, and resources, and the office encourages partnerships with MSI's and other minority-owned and serving entities to join the Department in advancing its mission.

ED leads the departmental efforts to support the following Biden-Harris Administration Executive Orders (EOs):

- EO 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*
- EO 14008: *Tackling the Climate Crisis at Home and Abroad*

[43] Office of Cost Estimating and program Evaluation: https://www.energy.gov/nnsa/nnsa-offices/supporting-nnsas-missions

- EO 14019: *Promoting Access to Voting*
- EO 14020*: Establishment of the White House Gender Policy Council*
- EO 14031*: Advancing Equity, Justice, and Opportunity for Asian Americans, Native Hawaiians, and Pacific Islanders*
- EO 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*
- EO 14041*: White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity Through Historically Black Colleges and Universities*
- EO 14045*: White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Hispanics*
- EO 14049*: White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Native Americans and Strengthening Tribal Colleges and Universities*
- EO 14050*: White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Black Americans*
- EO 14091*: Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*
- EO 14096*: Revitalizing Our Nation's Commitment to Environmental Justice for All*

5.5.2 Office of Indian Energy Policy and Programs (IE)

The Office of Indian Energy Policy and Programs (IE) is authorized to fund and implement a variety of programmatic activities that assist American Indian Tribes and Alaska Native villages with energy development, capacity building, energy cost reduction, and electrification of Indian lands and homes. IE works with American Indian Tribes and Alaska Natives to maximize the value of their energy resources through:

- Facilitation of energy development
- Education and training
- Technical assistance
- Funding

IE also leverages public-private partnerships, inter- and intra-governmental coordination, and government-to-government partnerships to maximize the return on investments in the future of Native American communities,[44] and annual Program Review meetings to provide an opportunity for tribes and Alaska Native villages to share their successes and best practices.[45] In providing technical assistance, IE – in partnerships with DOE national laboratories and other partnering organizations – conducts analysis at no cost for recognized tribes, villages, tribal energy development organizations, and other organized tribal groups and communities to advance tribal energy projects. The goal of technical assistance is to address a specific challenge or fulfill a need that is essential to a current project's successful implementation. The intended

[44] About Us, Office of Indian Energy Policy and Programs: https://www.energy.gov/indianenergy/about-us
[45] Office of Indian Energy Program Reviews: https://www.energy.gov/indianenergy/projects/program-review

result is a tangible product or specific deliverable designed to help move a project forward. IE provides three (3) types of Technical Assistance:

- **Technical Analysis:** Assistance in technical analysis generally involves analysis and modeling, expert review, transmission and/or utility assessment, market access, and energy efficiency reviews. This assistance is intended to address a specific project needs and result in a tangible product or deliverable to move a specific project forward.
- **Financial Analysis:** Financial analysis assistance is intended for decision makers in the early stages of energy development, including economic or market analysis. This assistance may include modeling for payback periods, net present value (NPV), and levelized cost of energy (LCOE).
- **Strategic Energy Planning:** Assistance in strategic planning may provide an initial resource assessment, energy options analyses, and development of a viable roadmap for development. This assistance typically includes an on-site workshop facilitated by tribal energy expert(s) to assist tribal leaders, elders and staff develop an energy plan.

For a list of Other Technical Assistance Opportunities or Completed Technical Assistance, visit the following:

- https://www.energy.gov/indianenergy/other-technical-assistance-opportunities
- https://www.energy.gov/indianenergy/completed-technical-assistance

IE holds annual Program Review meetings to provide an opportunity for Indian tribes to meet, learn from other tribes who are pursuing energy self-sufficiency, and share in each other's successes, as the next IE Annual Program Review (for 2023) will take place November 13-17, in Denver, CO. Prior program reviews include:

- Program Review 2022
- Program Review 2021
- Program Review 2020
- Program Review 2019
- Program Review 2018
- Program Review 2017
- Program Review 2016
- Program Review 2015
- Program Review 2014
- Program Review 2012
- Program Review 2011
- Program Review 2010

NOTE: Visit the Archived Program Reviews page to view Program Reviews prior to 2010.

5.5.3 Arctic Energy Office (AEO)

The Arctic Energy Office (AEO) leads cross-cutting operations in the Arctic with a mission to tackle the energy, science, and national security challenges of the 21st Century. The office acts as a nexus for DOE activities and represent the Department in engagements involving the Arctic.

AEO, with the Office of Technology Transitions (OTT), co-hosts ArcticX, an InnovationXLab series exploring the Arctic's largely untapped potential to serve as a living laboratory of clean energy innovation, and includes discussions on innovative solutions and furthering existing energy projects. DOE's work in the Arctic is strengthened through partnerships with national labs, federal agency partners, academia, tribal organizations, and industry partners, as DOE supports a number of grant, loan, funding opportunities, cooperative agreements, and financing programs. For a published list of DOE's funding from program and staff offices to companies working on Alaskan energy issues, events, and opportunities, from FY15 to FY 23 as of May 2023, visit: https://www.energy.gov/arctic/alaska-funding-awards

The DOE Arctic Strategy, issued October 2022, serves as AEO's guide for the activities listed above through the establishment of three (3) strategic goals:

1. DOE will lead and partner to advance the decarbonization, resilience, and equity of the Arctic energy sector and broader economy.
2. DOE will lead and partner to advance the scientific understanding of Arctic challenges.
3. DOE will lead and partner to ensure Arctic security

Each strategic goal is supported by multiple objectives, described in the DOE Arctic Strategy. The strategy describes cross-cutting, foundational principles that inform all of DOE's work in the Arctic. In addition to the principles, goals, and objectives, the DOE Arctic Strategy provides the context for DOE Arctic work as part of the National Strategy for the Arctic Region (NSAR) and the Arctic Research Plan 2022-2026 from the Interagency Arctic Research Policy Committee.

To accomplish these goals, AEO is helping DOE program offices and national labs coordinate with Arctic inhabitants, other Federal agencies, state and local organizations, and international partners and allies to understand Arctic challenges, ensure energy equity, and work toward solutions together.

For more regarding AEO's history, mission, collaborations, and efforts, visit: energy.gov/sites/default/files/2023-03/AEO fact sheet_March 2023 revision_031523_UPDATED.pdf

For additional Arctic-related publications visit: https://www.energy.gov/arctic/arctic-related-publications

5.5.4 Office of Public Affairs (PA)

The DOE Office of Public Affairs (PA) is responsible for counsel and support for:

- Articulating and disseminating enterprise-level messages for use by DOE leadership and stakeholders;

- Identifying opportunities to develop new content and share existing content about DOE's portfolio;
- Helping media outlets understand and report DOE-sponsored research;
- Identifying DOE's key stakeholders, and keeping them informed of DOE work; and,
- Monitoring media, legislative, and stakeholder communications to advise senior agency officials about emerging news and public affairs issues and concerns.

5.5.5 Office of Small and Disadvantaged Business Utilization (OSDBU)

The Office of Small and Disadvantaged Business Utilization (OSDBU) maximizes contract opportunities for small businesses while advancing the Agency's missions. OSDBU's History dates back to when Public Law 95-507 (October 1978) amended the original Small Business Investment Act of 1958 (SBAct). Public Law 95-507 established the requirement for every Federal Agency to have an Office of Small and Disadvantaged Business Utilization (OSDBU) to make Federal procurements more readily accessible to all small businesses.

To execute and support its mission, the OSDBU has developed three Strategic Objectives:

- **Objective 1:** Making it easier for small businesses to do business with the DOE.
- **Objective 2:** Maximizing small business opportunities by cultivating more productive relationships with internal DOE stakeholders.
- **Objective 3:** Maximizing small business awards and improving socio-economic category performance.

The Strategic Objectives are achieved through use of the following **Enabling Activities**:

- OSDBU Staff and Cadre of Small Business Program Managers (SBPMs);
- Education and Resources;
- OSDBU Compliance Requirements; and
- Inreach/Outreach.

OSDBU programs include:

- Mentor-Protégé Program (MPP) – This program operates separately from the Small Business Administration's (SBA's) Mentor Protégé Program (All Small MPP). The DOE's MPP seeks to foster long-term business relationships between small businesses and DOE prime contractors and to increase the overall number of small businesses that receive DOE prime contracts and subcontracts.
- Annual Small Business Awards Program – Recognizes the outstanding performance of people and organizations that promote and expand the Department's use of small businesses.
- Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs – Intended to help certain small businesses conduct Research and Development (R&D).
- Small Business Emphasis Programs – Additional DOE contract and procurement vehicles that offer specific small business opportunities and set-asides specifically for small

businesses. Procurement opportunities can be found on OSDBU's Acquisition Forecast page.

Every year, the Small Business Administration (SBA) works with each agency to set their prime and subcontracting goals and their grades are based on the agreed upon goals. Each federal agency has a different small business contracting goal, negotiated annually in consultation with the SBA. The SBA ensures that all the goals meet the 23 percent target for the federal government as well as the socio-economic goals established by statute. The latest SBA Scorecard can be found here: DOE FY 2021 Small Business Procurement Scorecard.

SBDU Annual Reports provide a comprehensive review of DOE performance in engaging small businesses. These reports contain a broad overview of small business prime contracts, first-tier Management and Operating (M&O) Subcontracts, and other subcontracts to small business. OSDBU also publishes quarterly updates on their activities and achievements.

5.5.6 U.S. Energy Information Administration (EIA)

The U.S. Energy Information Administration (EIA) collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. EIA provides a wide range of information and data products covering energy production, stocks, demand, imports, exports, and prices and prepares analyses and special reports on topics of current interest:

Table 11: EIA Reports and Analysis

Topic	Report/Analysis/Dashboards
Petroleum & Other Liquids	• This Week in Petroleum • Weekly Petroleum Status Report • Petroleum Infrastructure Map • Crude Import Tracking Tool • Fossil Fuel Resource Map • Tight Oil and Gas Plays • Alternative Fuel Vehicle Data Browser
Natural Gas	• Weekly Natural Gas Storage Report • Natural Gas Weekly Update • Natural Gas Storage Dashboard • Natural Gas Infrastructure Map • Natural Gas Company-level Query System
Electricity	• Electric Power Monthly • Electricity Data Browser • Hourly Electric Grid Monitor
Consumption & Efficiency	• Residential Energy Consumption Survey (RECS) • Commercial Buildings Energy Consumption Survey (CBECS) • Residential Energy Consumption Survey Dashboard • Status of U.S. Nuclear Outages
Coal	• Quarterly Coal Report • Coal Data Browser • Coal Infrastructure Map
Renewable & Alternative Fuels	Alternative Fuel Vehicle Browser
Nuclear & Uranium	Daily Status of Nuclear Outages
Total Energy	• Monthly Energy Review • Annual Energy Review
Analysis & Projects	• Short-Term Energy Outlook • Short-Term Energy Outlook Data Browser • Annual Energy Outlook • International Energy Outlook • Energy Calculator • Embed Graphs and Maps • AEO Table Browser • Bulk Download Facility

Topic	Report/Analysis/Dashboards
Markets & Finance	• Market Prices and Uncertainty Report • Energy & Financial Markets: What Drives Crude Oil Prices?
Environment	• U.S. Energy-Related Carbon Dioxide Emissions • Energy-Related Carbon Dioxide Emissions at the State Level
Energy Disruptions	Energy Disruptions
U.S. States	State Energy Data System (SEDS)
Maps	• U.S. Electricity Infrastructure Map • U.S. Energy Atlas • U.S. Energy Mapping System • U.S. States Energy Portal (Beta) • Gulf of Mexico
International	• International Energy Statistics • International Portal • IEO Table Browser
Regional Dashboards & Data	• New England Dashboard • Southern California Daily Energy Report • Energy Disruptions

EIA's Office of Resources and Technology Management provides leadership and direction to oversee extensive administrative services for federal staff and contractor support, agency-wide information technology governance, policy and operations, integrated planning, budget, acquisition, program evaluation and project management activities, and comprehensive stakeholder and communications services for a diverse external and internal customer base. This office also serves as the agency's point of contact for a variety of departmental and external inquires, and it oversees plans and procedures for EIA's continuity of operations in case of an emergency.

EIA's Office of Energy Statistics provides leadership and direction to EIA's comprehensive energy supply and demand data collection program covering a wide-range of information sources to support the analysis and dissemination of relevant, reliable, and timely information through a full range of publicly available data and reports. These reports communicate the performance of U.S. energy companies and energy markets, as well as provide energy information to support analyses of public policy issues, including requests from Congress and the Executive Branch. This office oversees planning and implementation of statistical aspects of continuity of operations, including documentation of business processes and data integrity.

EIA's Office of Energy Analysis analyzes energy supply, demand, and prices including the impact of financial markets on energy markets; prepares reports on current and future energy use; analyzes the impact of energy policies; and develops advanced techniques for conducting energy information analyses. This office also oversees the planning and execution of EIA's analysis and forecasting programs to ensure that EIA models, analyses, and projections meet the highest standards of relevance, reliability, and timeliness.

In addition, EIA is committed to enhancing the value of its free and open data by making it available through an Application Programming Interface (API) and open data tools to better serve our customers. The data in the API is also available in bulk file, in Excel via the add-in, in Google Sheets via an add-on, and via widgets that embed interactive data visualizations of EIA data on any website. By making EIA data available in machine-readable formats, the creativity in the private, the non-profit, and the public sectors can be harnessed to find new ways to innovate and create value-added services powered by public data.

The EIA Administrator, as head of a principal statistical agency and DOE's Statistical Official, is DOE/EIA's principal representative on Interagency Council on Statistical Policy (ICSP), which is dedicated to improving the quality of Federal statistics.

5.5.7 Grid Deployment Office (GDO)

The Grid Deployment Office (GDO), launched in August 2022, works to provide electricity to everyone, everywhere by maintaining and investing in critical generation facilities to ensure resource adequacy and improving and expanding transmission and distribution systems. Currently, the Office is focused on ensuring the resilience of critical power generation facilities like hydroelectric and nuclear facilities and developing high-capacity electric transmission lines nationwide. GDO's work within the Generation Credits, Transmission, and Grid Modernization Divisions leverage unique authorities to drive transmission investment, improve resource adequacy by maintaining and investing in critical generation facilities, improve transmission and distribution system resilience, and provide access to technical assistance and national laboratory expertise, modeling, and analytical capabilities.

The Grid Modernization Laboratory Consortium (GMLC) was established as a strategic partnership between DOE and the national laboratories to bring together leading experts, technologies, and resources to collaborate on the goal of modernizing the nation's grid. The benefits of the GMLC include more efficient use of resources; shared networks; improving learning and preservation of knowledge; enhanced lab coordination and collaboration; and regional perspective and relationships with local stakeholders and industry. One of the main components of the GMI portfolio is the Grid Modernization Lab Call, which includes 88 projects spanning 3 years that are managed by the national laboratories.

5.5.7.1 Transmission

As one of the first steps in kickstarting the nationwide development of new and upgraded high-capacity electric transmission lines, DOE is conducting the National Transmission Planning Study (NTP) to identify transmission that will provide broad-scale benefits to electric customers; inform regional and interregional transmission planning processes; and identify interregional and national strategies to accelerate decarbonization while maintaining system reliability. In partnership with the Pacific Northwest National Laboratory and the National Renewable Energy Laboratory, DOE will collaborate with industry stakeholders, communities, and regional and local governments to help identify pathways for necessary large-scale transmission system buildouts that meet regional and national interests.

Supported by the Bipartisan Infrastructure Law ("BIL"), the National Transmission Needs Study ("Needs Study") provides information about capacity constraints and congestion on the nation's electric transmission grid. Formally known as the National Electric Transmission Congestion Study ("Congestion Study"), this report functions as DOE's triennial state of the grid report. Whereas previous Congestion Studies (2006 Study, 2009 Study, 2015 Study, 2020 Draft Study) were limited to consider only historic congestion, BIL expanded the scope of this study to consider both historic and anticipated future capacity constraints and transmission congestion that could affect consumers. The Needs Study is an assessment of data and results from power sector reports published in the last several years and focuses on near-term future needs by 2030 and 2035. This report is not meant to be a long-term planning study and does not do any additional modeling to prescribe specific transmission solutions.

The Needs Study was launched in January 2022 as part of DOE's Building a Better Grid Initiative, which aims to catalyze the nationwide development of new and upgraded high-capacity transmission lines to create a more resilient electric grid. As part of the development of the Needs Study, **DOE is required to engage with States, Tribes, and the regional grid entities to ensure regional, interregional, and national needs are met**. A draft of the Needs Study was sent to these consultation entities in October 2022 and DOE received nearly 180 comments from 20 different consultation entities during the comment period. The Needs Study was revised based on consultation entity feedback and released to the public for comment in February 2023. For more information on the comments received from consultation entities, see the Appendices of the Draft Needs Study. To see additional context, methodology, and data associated with information in the Draft Needs Study, view the Supplemental Material. The public comment period closed on April 20, 2023. View the compilation of public comments.

5.5.7.2 Federal Collaboration

DOE, in partnership with the U.S. Department of the Interior's (DOI) Bureau of Ocean Energy Management (BOEM), is working to support the interagency goal of 30 gigawatts (GW) of offshore wind (OSW) by 2030, as well as future deployment to ramp up to 110+ GW in 2050 and beyond. The development of strategic and equitable OSW transmission will allow wind

resources to be captured off the coasts of the United States and delivered to communities as clean, reliable power. To achieve these goals, proactive transmission planning and development will be needed. Current activities include:

- **Agency Collaboration:** On March 29, 2023 DOE released the Offshore Wind Energy Strategy, a first of its kind, comprehensive summary of the Department's efforts to meet President Biden's goal. This Department-wide strategy outlines how DOE will support the Administration's whole-of-government approach to accelerate the deployment of offshore wind in support of achieving a carbon-free electricity sector by 2035.
- **Stakeholder Convenings:** In January 2022, DOE announced the Building a Better Grid Initiative to expand and strengthen the electric transmission grid across the nation. In support of that mission, DOE and BOEM convened decisionmakers and senior leadership from federal agencies, Tribal Nations, state public utility commissions, state energy offices, state environmental and natural resource agencies, ISO/RTOs, electric reliability organizations, consumer advocates, and current BOEM leaseholders to provide insight on collaborative solutions for near-, medium-, and long-term OSW transmission challenges. In June 2022, a public stakeholder convening workshop was held to solicit broader public input and in March 2023, a final public stakeholder convening workshop was held to discuss the agencies' findings following the convening workshop series focused on the Atlantic Coast from Maine to South Carolina, preview the preliminary results from the Atlantic Offshore Wind Transmission Study, and provide opportunities for public comment.
- **Atlantic Offshore Wind Transmission Study:** The Wind Energy Technologies Office at DOE is leading a two-year Atlantic Offshore Wind Transmission Study (AOSWTS). Conducted by NREL and PNNL, the AOSWTS will evaluate multiple pathways to OSW goals through coordinated transmission solutions along the Atlantic Coast in the near-term (2030) and long-term (2050), under various generation mix and load futures. Resulting topologies and datasets will illuminate benefits and shortcomings in terms of production costs, system reliability, and resilience of specific transmission infrastructure concepts. These contributions will fill research gaps, support timely and informed recommendations on OSW transmission strategies for the convening workshops, and offer feasible solutions that may benefit stakeholders in their planning processes. GDO anticipates publishing an action plan for offshore wind transmission development in the U.S. Atlantic region later this year. The outputs of the convening workshops and the AOSWTS have informed DOE and BOEM's development of a set of OSW transmission-focused recommendations and associated time-bound, regionally-specific action plans for enabling solutions, starting with the Atlantic Coast. The DOE and BOEM recommendations will address the areas of partnerships and collaborations; planning and operations; technologies and standardization; economics and support initiatives; and siting and permitting.

- **West Coast Offshore Wind Transmission Study:** Through the Inflation Reduction Act, DOE received $100 million in funding for offshore wind and interregional transmission analyses and convenings, which will allow the agency to expand efforts to new regions in the future. On February 22, 2023, the Grid Deployment Office and Office of Energy Efficiency and Renewable Energy's Wind Energy Technologies Office announced the kick-off of the West Coast Offshore Wind Transmission Study. This 20-month study will detail transmission options to support offshore wind development in the Pacific Ocean along the U.S. West Coast and will be a part of a longer-term effort to include convenings with state policymakers, local leaders, and private industry, and eventually a report outlining key recommendations and an action plan for OSW transmission development on the West Coast.
- The siting and permitting of interstate and interregional high-voltage transmission generally requires action by many different authorities governing the federal, state, local, and Tribal lands and private lands, that facilities will pass through. Projects involving multiple agencies are subject to a wide array of processes and procedural requirements for compliance with legal mandates and multiple authorizations. On August 10, 2023, the U.S. Department of Energy proposed a rule to establish the Coordinated Interagency Transmission Authorizations and Permits (CITAP) Program to accelerate Federal environmental review and permitting processes for qualifying onshore electric transmission facilities. GDO, which will administer the CITAP Program, is now seeking public comment and feedback on the proposed program via a Notice of Proposed Rulemaking.
- Since the hurricanes in 2017, the U.S. Department of Energy has been providing Puerto Rico energy stakeholders with tools, training, and modeling support to maintain initiatives that focus on mitigation, adaptation, and resilience. DOE's Puerto Rico Recovery and Grid Modernization Team, together with the Federal Emergency Management Agency, works to strengthen Puerto Rico's electric grid while supporting efforts to reach their renewable energy target of 100% by 2050, reduce the use of fossil fuels, and minimize greenhouse gas emissions.

5.5.8 Office of Policy (OP)

The Office of Policy (OP) provides expertise related to domestic energy and climate policy issues, including technology policy; deployment and infrastructure policy; state, local, and tribal policy; and energy jobs.

5.5.8.1 Technology Policy

The Office of Technology Policy leads U.S. Department of Energy (DOE) efforts to identify technology innovations and strategies that will help achieve national energy and climate priorities. It provides overall DOE strategic direction and centralized coordination of science,

energy, and technology research, development, and deployment—to advance dependable, affordable, and environmentally responsible production, delivery, and use of energy.

The Office of Technology Policy supports DOE policies, activities, and strategies, consistent with the national energy plan. These efforts aim to advance domestic collaboration on innovation, science, and technology research and demonstration to accelerate energy technology development to transform the energy sector in the long term.

Focus areas include:

- **Energy Innovation** – To meet national goals, the Office of Technology Policy is working to identify innovation opportunities that will address climate change and facilitate the nation's transition to a cleaner, domestic, and more secure energy future.
- **Energy Earthshots Initiative** – Through the Energy Earthshots Initiative, DOE will accelerate breakthroughs of more abundant, affordable, and reliable clean energy solutions within the decade. Using an all-hands-on-deck approach, DOE will leverage diverse expertise and talent at American universities, businesses, and national laboratories to accelerate research and development and tackle the toughest remaining barriers to quickly deploy emerging clean energy technologies at scale. Current Earthshot initiatives include:
  - The first Energy Earthshot – **Hydrogen Shot™** – was announced on June 7, 2021, and sets an ambitious yet achievable cost target to accelerate innovations and spur demand of clean hydrogen by reducing the cost by 80%.
  - The second Energy Earthshot – **Long Duration Storage Shot™** – was announced on July 14, 2021, and aims to achieve affordable grid storage for clean power - anytime, anywhere - by reducing the cost of grid-scale energy storage by 90% for systems that deliver 10+ hours of duration within the decade.
  - The third Energy Earthshot – **Carbon Negative Shot™** – was announced on November 5, 2021, and is the all-hands-on-deck call for innovation in technologies and approaches that will remove CO_2 from the atmosphere and durably store it at meaningful scales for less than $100/net metric ton of CO_2-equivalent (CO_2e).
  - The fourth Energy Earthshot – **Enhanced Geothermal Shot™** – was announced on September 8, 2022, and is a department-wide effort to dramatically reduce the cost of enhanced geothermal systems by 90%, to $45 per megawatt hour by 2035.
  - The fifth Energy Earthshot – **Floating Offshore Wind Shot™** – was announced on September 15, 2022 with the goal of driving down costs to $45 per megawatt hour by 2035 to spur U.S. leadership in floating offshore wind technology, accelerate decarbonization, and deliver benefits for coastal communities.
  - The sixth Energy Earthshot – **Industrial Heat Shot™** – was announced on September 21, 2022 and is a Department-wide initiative to develop cost-competitive industrial heat decarbonization technologies with at least 85% lower greenhouse gas emissions by 2035.

    - The seventh Energy Earthshot – **Clean Fuels & Products Shot™** – was announced on May 24, 2023, and is a Department-wide initiative focused on decarbonizing the fuel and chemical industry through alternative sources of carbon in order to advance cost-effective technologies.
- **National Climate Strategy** – Addressing the climate crisis requires immediate and sustained investment to eliminate net global greenhouse gas emissions by mid-century. Investing in the clean technologies, infrastructure, workforce, and systems of the future creates an unprecedented opportunity to improve quality of life and create vibrant, sustainable, resilient, and equitable economies.
    - Long-Duration Energy Earthshot and the Grid Storage Launchpad featured at COP 27 by Secretary Granholm
    - FACT SHEET: President Biden Renews U.S. Leadership on World Stage at U.N. Climate Conference (COP26)
    - The Long-Term Strategy of the United States: Pathways to 2050 Net-Zero Greenhouse Gas Emissions

5.5.8.2 Deployment and Infrastructure Policy

The Office of Deployment and Infrastructure Policy serves as the focal point within the U.S. Department of Energy for the policy design and analysis of supply chains, domestic manufacturing, and other key topics. It supports the development of long-term strategies and integrated policies and programs to accelerate and scale clean energy deployment, including both energy supply and energy efficiency.

Focus areas include:

- **Supply Chains** – In response to the Supply Chain Executive Order, DOE is working to better understand the clean energy manufacturing supply chain. The analysis focuses on supply chain issues and opportunities with significant potential to enhance U.S. competitiveness and generate high quality jobs to help meet national security, energy, and climate objectives.
    - 100-Day Report on High-Capacity Electric Vehicle Batteries
    - DOE Announces Actions to Bolster Domestic Supply Chain of Advanced Batteries
- **Clean Energy Reliability** – Climate change and cyber threats are increasingly putting the reliability and resilience of our power system at risk. Investing in clean energy solutions will tackle climate change, grow our economy, and deliver affordable, reliable, and secure electricity to all Americans.

5.5.8.3 State, Local, and Tribal Policy

The Office of State, Local, and Tribal Policy guides the development and implementation of coordinated, comprehensive strategies to assist states, territories, local authorities, and tribes in analyzing, assessing, and implementing energy policies, programs, and related activities.

It also helps ensure that national energy policies, programs, and related activities are informed by the policies, programs, regulations, and practices of state, local, and tribal governments.

Focus areas include:

- **Communities LEAP** – The DOE Communities LEAP (Local Energy Action Program) Pilot seeks to help communities access the economic and environmental benefits of clean energy and clean energy manufacturing. Under this pilot initiative, DOE will provide supportive services valued at up to a total of $16 million to support 24-36 communities to develop their own community-driven clean energy transition approach. This opportunity is specifically open to low-income, energy-burdened communities that are experiencing either direct environmental justice impacts, or direct economic impacts from a shift away from historical reliance on fossil fuels.
- **Place-based Strategy** – Place-based approaches aim to strengthen communities (usually defined at a scale where measurable economic outcomes can be achieved—from a neighborhood up through a multi-county region), rather than provide direct assistance to individuals, companies, or technologies. DOE is focusing on place-based approaches through a variety of cross-agency initiatives, such as Justice40. DOE's strategy includes programs and initiatives designed to serve disadvantaged communities, rural and remote communities, energy communities, and Tribal Nations. DOE's place-based approaches target specific energy- or technology-related challenges and opportunities of each community, with the goal of supporting each region's transition to a more prosperous, sustainable, resilient, and inclusive future.
- **Cross-DOE Collaboration** – The Office of Policy coordinates with DOE programs and staff offices to lead strategic thinking, working to achieve U.S. energy goals. The Office of Policy also provides policy analysis support to DOE program and staff offices for Departmental mission objectives.

5.5.8.4 Energy Jobs

The Office of Energy Jobs focuses on supporting the creation of jobs in the energy sector, particularly jobs that guarantee high standards and the right to collective bargaining. Energy Jobs works collaboratively across the U.S. Department of Energy (DOE) and with other federal agencies and regulatory bodies to ensure the successful transition to a zero-emissions economy while creating meaningful job opportunities for all Americans.

A pivotal component of the successful transition of the American energy sector is ensuring that both job creation and job impacts are taken into consideration in DOE funding, initiatives, and priorities. The Office of Energy Jobs leads efforts to align energy workforce building and training programs and publish the annual U.S. Energy and Employment Report.

Focus areas include:

- U.S. Energy and Employment Report – The U.S. Energy and Employment Report (USEER) provides a comprehensive overview of the energy labor market. The USEER offers unique insights into the individuals who meet the nation's energy needs, identifies important trends and skillsets for the 21st century energy workforce, and provides data on employment trends in five major energy sectors — Electric Power Generation; Transmission, Distribution, and Storage; Fuels; Energy Efficiency; and Motor Vehicles.
- 21st Century Energy Workforce Advisory Board – The 21st Century Energy Workforce Advisory Board was established under the Infrastructure Investment and Jobs Act to develop a strategy for the department to support current and future energy-sector labor needs, strengthen DOE's workforce programs, and expand energy jobs and training opportunities for students, underrepresented workers, and displaced energy workers.
- **DOE Labor Working Group** – The DOE Labor Working Group is a forum for DOE and labor unions to engage on key energy topics.
- Department of Energy – Department of Labor Memorandum of Understanding – Through this MOU, Energy Jobs manages cross-department efforts to attract, train, retain, and empower diverse, qualified, well-compensated workers for jobs in clean energy infrastructure and supply chains, including underrepresented workers and those displaced by the energy transition.
- Community Benefits Plan – The Community Benefits Plan is DOE's approach to accounting for the ways in which labor and community engagement, quality jobs, investing in workers, DEIA, and energy justice contribute to the successful implementation of federally-funded energy projects.
- Battery Workforce Initiative – The Battery Workforce Initiative is marquis workforce effort for DOE that brings together broad industry stakeholders, including employers and labor unions, to develop consensus on standards skills and training required to support the rapid growth of the battery supply chain in the U.S. It is a collaborative project between Energy Jobs and the Office of Energy Efficiency and Renewable Energy.

5.5.8.5 Grid Modernization

The Grid Modernization Division is responsible for developing activities that prevent outages and enhance the resilience of the electric grid while serving as the catalyst for the development of new and upgraded high-capacity electric transmission lines nationwide. It also oversees State and Tribal assistance programs. This Division manages the Grid Resilience State and Tribal Formula Grants and the Grid Resilience and Innovation Partnerships (GRIP) Program. The GRIP Program includes the Grid Resilience Utility and Industry Grants, the Smart Grid Grants, and, in conjunction with DOE's Office of Clean Energy Deployment (OCED), the Grid Innovation Program.

The Grid Modernization Division also manages the Territory and Recovery Assistance work. This work is primarily focused on helping Puerto Rico reach their renewable energy target of 100% by 2050, while reducing the use of fossil fuels, minimizing greenhouse gas emissions, and maintaining initiatives that focus on mitigation, adaptation, and resilience.

5.5.9 Office of General Counsel (GC)

The Office of General Counsel (GC) is charged by the Secretary of Energy with the authority to determine the Department's authoritative position on any question of law. GC provides legal advice, counsel, and support to the Secretary, the Deputy Secretary, and program offices throughout DOE to further the Department's mission of advancing the national, economic, and energy security of the United States through scientific and technological innovation and the environmental cleanup of the national nuclear weapons complex.

GC services include:

Table 17: GC Services/Analysis

GC Element	Service (i.e., Analysis)
Administration (GC-20)	The Deputy General Counsel for Administration directs, manages, supervises and coordinates the activities and functions assigned to the following offices: • Assistant General Counsel for Ethics and Personnel Law • Associate General Counsel for Fiscal and Information Law
Litigation, Regulation & Enforcement (GC-30)	The Deputy General Counsel for Litigation, Regulation and Enforcement directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Litigation • Enforcement • Legislation, Regulation, and Energy Efficiency
Environment & Compliance (GC-50)	The Deputy General Counsel for Environment and Compliance directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Environment • International and National Security Programs • NEPA Policy and Compliance
Transactions, Technology, & Contractor Human Resources (GC-60)	The Deputy General Counsel for Transactions, Technology, & Contractor Human Resources directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Procurement and Financial Assistance • Technology Transfer and Intellectual Property • Contractor Human Resources
Energy Policy (GC-70)	The Deputy General Counsel for Energy Policy directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Civilian Nuclear Programs • Standard Contract Management • Electricity and Fossil Energy

GC Element	Service (i.e., Analysis)
Office of the Chief Counsel for Loans Programs	The mission of the Loan Programs Office is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of our national clean energy objectives—including job creation; reducing dependency on foreign oil; improving our environmental legacy; and enhancing American competitiveness in the global economy of the 21st century.
Office of the Chief Counsel for ARPA-E	The Advanced Projects Research Agency-Energy (ARPA-E) was established in 2007 to fund the development and deployment of transformational energy technologies in the United States.
Field Counsel Offices	The Department of Energy employs a complement of lawyers who work in each of the Department's Operations Offices and Field Offices under the leadership of a Chief Counsel.

5.5.10 Power Marketing Administrations (PMAs)

The federal government, through the Department of Energy, operates four regional Power Marketing Administrations (PMAs)[46] including - Bonneville Power Administration (BPA), Western Area Power Administration (WAPA), Southeastern Power Administration (SEPA), and Southwestern Power Administration (SWPA) – which operate electric systems and sell the electrical output of federally owned and operated hydroelectric dams in 34 states.[47] Organizationally, the Power Marketing Administrations are aligned with the Office of Electricity (OE).[48]

The PMAs are unique in that they primarily use power rates to pay annual expenditures, such as operating and maintenance costs, interest costs, and the cost of power purchased from other utilities for resale. Each PMA will prepare and publish annually a power repayment study for each power system. Each power repayment study consists of two parts, historical data, and future data (forecasts). The development of future data requires the forecast of revenues, expenses and investment as detailed in DOE Order RA 6120-2.[49] Rates must also be sufficient to repay debt, including the appropriations that financed completed generation and transmission facilities.[50]

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[46] The Power Marketing Administrations: Background and Current Issues, March 1, 2019, Congressional Research Service, R45548: https://fas.org/sgp/crs/misc/R45548.pdf
[47] Power Marketing Administrations: https://www.energy.gov/ea/power-marketing-administrations
[48] Office of Electricity: https://www.energy.gov/oe/office-electricity
[49] DOE O RA 6120.2, September 20, 1979: https://www.swpa.gov/pdfs/ra6120-2.pdf
[50] GAO/AIMD-00-114 Power Marketing Administrations, page 10: https://www.gao.gov/archive/2000/ai00114.pdf

The PMAs determine the adequacy of rates by performing annual reviews of their projected costs and revenues, using processes and assumptions that are to identify and factor into rates, costs that are legally recoverable, while keeping rates as low as possible. Southwestern, Southeastern, and most Western projects make this determination through power repayment studies (PRS); Bonneville uses a revenue requirement study (RRS). These studies analyze historical data and project estimated future costs and revenues as a key part of rate setting. The primary goal of the review is to determine whether existing rates will generate sufficient revenue to recover identified costs over the period under review.[51]

5.5.10.1 Bonneville Power Administration (BPA)

BPA has created a Strategic Plan[52] centered on what BPA intends to do – with input from the region – in the near term to deliver on their public responsibilities. This strategic plan will be updated with a Strategic Progress Update.[53]

BPA also conducts an Integrated Program Review (IPR)[54], which plays a significant role in BPA's overall financial planning process. It provides the public an opportunity to review and comment on BPA's spending levels for its capital and expense programs before establishing them in rate cases. BPA's Financial Plan includes targets for expense program spending levels, which are described in the financial health objectives.[55]

The IPR occurs every 2 years, before each rate case, giving interested parties an opportunity to review and comment on BPA's proposed spending levels. The IPR integrates both long-term capital forecasts and near-term program spending levels for the next rate period into one forum. The final spending levels will serve as a foundation for developing the power and transmission rates for the next rate period. BPA incorporates program plans in 4 areas:

- Power
- Transmission
- Energy Efficiency
- Environment, Fish & Wildlife

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[51] GAO/AIMD-00-114 Power Marketing Administrations, page 9: https://www.gao.gov/archive/2000/ai00114.pdf

[52] Bonneville Power Administration Strategic Plan, 2018-2022: https://www.bpa.gov/StrategicPlan/Pages/Strategic-Plan.aspx

[53] Previous Bonneville Power Administration, 2020 Strategic Update: https://www.bpa.gov/StrategicPlan/StrategicPlan/2020-Strategic-Update.pdf

[54] Bonneville Power Administration, Integrated Program Review, Closeout Report, October 2022: bp-24-ipr-closeout-report.pdf (bpa.gov)

[55] Bonneville Power Administration, Financial Plan 2022: https://www.bpa.gov/-/media/Aep/finance/financial-plan/financial-plan-2022.pdf

BPA incorporates the program plan framework into the IPR. Operating plans and program plans provide a 2-year comprehensive and integrated view of the business, workforce, and financial performance of each program. [56]

BPA's Finance organization conducts annual and quarterly financial reviews to present quarter and fiscal year-to-date unaudited financial information, including financial position as of the reporting date. In addition, BPA also conducts a Quarterly Business Review, which is a forum that started in 2008 to share financial results and provide updates on major spending areas (e.g., proposed capital projects) in order to provide more visibility on budgets and an opportunity for stakeholder input. Based on feedback from BPA's customers in fiscal year 2018, the QBR switched from a heavy focus on financial reporting to a briefing on the state of the business. BPA also holds the QBR Technical Workshop, which takes place after the QBR and provides additional details about BPA's financial performance.

5.5.10.2 Southeastern Power Administration (SEPA)

The Southeastern Power Administration (SEPA), headquartered in Elberton, Georgia, is responsible for marketing electric power and energy generated at reservoirs operated by the United States Army Corps of Engineers. This power is marketed to more than 491 preference customers in the states of Georgia, Florida, Alabama, Mississippi, southern Illinois, Virginia, Tennessee, Kentucky, North Carolina, and South Carolina.

The objectives of SEPA are to market electric power and energy generated by the Federal reservoir projects while encouraging widespread use of the power at the lowest possible cost to consumers. Power rates are formulated based on sound financial principles. Preference in the sale of power is given to public bodies and cooperatives, referred to as preference customers. Southeastern does not own transmission facilities and must contract with other utilities to provide transmission, or "wheeling" services, for the Federal power.

SEPA's responsibilities include the negotiation, preparation, execution; and administration of contracts for the sale of electric power; preparation of repayment studies to set wholesale rates; the provision, by construction, contract or otherwise, of transmission and related facilities to interconnect reservoir projects and to serve contractual loads; and activities pertaining to the operation of power facilities to ensure and maintain continuity of electric service to its customers.

Program reporting is via annual reports[57], which discusses program status and financial performance.

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[56] Bonneville Power Administration, Integrated Program Review, Closeout Report, October 2022: bp-24-ipr-closeout-report.pdf (bpa.gov)

[57] Southeastern Power Administration, 2021 Annual Report: https://www.energy.gov/sites/default/files/2022-10/2021%20Annual%20Report.pdf

5.5.10.3 Southwestern Power Administration (SWPA)

The Southwestern Power Administration's (SWPA's) mission is to market and reliably deliver Federal hydroelectric power with preference to public bodies and cooperatives. As one of four Power Marketing Administrations in the United States, SWPA markets hydroelectric power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas. Over 5.6 billion kilowatt-hours of energy are marketed annually within this six-state region from interconnected Federal hydropower projects, and more than 10 million end users are served by the municipalities, electric cooperatives, and military installations to which Southwestern markets wholesale power and energy.

The SWPA issued its latest Strategic Plan in October 2020.[58] This Strategic Plan, focused on SWPA's vision both the short and long-term providing a pathway to future workforce development, operations, partnerships, and evolving services. SWPA details performance in SWPA Annual Reports (with the 2021 Report cited here).

5.5.10.4 Western Area Power Administration (WAPA)

The Western Area Power Administration's (WAPA) mission to market and deliver clean, renewable, reliable, cost-based federal hydroelectric power and related services.[59] WAPA's service area encompasses a 15-state region of the central and western U.S. where our more than 17,000 circuit mile transmission system carries electricity from 57 hydropower plants operated by the Bureau of Reclamation, U.S. Army Corps of Engineers and the International Boundary and Water Commission. Together, these plants have an installed capacity of 10,504 megawatts.

WAPA's strategic plan, Power Forward 2030, provides direction to ensure WAPA remains a trusted source of affordable and reliable energy and transmission services, an innovative contributor to grid resilience, an engaged partner, and a supportive employer. WAPA provides program status and reporting via annual reports. Status is based on objectives laid out in the WAPA Tactical Action Plan.[60] WAPA has a created a website (called The Source), which offers a one-stop shop for financial and operational information as WAPA has partnered with customers to determine data elements and information that would be most helpful to understand

[58] Southwest Power Administration, Strategic Plan, October 2020: energy.gov/sites/default/files/2022-08/Vision2020 Strategic Plan_081022.pdf

[59] Western Area Power Administration, FY 2020 Annual Report: https://www.wapa.gov/newsroom/Publications/Documents/FY-2020-annual-report.pdf

[60] WAPA Tactical Action Plan (roadmap 24): https://www.wapa.gov/About/Documents/roadmap-2024-refresh-tactical-action-plan.pdf

cost drivers and expenditures.[61] Results are also released by quarter, providing performance data based on established goals. An example report is linked here.[62]

5.5.11 Office of International Affairs (IA)

The Office of International Affairs coordinates Department efforts to ensure a unified voice in DOE's international energy policy. IA works closely with other Federal departments and agencies, and the private sector, to align DOE's international energy objectives with national energy policies and activities. IA also coordinates and manages DOE cooperation with counterparts from other nations and international organizations. IA leads over two dozen bilateral and regional energy dialogues, partnerships, councils, and other forums to help countries achieve their energy security, energy access, and climate goals. Through high-level diplomacy and mobilization of world class technical expertise – including through our 17 national labs – IA is helping to solve some of the world's most complex energy challenges, especially in emerging economies, at a time when geopolitical conflicts are stressing energy markets.

Among other areas, IA experts maintain extensive knowledge of the following issues:

Table 14: IA Areas and Issues

Area	Issues
Multilateral Engagement	• The International Energy Agency (IEA) is at the heart of the global dialogue on energy, providing authoritative analysis, data, policy recommendations, and real-world solutions to help its 31 member countries provide secure and sustainable energy for all. The IEA recommends policies that enhance the reliability, affordability, and sustainability of energy for all sources. The Office represents the U.S. alongside the State Department at the IEA's Governing Board and numerous other committees to advance our energy security through the clean energy transition. • The Group of Twenty (G20) is an intergovernmental organization consisting of major economies, including Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, Japan, India, Indonesia, Italy, Mexico, Russia, South Africa, Saudi Arabia, South Korea, Turkey, the United Kingdom, and the United States. It is a forum for international economic and financial cooperation, extending into matters of energy security, energy transition, and implementation

[61] WAPA Financial Transparency: https://www.wapa.gov/About/the-source/Pages/financial-transparency.aspx

[62] WAPA Reports 4th Quarter Results: https://www.wapa.gov/newsroom/NewsFeatures/2021/Pages/WAPA-reports-Q4-results.aspx

Area	Issues
	of sustainable development goals. The Office serves as Head of Delegation for negotiations in the Energy Track, advancing U.S. interests in areas such as the clean energy transition, unabated fossil fuels transition, critical mineral supply chains, and just transitions. • The Group of Seven (G7) is an intergovernmental organization consisting of major economies, including Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States, in addition to participation from the European Union. G7 members share like-minded views regarding democratic principles in advancing the clean energy transition to meet our most urgent climate goals while ensuring no communities are left behind. As of 2020, G7 members account for over half of global net wealth (at over $200 trillion), 30 –43% of global gross domestic product, and 10% of the world's population (770 million people). The Office serves as Head of Delegation for energy-related negotiations, forging a strong consensus among members that forms the basis for clean energy outcomes in other negotiated forums. • Founded by the United States and key country partners in 2010, the Clean Energy Ministerial (CEM) is a high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy. Initiatives are based on areas of common interest among participating governments and other stakeholders. The CEM brings together a community of the world's largest and leading countries, companies, and international experts to achieve one mission – accelerate clean energy transitions. The Office leads on CEM governance issues by participating in its Steering Committee and coordinates engagement among the numerous CEM initiatives and campaigns. • Formed in 1949 with the signing of the Washington Treaty, the North Atlantic Treaty Organization (NATO) is a security alliance of 31 countries from North America and Europe. NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means. NATO's Energy Planning Group seeks to advance security of alliance energy supply, grid resilience, undersea energy infrastructure, clean energy supply chains, and recruiting civil expertise. The Office advances U.S. energy security and resilience priorities at the Alliance. • The International Renewable Energy Agency (IRENA) is a leading global intergovernmental agency for energy transformation that serves as a platform for international cooperation, supports countries in their energy transitions, and provides state of the art data and analyses on technology, innovation, policy, finance and investment. IRENA drives the widespread adoption and sustainable use of all forms of renewable energy in the pursuit of sustainable development, energy access, and energy security, for economic and social resilience and prosperity and a climate-proof future. The Office helps guide the organization's technical engagement, participating regularly in Council meetings. • The United Nations' stated purposes are to maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and serve as a center for harmonizing the

Area	Issues
	actions of nations. The Office works with the U.S. government and partner countries to achieve the UN's current Sustainable Development Goals (SDGs), particularly SDG 7 which seeks to ensure access to affordable, reliable, sustainable, and modern energy. The Office also demonstrates the latest U.S. clean energy ambitions, technologies, and partnerships at the annual Conference of the Parties (COP) to the UN Framework Convention on Climate Change.
Europe & Asia	• For nearly a decade, the office has provided support to the government of Ukraine, and that support has only deepened since Russia's invasion of Ukraine in February 2022. The Office continues to play a leading role in supporting Ukrainian allies through this crisis, including through the provision and transportation with the Department of Defense of ten military cargo loads of emergency electrical equipment starting in December 2022, policy and energy planning support, cybersecurity support, and more. Hear the Department's podcast on this effort featuring Assistant Secretary Light here. • Through our signature program, the Partnership for Transatlantic Energy and Climate Cooperation (P-TECC), the office provides policymakers and civil-society stakeholders within Eastern and Central Europe with the resources and technical tools to build secure, resilient, climate-conscious energy systems. The initiative brings together 24 European countries and the European Union for annual events, including technical trainings, policy exchanges, and a high-level ministers' meeting and business forum. • The U.S.-EU Energy Council is the leading forum to guide bilateral energy cooperation between the U.S. and the EU. The Council is a high-level body launched in 2009 to deepen coordination on strategic energy issues and R&D. The Secretary of Energy co-chairs the Energy Council with the Secretary of State on the U.S. side. The EU's High Representative for External Affairs, Vice President for Energy Union and Commissioner for Energy and Climate serve as co-chairs on the EU side. The US-EU Energy Council last met in April 2023 in Brussels, Belgium. • The office coordinates several bilateral partnerships and dialogues, including those with France, Germany, and the United Kingdom. Through these platforms, IA works with its international partners on energy policy, technology and innovation, advance energy transitions, and collaborate on reaching our mutual climate goals.
International Economic Opportunity	• Monitor international energy markets to inform Department leadership of critical developments in trade and geo-economics • Provide technical oil markets research and analysis in the design and implementation of a price cap on Russian oil exports • Analyze current trade flows to assist in compliance and enforcement of sanctions and other export restrictions

Area	Issues
	• Lead natural gas and LNG analysis to support the U.S.', EU allies', and the IEA's efforts to reduce natural gas demand and ensure supply security in response to Russia's weaponization of energy supplies
Asia & the Indo-Pacific	• The Department and the Government of India's combined energy ministries launched a revitalized Strategic Clean Energy Partnership (SCEP) in September 2021, building upon decades of U.S.-India energy cooperation. Through technical collaboration, dialogue, and private sector engagement, the SCEP supports India's ambitious clean energy goals. • Established in 2011 and elevated to the ministerial level in 2021, the U.S.-Republic of Korea (ROK) Energy Policy Dialogue (EPD) promotes bilateral collaboration across three pillars – policies and planning, technologies and research, and commercialization and deployment • The Department and the Japanese Ministry of Economy, Trade, and Industry established CEESI to serve as the primary ministerial-level initiative to promote collaboration between the United States and Japan on clean energy technologies and common energy security issues. Technical task forces include Industrial Decarbonization, Carbon Capture Utilization and Storage, Energy Conservation, Renewable Energy, Hydrogen/Ammonia, Nuclear Energy, Batteries and Zero Emission Vehicles, and Technology Marketization. • Indonesia is an inaugural country of the Department's New Zero World (NZW) Initiative, and in 2023, the Department and the Indonesian Ministry of Energy and Mineral Resources finalized a work program to plan Indonesia's path to net zero emissions by 2060. These activities compliment the multilateral Just Energy Transition Partnership recently agreed to with Indonesia, which offers substantial financial and technical support for clean energy transition in Indonesia. • The Department and the Department of State's Bureau of Energy Resources hold an annual Energy Security Dialogue (ESD) with Australia. The Net-Zero Technology Acceleration Partnership, signed by Secretaries Jennifer M. Granholm and Chris Bowen in 2022, reports through the Energy Security Dialogue. • The Department participated in the first annual U.S.-ASEAN Energy Ministers Meeting (EMM) in 2021 to catalyze energy engagement with this rapidly growing region. • Following on the Southeast Asia Clean Energy Forum co-hosted by Secretary Granholm in 2022, the Department and Singapore's Ministry of Trade and Industry recently launched a co-sponsored Net-Zero World regional initiative focused on clean energy integration in Southeast Asia. • The Department, the Department of State's Bureau of Energy Resources, and the Philippines Department of Energy are co-launching an inaugural Energy Policy Dialogue in 2023 to serve as a sustained platform for collaboration and solutions to accelerate the clean energy transition.

Area	Issues
	• Following COP27, the Department and Thailand's Ministry of Energy launched a Net-Zero World work program focused on energy storage systems, energy efficiency, and frontier energy technologies, such as hydrogen and Carbon capture utilization and storage. • The Department builds energy cooperation with Vietnam through participation in the Department of State's Bureau of Energy Resources-led Energy Security Dialogue. • A Department representative serves as the Lead Shepherd of the Asia-Pacific Economic Cooperation (APEC) Energy Working Group, which supports regional energy programming. Secretary Granholm will host the first APEC Energy Ministers meeting since 2015 in August 2023 in Seattle as part of the United States' APEC host year. • The Department leads negotiations on the Clean Economy Pillar of the Indo-Pacific Economic Framework (IPEF), the Administration's flagship economic initiative in the region. This pillar focuses on catalyzing economic opportunities presented by the energy transition.
The Middle East & Africa	• These programs, which are administered by the BIRD Foundation, promote investment in innovation by fostering collaboration between U.S. and Israeli companies, government, and academic institutions. From 2009 to 2021, the BIRD Energy program has funded 60 projects with a total government investment of approximately $47.5 million. The initiative has attracted more than $840 million in venture capital and other follow-on investment to commercialize clean energy technologies. BIRD Energy grantees that went public raised $149 million. The US-Israel Energy Center is administered by the BIRD Foundation. There are four consortiums established since 2018 promoting research in innovation in the water energy nexus, fossil energy innovation, battery storage, and cyber. • Founded in 2021, this forum leads multilateral collaboration among major hydrocarbon-producing economies to increase the scale and speed of action toward net-zero carbon and methane emissions. Canada, Norway, Qatar, Saudi Arabia, and UAE are members of the forum along with the United States. The Department hosts monthly steering committee meetings, an annual ministerial, and it is working on next steps and potential projects to announce at COP28. • Coordinated by USAID, POWER Africa brings together the collective resources of over 170 public and private sector partners to double access to electricity in sub-Saharan Africa. The initiative supports African nations' efforts to electrify the continent, helping more than 600 million people achieve access to sustainable and reliable power, while accounting for and reducing the impact on global carbon and methane emissions. The Department, as one of 12 key U.S. interagency partners in this initiative, supports POWER Africa programs on: o Geothermal technical training in Kenya and Djibouti o Green hydrogen in South Africa o Renewable energy integration and hybridization support in Ghana o Long-term energy sector planning in Chad

Area	Issues
	○ Energy transitions in Africa, including support to South Africa's Just Energy Transitions Partnership (JETP) ○ The Department is an active observer in the East Mediterranean Gas Forum (EMGF), which includes Egypt, Israel, Jordan, the Palestinian Territories, Greece, Cyprus, Italy, and France. The World Bank and the European Union are observers along with the U.S. The organization is moving forward on various decarbonization initiatives and harmonizing regulatory environments to maximize investments with aspirations to broaden its mandate to include all forms of energy. • The Department has a key role in leading several pillars of this partnership signed in September 2022. This partnership aims to accelerate priority projects and programmatic cooperation in the U.S., UAE, and in third countries. All activities are focused around four pillars: ○ Clean Energy Innovation ○ Carbon and Methane Management ○ Nuclear Energy ○ Industrial and Transport Decarbonization • The Department has a key role in this partnership signed in July 2022, which aims to promote partnerships in clean energy technology development and deployment with an initial focus on carbon management and hydrogen. • The Department assists in strengthening and expanding collaboration in Africa to support U.S. civil nuclear exports, planning for the role of nuclear technology (particularly SMRs) in Africa's clean energy future, and developing capacity to ensure nuclear security and safety, including in Ghana, Kenya, and South Africa.
International Science & Technology Collaboration	• To respond to the global climate crisis and to harness the power of the Department's National Labs, the United States launched the Net Zero World Initiative, a flagship, whole-of-government partnership with priority countries to accelerate global energy systems decarbonization. This program works with partner countries – which include Argentina, Chile, Egypt, Indonesia, Nigeria, Singapore, Thailand, and Ukraine—to implement climate and clean energy targets, and to accelerate transitions to net-zero, resilient, and inclusive energy systems in every region of the world. • Launched in 2015 by the Department, Mission Innovation's first phase originally centered around doubling clean energy research budgets of over 20 countries in five years. During this period, it also launched eight Innovation Challenges (now referred to as Innovation Communities), aimed at catalyzing global collaboration on clean energy research, development, and demonstration.

Area	Issues
	Mission Innovation began its second phase on June 2, 2021, evolving into a minister-led forum of major economies that cooperate on transformative technical innovations through "research Missions," while raising ambition for public research, development, and demonstration investments and encouraging commercialization through the private sector and stakeholders. The office supports the work of the United States, which currently co-leads three of these Missions, including the Zero Emissions Shipping Mission, the Clean Hydrogen Mission, and the Carbon Dioxide Removal Mission. In addition, the office's Principal Deputy Assistant Secretary serves as the Chair of Mission Innovation's Steering Committee.
The Americas	• Secretary of Energy co-chairs, with Brazil's Minister of Mines and Energy, the U.S.-Brazil Energy Forum (USBEF), the primary bilateral energy framework between the governments of the United States and Brazil. USBEF organizes cooperation between the United States and Brazil (the two largest countries in the Western Hemisphere) in the areas of carbon management, civil nuclear power, renewable energy, grid modernization, and energy efficiency. The Office coordinates the USBEF with other Federal agencies, and more recently, has inaugurated the U.S.-Brazil Clean Energy Industry Dialogue (CEID), a new bilateral framework co-led by the private sectors from both countries that will increase bilateral clean energy trade, investment, partnership, and deployment while advancing climate ambition. • Collaborate with Canada's Natural Resources department (NRCAN) on carbon capture, utilization, and storage (CCUS); a clean electric grid; clean fuels; energy security; and Diversity, Equity, Inclusion, and Accessibility. In June 2021, DOE and NRCAN reinvigorated their Memorandum of Understanding (MOU) to expand energy cooperation, identifying 15 areas for strategic bilateral energy cooperation. • Support the North American Leaders Summit (NALS), which brings together energy leaders from the United States, Canada, and Mexico to promote cooperation in areas, such as hydrogen, electric vehicles, and nuclear security. • Actively involved in the Hydrogen Americas Summit by co-hosting the event in 2022 and the upcoming event October 2-3, 2023. • In conjunction with the Department of State, represent the United States at the Energy and Climate Partnership of the Americas (ECPA), the only ministerial-level organization in the Western Hemisphere devoted to energy and climate security. • Workforce Development and Closing the Gender Gap in Energy: In April 2022, the Office and Mexico's Business Coordinating Council co-hosted a conference on "Women in Energy," a capacity-building exchange aimed to educate women in energy on experiences and best practices to prepare themselves and pursue career advancement. Throughout the workshop, participants exchanged views on women in the energy industry and discussed existing challenges to overcome

Area	Issues
	gender barriers by building more diverse and inclusive organizations. Panelists also identified issues to address in their organizational culture.
Foreign Investment and National Security	• The Office of Foreign Investment and National Security manages the Department's responsibilities as a statutory member of the Committee on Foreign Investment in the United States (CFIUS), an organization made up of nine Federal agencies and chaired by the Department of Treasury. This committee is responsible for reviewing certain transactions involving foreign investment in the United States and certain real estate transactions, to determine their potential impact on the country's national security. For more information about CFIUS, refer to the CFIUS Annual Report. • The Office also assists United States' allies, including 27 of the European Union's members, in developing more effective foreign investment screening capabilities to protect mutual national security interests and deter malign influence by countries of concern.
Research, Technology & Economic Security	• The Office of Research, Technology, and Economic Security supports the Department's programs in due diligence reviews and risk mitigation to ensure our national security, economic competitiveness, and technological leadership imperatives are duly incorporated into its financial assistance and loan activities. • The Office's responsibilities include identifying and addressing potential security risks that threaten the scientific enterprise; establishing best practices for programs; conducting outreach activities for stakeholders; educating Department programs on potential security risks; and conducting or facilitating risk assessments of DOE proposals, loans, and awards. It is also responsible for implementing the Department's pilot vetting process, which is intended to streamline and strengthen existing due diligence processes.

5.6 Strategic Goal 6: Advance Clean-Up of Radioactive and Chemical Waste

5.6.1 Office of Environmental Management (EM)

The DOE uses corporate performance measures to assess whether it is meeting its cleanup mission. The Office of Environmental Management (EM) assigns specific measures to each site that are tailored to the unique nature and scope of each area's contamination and cleanup work. Progress against these measures at a specific site is a confirmable indication of progress towards

EM's cleanup goals and priorities. Completion of all of the corporate performance measures result in completion of that site.[63]

EM, Congress, and the public routinely monitor and evaluate cleanup progress using corporate performance measures throughout the year. These quantitative indicators focus on the effectiveness of risk-reducing actions that lead to completion of site cleanup. Each cleanup process must be consistent with each site's individual baseline and milestones. The corporate measures (i.e., those relating to the entire DOE-EM complex) are tracked in the context of the total measure (life-cycle) necessary to complete cleanup of each site, as well as the EM program as a whole. EM's 10-year Strategic Vision[64], which is updated annually, lays out EM's planned slate of accomplishments for the future, but also outlines anticipated progress across the program. EM annual performance results can be found in the Department of Energy Annual Performance Reports.

EM manages the following site facility management contracts:

Table 12: EM Contracts

Name	Award Date	Current Contract End Date	FFRDC / M&O non-FFRDC / Site Cleanup / Site D&D / Site Management
Laboratory - Management and Operations for Savannah River Site (SRS)	12/22/2020	6/20/2026	FFRDC
Management and Operations for Savannah River Site (SRS)	1/10/2008	9/30/2026	M&O Non-FFRDC
Waste Isolation Pilot Plant (WIPP) Management and Operations Contract	11/8/2022	11/7/2026	M&O Non-FFRDC

[63] Office of Environmental Management, Budget and performance: https://www.energy.gov/em/services/program-management/budget-performance#:~:text=The%20Office%20of%20Environmental%20Management%2C%20Congress%20and%20the,actions%20that%20lead%20to%20completion%20of%20site%20cleanup.

[64] Latest EM Strategic Vision for FY 2023-2033: https://www.energy.gov/sites/default/files/2023-05/DOE%20EM%20Strategic%20Vision%202023%20%282%29.pdf

Name	Award Date	Current Contract End Date	FFRDC / M&O non-FFRDC / Site Cleanup / Site D&D / Site Management
Central Plateau Cleanup Contract	12/12/2019	12/11/2029	Site Cleanup
Idaho Clean-up Contract	5/27/2021	9/30/2031	Site Cleanup
Los Alamos Legacy Cleanup	12/19/2017	4/29/2023	Site Cleanup
Moab Remedial Action Contract (Moab RAC)	2/3/2022	2/2/2032	Site Cleanup
Oak Ridge Reservation Cleanup Contract (ORRCC)	10/26/2021	2/27/2032	Site Cleanup
Savannah River Liquid Waste Disposition (Liquid Waste)/ Integrated Mission Completion Contract	10/27/2021	10/26/2031	Site Cleanup
Tank Operations Contract (TOC) (ORP)	5/29/2008	9/30/2023	Site Cleanup
West Valley Demonstration Project	7/1/2011	2/28/2025	Site Cleanup
Portsmouth Decontamination & Decommissioning (Ports D&D)	8/16/2010	9/30/2023	Site D&D
Hanford Mission Essential Services Contract	12/5/2019	8/16/2025	Site Management
Paducah Infrastructure	6/17/2015	7/31/2024	Site Management
Portsmouth Infrastructure Support	9/17/2021	1/2/2025	Site Management

NOTE: For additional EM major site-specific contracts, refer to the following: https://www.energy.gov/sites/default/files/2023-07/MAJOR%20CONTRACTS%20SUMMARY%20-7-31-23.pdf

Additionally, EM provides funding (including award fee for defined performance goals) for the Los Alamos National Laboratory (managed by NNSA).

The table below provides the evaluation approach for the award fee portion of the cleanup contracts. This is the same for all contracts and is out of the FAR.

Table 13: EM Award Fee Adjectival Ratings (based on FAR 16.401)[65]

Award Fee Adjectival Rating	Award-Fee Pool Available To Be Earned	Description
Excellent	91-100%	Contractor has exceeded almost all the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.
Very Good	76-90%	Contractor has exceeded many of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.
Good	51-75%	Contractor has exceeded some of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.
Satisfactory	No Greater than 50%	Contractor has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.
Unsatisfactory	0%	Contractor has failed to meet overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award-fee evaluation period.

The Savannah River National Laboratory (SRNL) is the DOE Office of Environmental Management (EM) national laboratory, and its resources are used to assist in the cleanup of the

[65] Award Fee Adjectival Rating: https://www.acquisition.gov/far/16.401

Cold War legacy waste for which EM is accountable. SRNL works collaboratively with other DOE laboratories to deploy technologies critical to environmental remediation and risk reduction; nuclear materials processing and disposition; nuclear detection, characterization, and assessments; and gas processing, storage, and transfer systems.[66] SRNL starts its second year under an independent Management and Operating contract, to grow and modernize to assure it meets DOE's mission needs. SRNL's core missions are to provide innovative and practical solutions to address complex environmental cleanup, long-term stewardship, and nuclear security problems in EM, LM, and NNSA missions. EM also expects over the next few years to complete transfer of site landlord responsibilities to NNSA[67]. This transfer is being pursued in recognition of the increasing role Savannah River will play in NNSA's ongoing nuclear security missions. EM will remain focused on completing the remaining legacy cleanup activities at the site. A transition plan is expected to be completed by the summer of 2023 that will define responsibilities and management of functions and capabilities for each organization. DOE currently expects the transfer to begin in 2025. Following the completion of the transfer of overall site responsibility from EM to NNSA, EM will retain management of SRNL.

5.6.2 Office of Legacy Management (LM)

The Office of Legacy Management (LM) was established to fulfill the Department's post-closure responsibilities and to ensure the protection of human health and the environment.[68] LM's responsibilities include long-term stewardship of 100 sites across the United States and Puerto Rico. This includes a variety of programs related to the country's nuclear defense and energy legacy, ranging from oversight of the administration and management of legacy contractor benefits to assessing the condition[69] of 2,500 defense-related uranium mines on federal public land:[70]

- Applied Studies and Technology (AS&T) – AS&T plays a critical role in the LM mission to fulfill its post-closure responsibilities and to ensure the future protection of human health and the environment. The overriding goal of AS&T is to incorporate advances in science and technology to improve LM capabilities toward fulfilling its mission.

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[66] Memorandum, Office of Environmental Management, October 25, 2016, Subject: Savannah River National Laboratory, "EM's National Laboratory": https://www.energy.gov/sites/prod/files/2018/12/f58/EM-National-Laboratory-Governance-Framework.pdf

[67] Savannah River Site Strategic Vision: 2023-2033: https://www.energy.gov/em/savannah-river-site-strategic-vision-2023-2033#:~:text=EM%2DNNSA%20TRANSFER&text=A%20transition%20plan%20is%20expected,transfer%20to%20begin%20in%202025.

[68] Office of Legacy Management Mission: https://www.energy.gov/lm/mission

[69] Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites (April 2023): https://www.energy.gov/lm/articles/sampling-and-analysis-plan-us-department-energy-office-legacy-management-sites

[70] Office of Legacy Management, Programs: https://www.energy.gov/lm/programs

- Aviation Program – The Aviation Program supports LM's long-term stewardship mission to protect human health and the environment at sites across the Nation. The Aviation Program's purpose is to ensure the safety, efficiency, and effectiveness of its aviation operations. DOE, LM, and the Legacy Management Strategic Partners and its contractors execute and oversee aerial surveys, using manned aircraft and small unmanned aircraft systems (UAS) at disposal sites across the United States. LM also charters flights to transport field personnel to remote sites in Alaska.
- Defense-Related Uranium Mines Program – The Defense-Related Uranium Mines (DRUM) Program is a partnership between DOE, federal land management agencies, and state abandoned mine lands (AML) programs to verify and validate the condition of 2,500 defense-related uranium mines on federal public land by the year 2022. The program builds on DOE's DRUM Report to Congress effort, which found that 4,225 purchase records exist across the nation. These mines provided uranium ore to the U.S. Atomic Energy Commission for defense-related activities that occurred between 1947 and 1970 and most are abandoned.
- Environment, Safety, Health, and Quality (ESH&Q) –Environment, Safety, Health, and Quality programs protect our workers, the public, and the environment and integrate quality into the daily operations of our programs and projects.
- Environmental Sciences Laboratory (ESL) – DOE established the ESL in Grand Junction, Colorado, in 1991 to support its programs. ESL scientists perform applied research and laboratory-scale demonstrations of soil and groundwater remediation and treatment technologies.
- Legacy Site Programmatic Framework – LM currently manages sites with diverse regulatory drivers or as part of internal DOE or congressionally recognized programs.
- Post-Closure Benefits – The Legacy Management Post-Closure Benefits (PCB) Program includes the development, implementation, and oversight of the Department's policy concerning the continuation of contractor pension and medical benefits after the closure of applicable DOE sites/facilities. This includes oversight of the administration and management of legacy contractor benefits in a fiscally responsible and effective manner. The primary program objective is to ensure a seamless transition of benefits administration after closure. This program is handled by the Office of Business Operations within Legacy Management.
- STEM with LM – LM is committed to supporting science, technology, engineering, and mathematics (STEM) education with exciting programs, hands-on tools, and expertly prepared resources to enhance education of LM sites — past, present, and future. STEM with LM brings to life the awe-inspiring and world-changing advancements and events of the nuclear age, cleanup, and ecological transformations of over 100 sites across the United States and Puerto Rico.
- Title X – Title X of the Energy Policy Act of 1992 authorized U.S. Department of Energy (DOE) to reimburse licensees of 1 thorium and 13 uranium processing sites (see map above) for a portion of their remedial action costs attributable to the sale of source material to the federal government. The amount eligible for reimbursement is determined by applying a Federal Reimbursement Ratio which is based on the amount of source material sold to the federal government. Under the Title X Program, DOE receives claims from U.S. Nuclear Regulatory Commission (NRC) or Agreement State licensees annually, conducts technical reviews and financial audits of the claims to determine the

amount allowable for reimbursement, reimburses each licensee, and tracks amount paid, disallowed, and owed in a running ledger.

- Uranium Leasing Program – LM currently manages the Uranium Leasing Program and continues to administer 31 lease tracts, all located within the Uravan Mineral Belt in southwestern Colorado. Twenty-nine of these lease tracts are actively held under lease and two tracts have been placed in inactive status indefinitely. Administrative duties include ongoing monitoring and oversight of leaseholders' activities and annual inspections to identify and correct safety hazards or environmental compliance issues.

The LM 2020-25 Strategic Plan represents the fifth iteration of LM's organization's strategic planning efforts, accounting for LM's increased site management responsibilities. LM's FY 2021-2025 High Performing Organization Plan is an internal planning document LM staff uses to set management excellence and program performance goals. The LM quarterly Program Updates[71] highlight the key initiatives throughout the entire organization including the specific contributions and accomplishments of individuals responsible for LM's continued success.

In addition, LM oversees the Department's Environmental Justice (EJ) program, as the agency continues to be committed to EJ. DOE's EJ goals and objectives can be found in its latest EJ Implementation Plan: 2019 Environmental Justice Second Five-Year Implementation Plan (energy.gov).

5.7 Strategic Goal 7: Operational Excellence

5.7.1 Office of the Chief Financial Officer (OCFO)

The Office of the Chief Financial Officer (OCFO) is responsible for management and financial integrity of DOE programs, activities, and resources through development, implementation, and governance of Department and government-wide policies and systems for budget administration, including development and execution; finance and accounting; internal controls; financial policy; corporate business systems; strategic planning; performance measurement; and, interface with the Office of Management and Budget (OMB), Government Accountability Office (GAO), DOE Inspector General (IG), and Congress.

Within the OCFO:

- **Chief Risk Officer (CRO)**: Provides Departmental support to assess risk and propose mitigation strategies through integration of risk concepts into strategic planning, and risk identification and mitigation activities. The CRO works with DOE's Programs, Field Offices and National Laboratories under the general supervision of the CFO.
- **Evaluation Officer:** Responsible for providing leadership over the agency's evidence-building activities, including its evaluation activities, learning agenda, and capacity assessment.
- **Program Management Improvement Officer (PMIO):** Ensures effective

[71] Office of Legacy Management, LM Program Update, April-June, 2023: https://www.energy.gov/lm/articles/program-update-2nd-quarter-2023

implementation of DOE's program management policies and develop strategies to enhance the role of program management and managers within the Department. The PMIO also participates on the Program Management Policy Council (PMPC) and shares DOE best practices and lessons learned for the benefit of the broader community of Federal program and project managers and staff.

- **Performance Improvement Officer (PIO):** Collates and assesses data to assist in recommending improvements for Department-wide programs, issues, and initiatives, and proposes systems and tools to track progress towards agency and Administration goals.

5.7.1.1 Finance & Accounting

The Office of Finance and Accounting (CF-10) is responsible for accounting, fiscal integrity, and financial management services in support the Department's mission. Functions include:

- Maintains leadership in financial management by continuously innovating and improving services provided to the Department.
- Prepares the Department's consolidated financial statements, Agency Financial Report, and other managerial reports.
- Conducts accounting operations including specialized financial management areas such as payroll, loans, environmental liabilities, pension and post-retirement benefits accounting, and investment activities for the Department.
- Leads the Department's internal controls, fraud risk management, and payment integrity programs.[72]
- Delivers timely and reliable financial management reporting and analysis.

5.7.1.2 Financial Policy and Audit Resolution

The Office of Financial Policy and Audit Resolution (CF-20) establishes and maintains financial, accounting, and budgetary policies that support the execution of the Department's mission. Functions include:

- Establishes and maintains Department-wide policies and guidance for finance and accounting, budget, corporate business systems, and financial management at DOE sites and facilities.
    - The DOE Financial Management Handbook sets forth financial, accounting, and budgetary policies and operational requirements to implement the requirements of DOE Order 5201.B, *Financial Management and Chief Financial Officer Responsibilities*, and other applicable Departmental policies and directives.
- Leads coordination of Departmental policy changes with internal and external policy organizations.

[72] Latest Enterprise Risk Management (ERM) Guidance, for FY 2023: https://www.energy.gov/cfo/enterprise-risk-management-guidance

- Leads DOE's resolution of audit findings and reporting on status of implementing audit recommendations.
- Coordinates audits of DOE's programs between the Department and the Inspector General (IG) and Government Accountability Office (GAO).
- Provides policy guidance and support to Departmental offices on audit resolution, coordination, and follow-up.

5.7.1.3 Budget Formulation & Execution

The Office of Budget (CF-30) plans, formulates, analyzes, executes, evaluates, and defends the Department of Energy's (DOE) Budget. Functions include:

- Serves as the Departmental negotiator with the Office of Management and Budget (OMB) on the DOE Budget.
- Leads decision management and overall coordination for DOE's Budget to include:
    - Overall planning and implementation for budget formulation, analysis, execution, and evaluation;
    - Supports development and management of the Department's Agency Performance Report, Strategic Plan, and associated evaluation of progress of goals;
    - Specialized analysis and prioritization of Departmental resources for the Future-Years Energy Program (FYEP) and other strategic analysis of budget resources;
    - External engagement with Congressional Committees on Appropriations for matters related to the DOE Budget; and
    - Coordination with Office of Corporate Business Systems (CF-40) on budget-related financial management IT.

5.7.1.4 Corporate Business Systems

The Office of Corporate Business Systems (CF-40) is responsible for stewardship of DOE's financial management, procurement, and human capital systems, as well as other application solutions necessary to execute the Department's mission. Functions include:

- Plans and manages design, integration, implementation, and cyber security of the Department's corporate business systems.
- Operates and maintains corporate financial systems utilizing efficient, cost-effective, and appropriate technology to allow for delivery and dissemination of relevant information.
- Maintains compatibility among corporate business systems to facilitate electronic exchange of data with internal and external stakeholders. Interfaces with Headquarters Programs, Field Offices, and Management and Operating Contractors.
- Provides qualified Information Technology project management support.
- Develops and maintains systems documentation and training materials.
- Defines website standards for the CF organizations and manages CF web technical infrastructure to ensure compliance with laws, regulations, and recommended practices.
- Serves as CF liaison with the Chief Information Officer (CIO) for corporate DOE business system and CF Information Technology services.
- Oversees completion of internal and external CF Information Technology reporting.

- Serves as CF lead on internal and external Information Technology committees and working groups.

5.7.2 Office of the Chief Information Officer (OCIO)

The Office of the Chief Information Officer (OCIO) leads the Department's IT reform initiatives. In an increasingly complex and hostile cyber landscape, the OCIO is fully committed to stewarding DOE information assets by:

- Leveraging existing information technology and expertise to maximize mission accomplishment and reduce costs.
- Identifying and fostering new and emerging information technology to maximize mission accomplishment and reduce costs.
- Providing Departmental IT governance, policy, and oversight processes to ensure secure, efficient, and cost-effective use of IT resources.
- Ensuring acceptable risk-based cybersecurity by enhancing enterprise situational awareness, developing near real-time risk management, and combating advanced persistent threats.
    - The Integrated Joint Cybersecurity Coordination Center (iJC3) Operations provides Cyber Threat Intelligence and Cyber Incident Tracking and Reporting Coordination across DOE, including: 24/7/365 Operations, enterprise reporting, managing internal/external reporting related to BODs, EDs, and C-CARs and managing the Vulnerability Disclosure Program for the enterprise. Key programs and services include:
        - Incident Coordination and Incident Response Services
        - Cyber Threat Intelligence and Analysis
        - Big Data Platform and Analysis
        - Automated Indicator Sharing
        - Crowdsourced Penetration Testing
        - Continuous Diagnostics and Mitigation
        - Vulnerability Disclosure Program
        - Protective DNS
        - Attack Surface Management
        - Domain Intelligence
        - Automated Malware Inspection and Analysis

More specifically, the OCIO is responsible for the management of:

- Federal Information Technology Acquisition Reform Act (FITARA) program[73], including providing implementation and self-assessment guidance;
- DOE IT Governance (i.e., Cyber Council);

[73] U.S. Department of Energy Federal Information Technology Acquisition Reform Act (FITARA) Common Baseline Implementation Plan and Self-Assessment | Department of Energy

- Enterprise IT Project Management Office (ePMO);
- DOE Section 508 Program;
- DOE IT Budget and Capital Planning and Investment Control (CPIC);
- IT Policy;
- Data Governance;
- Paperwork Reduction Act; and,
- Government-wide IT initiatives.

Within the OCIO:

- **Chief Information Security Officer (CISO):** Responsible for establishing and maintaining the enterprise vision, strategy, and program to ensure information assets and technologies are adequately protected.
- **Chief Privacy Officer (CPO):** The DOE Privacy Program, overseen by the CPO, consists of four Focus Areas with corresponding privacy strategic objectives, performance measures and program outcomes:
    - **Policy & Governance:** Implement the Privacy Order to establish a consistent Department-wide approach to managing privacy in accordance with Federal privacy statutes, regulations, and directives.
    - **Privacy Compliance & Assistance:** Implement a program to assist DOE Elements with a heightened focus on compliance and verification of program efficacy.
    - **Privacy Training & Awareness:** Provide privacy training and awareness to ensure all employees are aware of the responsibilities and have the knowledge to safeguard personal information.
    - **Performance Measurement and Process Improvement:** Establish Departmental performance metrics with aggressive targets to improve privacy performance.
- **Chief Data Officer**[74]**:** The CDO's focus is Enterprise Data Strategy, Enterprise Data Governance, Strategic Data Science, Analytics and Visualization, and Quality Management, leveraging data as a strategic asset in a cross-functional capacity. The CDO optimizes data insights to drive strategic and tactical business decisions, including investments, and ascertains areas for governing departmental performance, operating as the champion for a data driven decision making culture.

In addition, the OCIO also establishes the Department's Information Resource Management (IRM) Strategy[75], which places emphasis on IT performance reviews in the annual DOE

[74] The Chief Data Officer (CDO) position was mandated for Federal Agencies by the Foundations for Evidence-Based Policymaking Act of 2018.

[75] FY 2018-2022 Information Resource Management (IRM) Strategy | Department of Energy

Performance, Evaluations, and Measurement Plan (PEMP) process, providing greater oversight by formally including the DOE CIO and CIOs from across the enterprise in the review process.

DOE's Geospatial Science[76] Program Management Office (GS-PMO) – co-chaired with voting representation from the Office of Legacy Management (LM), with the OCIO providing technical, operational, administrative, and financial support as well as supporting external coordination efforts – was established to optimize geospatial investments across the DOE complex and to enable prudent stewardship of the resources provided by the American taxpayer. The GS-PMO ensures agency-wide compliance with the 2018 Geospatial Data Act and other federal regulations and guidance, including OMB's Circular A-16, and DOI's cross-agency Federal Geographic Data Committee.

[76] The term 'geospatial science' encompasses the concepts of geographic information science, geographic information systems, and geospatial data. Geographic information science is the study of spatially referenced data, including geographic theory, technological design, and analytical algorithms. Geographic Information Systems (GIS) are specialized software and hardware used to manage, manipulate, query, and visualize spatially referenced data. Geospatial data refers to data and information tied to a location, and may be derived from analytics, remote sensing, mapping, surveying technologies, and other activities.

5.7.3 Office of Project Management (PM)

The Office of Project Management (PM)[77] was established as a new DOE element on July 12, 2015 to be the Department of Energy's Enterprise Project Management Organization (EPMO), providing leadership and assistance in developing and implementing DOE-wide policies, procedures, programs, and management systems pertaining to project management, and independently monitors, assesses, and reports on project execution performance. The office validates project performance baselines–scope, cost, and schedule–of the Department's largest construction and environmental clean-up projects prior to budget request to Congress—an active project portfolio totaling over $30 billion. The office also serves as Executive Secretariat for the Department's Energy Systems Acquisition Advisory Board (ESAAB) and the Project Management Risk Committee (PMRC). In these capacities, the Director is accountable to the Deputy Secretary.

PM provides a monthly assessment of DOE's portfolio of capital assets projects, which is summarized in the monthly Project Dashboard report. This report assesses all active projects with an established performance baseline, including scope, cost, and schedule. Based on current performance:

- GREEN projects are expected to meet their performance baseline
- YELLOW projects are at-risk of breaching their performance baselines
- RED projects are expected to breach their performance baselines

Other analysis/reports include:

[77] The project management office was originally called the Office of Field Management (FM) and was under the purview of the Office of the Chief Financial Officer in the 1990s. In the Energy & Water Development Appropriations Act for FY 2000, the Senate initiated and the House concurred to eliminate funding for DOE's Office of Field Management. During the intervening period, appropriators directed DOE to contract with the National Research Council (NRC) to study DOE's project management and produce reports required by Congress. In its first report, NRC recommended that External Independent Reviews (EIRs) of DOE projects be undertaken and guidelines established for them. The NRC's second report yielded the study entitled, Improving Project Management in the Department of Energy. That became a principal tool in revising DOE's project management, along with the Deputy Secretary's Project Management Initiative, directing changes in the Department's project management effort. Taken together, the external NRC study and the Deputy Secretary's initiative formed the basis for creation of the Office of Engineering and Construction Management (OECM), which continued to reside under the authority of the Office of the Chief Financial Officer. In FY 2001, OECM began to address the voids in DOE's project management caused by the elimination of funding for FM. Work began systematically on the following issues: a newly designed DOE Order; a revised Energy Systems Acquisition Advisory Board (ESAAB) process; a revised EIR process; development of a Project Engineering and Design (PED) requirement for new projects; research into a career development program for project managers; and liaison with the engineering and construction industries, to name a few. In FY 2006, OECM was placed under the purview of the Office of Management (MA). In FY 2012, the project and contract management oversight offices within the Office of Management (MA), the Office of Engineering and Construction Management (OECM) and Office of Procurement and Assistance Management (OPAM) respectively, were merged and consolidated into a singular Office of Acquisition and Project Management (APM). This complemented the consolidation of like functions into APM offices within both NNSA and EM. These APM organizations worked collaboratively to address continuous improvement initiatives regarding project management. In FY 2015, the Under Secretary for Management and Performance reorganized and consolidated parts of the Office of Management (MA) and the Office of Environmental Management (EM) into one organization and created a new office entitled the Office of Project Management (PM).

- Root Cause Analysis Report (RCA) 2008: identifies the key elements necessary to make the meaningful changes required to consistently deliver projects within cost and schedule performance parameters.
- Corrective Action Plan (CAP) 2008: Ensures that the root causes identified in the Root Cause Analysis report (above) are addressed with meaningful and lasting solutions to improve contract and project management performance.
- RCA/CAP Closure Report of 2011: Presents a status of the Department's initiatives to address the most significant issues and their corresponding root causes and officially closes out most of the issues and root causes.
- Overall Contract and Project Management Improvement Performance Metrics and Targets:
  - FY 2022
  - FY 2021
  - FY 2020
  - FY 2019
  - FY 2018
  - FY 2017
  - FY 2016
  - FY 2015
  - FY 2014
  - FY 2013
  - FY 2012
  - FY 2011
  - FY 2010
  - FY 2009
  - FY 2008

5.7.4 Office of the Chief Human Capital Officer (OCHCO)

The Office of the Chief Human Capital Officer (OCHCO) is responsible for strategically aligning the agency's workforce to its missions through effective management of human capital policies and programs. The Chief Human Capital Officer advises and assists the Secretary and Deputy Secretary of Energy, and other agency officials, in recruiting, developing, training, and managing a highly skilled, productive, and diverse workforce in accordance with merit system principles and all applicable statutory requirements.

The Strategic Human Capital Plan (SHCP) sets forth the framework for managing the Department of Energy's (DOE) human capital system. This Plan aligns with DOE Strategic Plan and the cross-agency priority goals (APGs) of the President's Management Agenda.

OCHCO functions, all of which support implementation of the SHCP, include:

- Advancing and supporting DOE's mission accomplishment by creating OCHCO management in the areas of recruitment, hiring and staffing, motivation and employee engagement, succession planning, learning and development, and retention; and provides the full range of operational human resources and management advisory services to DOE staff.

- Providing leadership and direction in dealings with the Office of Personnel Management (OPM), Government Accountability Office (GAO), the Merit Systems Protection Board (MSPB), Federal Labor Relations Authority (FLRA) and other Federal/non-Federal organizations relative to human capital programs and policies.
- Provides corporate oversight of the Human Capital Shared Service Center (HC-SSC), Bonneville Power Administration Service Center (BPA-SC) and the Power Marketing Administration Shared Service Center (PMA-SSC) and subordinate offices ensuring consultative advice and solutions are offered to management officials and employees in all operational aspects of human capital management.

5.7.4.1 Office of Recruitment and Advisory Services (ORAS)

The Office of Recruitment and Advisory Services (ORAS) is responsible for planning, coordinating, evaluating, and overseeing activities associated with human resources advisory services and corporate recruitment and outreach functions. ORAS ensures that human resources (HR) advisory services and corporate recruitment and outreach programs are constructively integrated within the broad program needs and objectives of management, while assuring that all personnel decisions, operations, and transactions are in full compliance with applicable Federal rules, laws, requirements, regulations, and standards conform to sound principles of personnel management and public administration. HR advisory services and outreach efforts occur in an environment of exceptional organizational complexity and instability placing a premium on the need for consistency, creativity, and responsive personnel administration. Additionally, the ORAS provides programmatic support in Diversity, Equity, Inclusion and Accessibility (DEIA) to the Department of Energy (DOE) through utilization of special hiring authorities and initiatives (Pathways, Veterans Employment, etc.).

ORAS' functions include:

- Plans, coordinates, evaluates, and oversees all HR advisory services and recruitment and outreach efforts for DOE program offices and their Field Offices located throughout the United States.
- Oversees and advises hiring managers in reaching best qualified candidates using highly specialized strategies, methods, and practices specifically tailored towards the organizations' particular needs.
- Encourages the use of structured interviews, implementation of new candidate assessments, and utilization of an applicant portal to attract and evaluate talent and refer candidates more effectively and efficiently.
- Directs the planning, coordination, and execution of DOE-wide job fairs both virtually and in-person and creatively leverages social media platforms to promote job opportunities within the Department.
- Provides oversight and guidance to program and staff offices on strategic workforce planning through the development and management of staffing plans which include short- and long-range recruitment and outreach strategies.
- Designs metrics to measure program effectiveness, analyze trends and gaps in employment practices which will formulate recruitment and outreach strategies to address workforce needs and improve demographics of underrepresented groups.

- Works collaboratively in the establishment of agency policy that supports special hiring programs to include, but not limited to, Military Spouse Employment, Student Volunteer Program, Pathways Programs, Veterans and Persons with Disabilities.
- Manages the Applicant Portal and Lever system providing resume and interview support, system management, and assistance to interviewers, SMEs, and Hiring Managers in navigating the system.

5.7.4.2 Office of Human Resource Operations and Compensation (OHROC)

The Office of Human Resource Operations and Compensation (OHROC) provides human capital management operational functions to support Federal employees (non-executives) aligned to the Secretarial programs/offices. OHROC provides HR transactional services to ensure consistent, seamless HR services are provided to the serviced populations of the Human Capital Shared Service Center (HC-SSC).

OHROC functions include:

- Implement and monitor staffing transactions for the programs and offices served by the HC-SSC to recruit, examine and place selectees for vacant positions. Responsibilities include (but are not limited to) preparing and posting USAJOBS vacancy announcements, evaluating applicants and issuing selection certificate(s) to hiring officials, and preparing and processing pre-employment paperwork to assist selectees in the onboarding process.
- Suitability adjudication – Make determinations based on eight basic factors and seven additional considerations, in accordance with 5 CFR Part 731 and the OPM Federal Investigative Service Suitability Processing Handbook.
- Manage the classification program, processes, and procedures for new and existing positions in the programs and offices served by the HC-SSC to determine their appropriate pay system, occupational grouping, grade, title, and bargaining unit status.
- Administer the benefits and work-life programs for the current and former employees, annuitants, survivors, and eligible family members of the offices served by the HC-SSC. Responsibilities include (but are not limited to) providing servicing and consultation related to life, health, dental, vision, and long-term care insurances, Flexible Spending Accounts, Thrift Savings Plan, retirement planning and calculations, Employee Assistance Program, drug testing program, and workers' compensation.
- HR processing and information management responsibilities for the programs and offices served by the HC-SSC and the Office of Corporate Executive Management's customers (i.e., executives). Responsibilities include (but are not limited to) processing personnel actions, entering and maintaining employee data to DOE's Corporate Human Resources Information System (CHRIS) and other personnel systems, establishing and maintaining employees' electronic Official Personnel Folder (eOPF).

5.7.4.2.1 Employee Services Division (ESD)

The OHROC Employee Services Division (ESD) administers the Federal Human Resources Program as it pertains to Benefits & Work Life Programs, Personnel Processing and Record Keeping. This division is responsible for advisement, processing and review of the

comprehensive Federal benefits, entitlements, and worklife services; all personnel processing and records keeping; and providing quality, responsive, and innovative products and services to the servicing population of the Human Capital Shared Service Center (HC-SSC).

ESD functions include:

- Benefits Programs
  - Provide guidance and consultation to current and former employees, annuitants, survivors and eligible family members on the retirement and insurance programs.
  - Provide detailed program advisory services on insurance programs (life, health, dental, vision and long-term care insurances) and Flexible Spending Accounts.
  - Provide advisory services and guidance on retirement programs to include the Thrift Savings Plan.
  - Provide program information and materials to employees for plan comparative guidance.
  - Process all retirement applications in accordance with OPM regulatory guidance for submitting healthy retirement packages within the required timeframe.
  - Prepare annuity calculations estimate requests for employees who are planning to retire.
  - Provide advisory services on service credits (civilian and military) for retirement and leave purposes.
  - Process service credit applications for retirement service credit.
  - Review and certify Benefit Election Forms for new enrollments and qualifying life events.
  - Designation of Beneficiary Forms – Review, certify, complete, and distribute forms; process hard copy for input to eOPF Survivor Claims.
  - Process death-in-service and survivor claims in coordination with onsite Human Resources Business Partners.
  - Resolve erroneous retirement errors in accordance with FERRCA relief regulations.
  - Records Management ensure that all benefit related forms are uploaded into employees' records (e-OPF).
  - Conduct self-audits.
  - Resolve erroneous retirement errors in accordance with FERRCA relief regulations.
  - Records Management ensure that all benefit related forms are uploaded into employees' records (e-OPF).
  - Conduct self-audits.
- Processing
  - Evaluation – Develops and administers evaluations for learning activities and analyzes the results to determine their impact and effectiveness.
  - Learning Acquisition – Connects customers to appropriate learning solutions. Procures, implements, maintains, monitors enrollment, and evaluates professional learning offerings for individuals and groups.
  - Training Funds Management – Evaluate and report departmental training expenditures; analyze and identify opportunities for efficiencies and savings.
  - Learning Management – Manage the Learning Management System and develop policies and procedures for workforce development training.
  - Training Needs Assessment – Plan, administer, or evaluate training programs;

conduct training needs assessments; compile requirements and determine ways to address the requirements through the creation of Annual Learning Plans.

- Recordkeeping
  - Evaluation – Develops and administers evaluations for learning activities and analyzes the results to determine their impact and effectiveness.
  - Learning Acquisition – Connects customers to appropriate learning solutions. Procures, implements, maintains, monitors enrollment, and evaluates professional learning offerings for individuals and groups.
  - Training Funds Management – Evaluate and report departmental training expenditures; analyze and identify opportunities for efficiencies and savings.
  - Learning Management – Manage the Learning Management System and develop policies and procedures for workforce development training.
  - Training Needs Assessment – Plan, administer, or evaluate training programs; conduct training needs assessments; compile requirements and determine ways to address the requirements through the creation of Annual Learning Plans.

5.7.4.2.2 Hiring Services Division (HSD)

The Hiring Services Division (HSD) administers the Federal Human Resources Program as it pertains to classification, staffing, and recruitment. This division is responsible for the classification of Position Descriptions and Factors Evaluations Statements. Additionally, this branch is responsible for the full range of advisory services to employees and managers regarding staffing and recruitment, merit promotion programs, candidate evaluation, downsizing and outplacement, and special emphasis programs within their servicing population.

HSD functions include:

- Evaluate, establish, and maintain a position classification program to determine appropriate pay system, occupational grouping, title and grade, and bargaining unit determination of positions.
- Position Sensitivity: Assist supervisors in establishing and reviewing position sensitivity determinations.
- Apply newly published classification standards to existing PDs and coordinate any impacts and resulting personnel actions with Departmental Elements and personnel action processors, respectively.
- Assign competitive areas and competitive level codes for serviced populations.
- Recruit, examine and place selectees.
- Develop crediting plans in consultation with hiring managers.
- Prepare draft vacancy announcements for review by hiring managers.
- Finalize and open vacancy announcement in USAJOBS.
- Evaluate candidates and update application status in USA Staffing.
- Issue selection certificate(s) to hiring managers.
- Prepare and issue tentative offer letter to selectee(s) stating conditions of employment (e.g., background check, scheduling drug testing, suitability adjudication, pre-employment physicals).
- Conduct pay and incentive negotiations in coordination with, and input from, the hiring manager.

- Establish entry on duty (EOD) date.
- Prepare and issue final offer letter to selectee(s).
- Conduct self-audits and Delegated Examining assessments.

5.7.4.3 Office of Talent Management (OTM)

The Office of Talent Management (OTM) is dedicated to, engaging, developing, retaining and advancing a diverse workforce of right-fit talent for the Department. As a steward and facilitator of the talent strategy, OTM provides employees and supervisors with a wide range of resources, including, professional development, leadership training and educational opportunities to cultivate individual and organizational excellence.

OTM functions include:

- Manage workforce development programs and evaluate their effectiveness to ensure that they improve performance and transfer knowledge and skills to DOE employees.
- Provide guidance and resources to define, assess, and close critical workforce competency skill gaps.
- Establishes, supports, and monitors strategic approaches to achieving and sustaining continuous improvement in DOE workforce engagement and organizational effectiveness.

5.7.4.3.1 Workforce and Organization Development Division (WOD)

The Workforce and Organization Development Division (WOD) strengthens DOE's workforce capacity by providing quality, responsive, and innovative workforce development tools, services, and solutions to create a culture of continual learning which promotes and fosters high performance and a rich quality of work-life to drive a performance-oriented culture.

WOD functions include:

- Identify and develop workforce competency models, conducts workforce competency-based needs assessments, develop and administer evaluations for workforce development activities and analyze the results to determine their impact and effectiveness.
- Design, implement, maintain, and evaluate Leadership and Career Development Programs.
- Establish, support, and monitor strategic approaches to achieving and sustaining continuous improvement in DOE workforce engagement and organizational effectiveness.
- Develop business intelligence, demographic and trends analyses in support of increased understanding of drivers/factors of workplace culture that impact employee engagement.
- Administer and promote the annual Federal Employee Viewpoint Survey (FEVS), including the distribution of survey results and associated analyses.
- Promote actions and best practices to strengthen employee engagement across the department through creation and management of engagement forums and Communities of Practice.

5.7.4.3.2 Learning Division (LD)

Learning Division (LD) strengthens DOE's workforce capacity and build a culture of continual learning and knowledge sharing by providing quality, responsive, and innovative learning products, and services.

LD functions include:

- Evaluation – Develops and administers evaluations for learning activities and analyzes the results to determine their impact and effectiveness.
- Learning Acquisition – Connects customers to appropriate learning solutions. Procures, implements, maintains, monitors enrollment, and evaluates professional learning offerings for individuals and groups.
- Training Funds Management – Evaluate and report departmental training expenditures; analyze and identify opportunities for efficiencies and savings.
- Learning Management – Manage the Learning Management System and develop policies and procedures for workforce development training.
- Training Needs Assessment – Plan, administer, or evaluate training programs; conduct training needs assessments; compile requirements and determine ways to address the requirements through the creation of Annual Learning Plans.

5.7.4.4 Office of Policy, Labor, and Employee Relations

The Office of Policy, Labor, and Employee Relations supports program objectives and missions of all DOE components by developing human capital management (HCM) related policies, strategies, legislative proposals, policy advice/guidance, and innovative business solutions, in addition to offering DOE HQ management officials the full spectrum of Employee and Labor Relations services and counsel. The Office is staffed with specialists developing policy and providing employee and labor relations operations and advisory services.

Office of Policy, Labor, and Employee Relations functions include:

- Manage the development of HCM related policies and strategies for agency-wide implementation and provide advice and guidance across the Department on these policies.
- Influence and translate legislative and regulatory direction into Departmental strategies, policies, and programs to address DOE human capital needs.
- Provide guidance, consultation, advice and assistance to managers, supervisors, and employees on grievances, appeals, adverse actions, employee discipline, and other employee relations matters.
- Provide labor relations direction and counsel to management officials, including interpretation of content and intent of local bargaining agreement(s), relevant case law, and applicable precedent.
- Represent management in third-party labor relations disputes including unfair labor practice and representation hearings before the Federal Labor Relations Authority and in impasse proceedings before the Federal Services Impasses Panel.
- Actionalize other HCM related programs within DOE HQ, such as Reasonable

Accommodation, Preventing and Eliminating Prohibited Harassing Conduct, and Preventing and Responding to all Forms of Violence in the Workplace.

5.7.4.4.1 Policy Division (PD)

The Policy Division serves as the human capital management (HCM) policy office for the Department. The division supports program objectives and missions of all DOE components by developing HCM policies, strategies, legislative proposals, policy advice/guidance, and innovative business solutions. Areas of functional responsibility include staffing, classification, pay and compensation, workplace flexibilities, and employee worklife, employee benefits and retirement, performance management, employee and labor relations, workers compensation for workplace injuries, department-wide suitability, and drug testing program.

PD functions include:

- Provide a full range of staff support to the Chief Human Capital Officer including support required for internal and external responsibilities.
- Participate in the development of the agency's human capital management strategy in support of the overall departmental strategic plan. Seek out, influence, and translate legislative and regulatory direction into Departmental strategies, policies, and programs to address DOE human capital needs.
- Research and develop Departmental directives and associated issuances addressing all aspects of a comprehensive HCM program.
- Develop, identify, and coordinate policies, standards and guidance that provide the structure for Departmental training and development programs.
- Review and comment on draft testimony for Congressional hearings related to assigned human capital management areas.

5.7.4.4.2 Labor Relations Division (LRD)

The Labor Relations Division provides direction and oversight of the Department’s labor relations program and appraises the effectiveness of said program throughout the Department. The Division provides guidance and advice to Labor Relations Officers (LROs), managers, and others, and provides the statutory function of Agency Head Review (AHR) on collective bargaining, mid-term and term agreements, and provides advice and guidance on third party actions. Specialists within this Division also provide clarification of laws, government-wide regulations, case law, and labor policy.

LRD functions include:

- Provides labor relations direction and counsel to management officials, including interpretation of content and intent of local bargaining agreement(s), relevant case law, and applicable precedent.
- Represents management in third-party labor relations disputes including unfair labor practice and representation hearings before the Federal Labor Relations Authority and in impasse proceedings before the Federal Services Impasses Panel.
- Formulates, interprets, and executes agency-wide policy, plans and procedures related to employee relations and labor relations program areas.

5.7.4.4.3 Employee Relations Division (ERD)

The Employee Relations Division provides oversight for a variety of non-union employment matters for DOE HQ components, including reasonable accommodation, disciplinary and performance issues, administrative grievances, investigations of workplace misconduct allegations, prevention of workplace violence, and preventing and eliminating prohibited harassing conduct. The Office is staffed with specialists providing employee relations products and advisory services.

ERD functions include:

- Provide guidance, consultation, advice and assistance to managers, supervisors, and employees on grievances, appeals, adverse actions, employee discipline, and other employee relations matters.
- Facilitate and guide Management and Employees through the interactive process related to requests for reasonable accommodation.
- Process reports of alleged prohibited harassing conduct and associated fact-finding or internal management investigations.
- Providing technical expertise and consultation to help supervisors determine what course of administrative action is most appropriate in situations of workplace violence; working closely with the Security Office, EAP, and other programs in place to address the threat of workplace violence.

5.7.4.5 Office of Corporate Executive Management

The Office of Corporate Executive Management manages the human capital programs related to the employment lifecycle for the Department's Senior Executive Service (SES), Senior Professional (Senior-Level and Scientific and Professional), Excepted Service (EJ, EK, ER, and ET) and political appointees.

Functions include:

- Develop, formulate, and administer policies and strategies for agency-wide implementation and provide advice and guidance across the Department on these policies; seek out, influence, and translate legislative and regulatory direction into Departmental strategies, policies, and programs to address DOE human capital needs as it relates to executive resources.
- Continually assess and improve customer service and human capital programs providing innovative and strategic solutions enabling the recruitment, development and retention of a premier executive workforce prepared to lead the Department and ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges.
- Provide strategic and operational centralized HR services, including (but not limited to) staffing, recruitment, employee relations, compensation, benefits, position classification and allocation, executive development, talent management and performance management.
- Manage the Department's allocations and coordinate the biennial allocation process.
- Provide support for Presidential, Non-Career SES and Schedule C appointees.

- Coordinate and manage the Executive Resources Board processes.

5.7.4.5.1 Executive Staffing Division (ESD)

The Executive Staffing Division (ESD) manages the operational human capital programs related to recruitment, staffing and retirement and benefits services for the Department's Senior Executive Service (SES), Senior Professional (Senior-Level and Scientific and Professional), Excepted Service (EJ, EK, ER, and ET) and political appointees.

ESD functions include:

- Provide strategic and operational recruitment and staffing services ranging from developing and implementing recruitment and hiring strategies to classifying positions, assessing qualifications, facilitating rating and interview panels, and making offers of employment.
- Oversee onboarding processes and processing of personnel actions; track and monitor trends; and prepare various staffing reports.
- Provide the full range of advisory services related to classification, recruitment, staffing, and personnel processing to include developing Executive Resources Board documents.
- Evaluate, establish, and maintain a position classification program to determine appropriate pay system, occupational grouping, title and grade, and bargaining unit determination of positions.
- Provide advisory services on recruitment and placement actions requiring identification and analysis of management staffing problems and development of staffing solutions.

5.7.4.5.2 Executive Programs Division (EPD)

The Executive Programs Division develops and implements human capital policies and manages employee lifecycle programs related to benefits and employee relations; performance management, talent management and executive development for the Department's Senior Executive Service (SES), Senior Professional (Senior-Level and Scientific and Professional), Excepted Service (EJ, EK, ER, and ET) and political appointees.

EPD functions include:

- Convene the Performance Review Board (PRB) annually providing guidance and oversight.
- Manage and coordinate with the Office of Personnel Management for performance management certification.
- Manage and oversee executive compensation and awards programs (e.g., performance awards, Presidential Rank Awards).
- Manage and execute the Executive Essentials Onboarding program.
- Research, develop, coordinate Departmental directives, policies, standards and guidance and associated issuances addressing a comprehensive executive resources program.
- Provide the full range of retirement and benefits counselling and advisory services upon entrance on duty, separation, and as needed.
- Provide expertise and guidance on complex and sensitive employee relations matters involving disciplinary and adverse actions.

- In collaboration with the Office of Talent Management, develop and implement executive development and talent management strategies, and manage executive development and talent management programs.
- Provide the full range of advisory services related to performance management, employee relations and executive development and talent management strategies.

5.7.4.6 Office of Business Operations (OBO)

The Office of Business Operations (OBO) supports the program objectives and missions of all Human Capital components by (1) serving as the human capital compliance arm for the Department and administering DOE's Human Capital Management Assessment Program (HCMAP), (2) providing operational support and consultative advice on standardization, IT automation, and business process re-engineering to increase efficiency and operational effectiveness, (3) providing operational support and consultative advice on the acquisition, deployment, and maintenance of technology to support the strategic management of human capital in accomplishing Departmental goals and program objectives, (4) supporting implementation of the Department's human capital initiatives through the integration of human capital strategy and budget across the human resources line of business functions, and (5) offering innovative business solutions to complex Departmental HCM challenges.

OBO functions include:

- Provide executive oversight of the acquisition, deployment, and maintenance of technology to support the strategic management of human capital. Manages HRIT systems and provides technology solutions for the Department's HR operations.
- Provide oversight and guidance on the integration of human capital strategy and budget to ensure effective and efficient financial management of resources within the Office of the Chief Human Capital Officer (HC) and associated HR business lines. Oversee the procurement process for obtaining and implementing contract support within the HC and the HR Shared Service Centers.
- Manage the administrative support functions for HC to include space, equipment, personnel security, transit subsidy, and internal HC policy.
- Develop business intelligence, demographic and trends analyses in support of corporate workforce and succession planning and in response to requests from within DOE and from external oversight agencies.
- Provide oversight of the Department's human capital management program evaluations and assessments to determine the efficiency and effectiveness of human capital programs and to ensure compliance with federal laws, regulations, and policies.

5.7.4.6.1 Assessments and Compliance Division (ACD)

The Assessments and Compliance Division (ACD) serves as the human capital compliance arm for the Department. It is responsible for managing and administering DOE's Human Capital Management Assessment Program (HCMAP). The division provides a system for monitoring and analyzing agency performance on all aspects of human capital management policies, programs, and activities. Ensures that all human capital activities function in support of DOE's

mission accomplishment and that those activities and results are effective, efficient, and in compliance with merit system principles and associated human capital laws and regulations.

ACD functions include:

- Conduct human capital assessment reviews of all servicing HR offices/Shared Service Centers across the Department to assess levels of effectiveness and efficiency and adherence to legal and regulatory requirements.
- Develop quantitative and qualitative measures to assess HR programs effectiveness, efficiency, and compliance.
- Conduct fact-finding inquiries and draft responses to third party offices regarding human capital complaints.
- Provide comprehensive analysis and metrics to determine overall efficiency and effectiveness of human capital programs and to identify trends.
- Conduct human capital program management evaluations to provide proactive support to servicing HR offices or DOE Elements. Develop improvement plans for HR offices that have HR authorities suspended and coordinate with other operational offices to assist in implementation.

5.7.4.6.2 Human Resources information Technology Division (HRIT)

The Human Resources Information Technology Division (HRIT) provides operational support and consultative advice to the Chief/Deputy Chief Human Capital Officer and Departmental Senior Management on the acquisition, deployment, and maintenance of technology to support strategic management of human capital in accomplishing Departmental and program objectives. This division also implements eGov initiatives and provides assistance and guidance on technology-supported business process reengineering; investment analysis; performance measurement; strategic development and application of information systems.

HRIT functions include:

- Represent the Department to central management agencies [e.g., the Office of Personnel Management (OPM), the Office of Management and Budget (OMB), the Defense Finance and Accounting System (DFAS)] on human resources information technology (HRIT) related matters.
- Develop and establish Departmental HRIT guidance and advocate methods for analyzing, selecting, developing, operating, and maintaining information systems.
- Manage, operate, maintain, and enhance the enterprise human resources information management solutions across the Department.
- Monitor and execute HR policies and procedures that impact HRIT solutions.
- Develop plans and budgets for human resources information systems (HRIS) support services.
- Manage service contracts or interagency agreements for HRIT services, HC Working Capital Funded lines of business, and HC funding related activities in collaboration with OPM and HC's budget function.
- Responsible for HRIS compliance with and implementation of all applicable Federal laws, DOE regulations regarding IT security.

5.7.4.6.3 Organizational Effectiveness Division (OED)

The Organizational Effectiveness Division (OED) provides operational support and consultative advice to the Chief Human Capital Officer and Departmental Senior Management regarding continuous process improvements. This division also has a centralized focus on standardization, IT automation, and business process re-engineering to increase efficiency and operational effectiveness. Additionally, this division contains the resources necessary to gather and analyze data to support all HC initiatives.

OED functions include:

- Drive continuous process improvements across the Human Capital complex by leveraging audit results to identify process deficiencies and gathering feedback from staff through surveys and other methods.
- Support HC-SSC by providing analytical support as requested and needed, including reports, demographics, metrics, time-to-hire, etc.
- Partner with HRIT Division to identify and implement innovative technology solutions.
- Apply project management across HC, utilizing Project Management Body of Knowledge (PMBOK) principles to maximize effectiveness of complex HC projects.
- Collect/access and analyze current and historical human capital data using all available systems to assist senior HC leadership in making and justifying organizational decisions, conducts trend analyses and provides custom reports.
- Coordinate with HC-SSC to identify opportunities for standardizing business processes and provides business process mapping services.
- Builds and issues just-in-time (JIT) customer service survey program management by developing new JIT surveys for HC services and maintaining existing surveys for HC customers.
- Develop business intelligence, demographic and trends analyses in support of corporate workforce and succession planning and in response to requests from within DOE and from external oversight agencies.
- Develop, analyze, and communicate human capital metrics to determine the efficiency and effectiveness of human capital strategies and solutions.

5.7.4.6.4 Resource Management Division (RMD)

The Resource Management Division (RMD) supports the effective and efficient implementation of the Department of Energy's human capital initiatives through the integration of human capital strategy and budget for the Office of the Chief Human Capital Officer (HC) across the human resources line of business functions. This organization is responsible for the day-to-day administrative operations of the Office of the Chief Human Capital Officer. The office provides a variety of services designed to support the senior executive staff and other administrative management activities.

RMD functions include:

- Directs planning, oversight, integration, and management of HC financial and staff resources to include: budget formulation, integration, and execution; staffing and

resource allocation; accounting; and acquisition and contract management.

- Advises and assists on all budgetary/resource policy and program issues impacting HC and its customers and oversees HC-related Working Capital Fund business lines.
- Works in conjunction with the Department's Headquarters Procurement Office, the Office of the Chief Financial Officer (CFO), and others to facilitate financial and contractual requirements.
- Executes data collection and reporting processes in compliance with the Office of Management and Budget (OMB) guidance and DOE policy for internal management controls and quality assurance.
- Ensures annual budget submissions to Congress are in alignment with Human Capital Strategic Plan.
- Directs planning, oversight, integration, and management of administrative and support systems within the Office of the Chief Human Capital Officer (HC) organization.
- Manages correspondence processes and functions, including Executive Secretariat, IG, FOIA, and Congressional correspondence.
- Leads space and property management functions for HC to include furniture, equipment, hardware, software, and telecommunications.
- Manages internal personnel administration functions in accordance with Merit System Principles and EEO (such as training requests, IDP tracking, travel requests, personnel actions, performance management, position management, pay administration, employee recognition, and incentives) in collaboration with other HC entities.
- Ensures physical security compliance and continuity of operations preparedness (COOP) for HC.
- Administers, in conjunction with the Office of the Secretary and the Office of Management, the Secretarial Awards Program.

5.7.4.7 HR Shared Service Centers

OCHCO's Shared Service Centers provide a full range of HR services:

Table 16: HR Shared Service Centers

HR Service Center	Functions
Bonneville Power Administration HR Service Center	• Implement and monitor staffing transactions for the programs and offices served by the BPA SC to recruit, examine and place selectees for vacant positions. Responsibilities include (but are not limited to) preparing and posting USAJOBS vacancy announcements, evaluating applicants and issuing selection certificate(s) to hiring officials, and preparing and processing pre-employment paperwork to assist selectees in the onboarding process. • Manage the classification program, processes, and procedures for new and existing positions in the programs and offices served by the BPA SC to determine their appropriate pay system, occupational grouping, grade, title, and bargaining unit status. • Administer the benefits and work-life programs for the current and former employees, annuitants, survivors, and eligible family members of the offices served by the BPA SC. Responsibilities include (but are not limited to) providing servicing and consultation related to life, health, dental, vision, and long-term care insurances, Flexible Spending Accounts, Thrift Savings Plan, retirement planning and calculations, Employee Assistance Program, drug testing program, and workers' compensation. • HR processing and information management responsibilities for the programs and offices served by the BPA SC. Responsibilities include (but are not limited to) processing personnel actions, entering and maintaining employee data to DOE's Corporate Human Resources Information System (CHRIS) and other personnel systems, establishing and maintaining employees' electronic Official Personnel Folder (eOPF) in accordance with OPM regulations, and supporting personnel data requests from DOE and OPM.
Power Marketing Administration HR Service Center	**Talent Acquisition Branch** • Perform all necessary actions related to the recruitment, examination, and placement of selectees, to include, but not limited to, preparing and posting vacancy announcements, evaluating applications, issuing certificates and tentative and final offer letters, conducting pay and incentive negotiations, and establishing entry on duty dates. • Administer human resource automation systems including the automated talent management system USA Staffing, and onboarding components. • Administer the incentives program, Special Salary Rates, and Direct Hire Authorities. • Establish and track Time to Hire metrics.

HR Service Center	Functions
	Human Resources Advisory Services Branch • Serve as the primary point of contact for HR operational support to the employees of the serviced organizations. • Offer strategic human capital guidance and strategic HR solutions implementation support to all levels of management of the organizations served. • Assess and anticipate HR-related needs and formulate partnerships to deliver value added services to clients that reflect the business objectives of the organization. **Employee Services and Compensation Division** • Manage the mandatory training program and administer the Learning Management System. **Organizational Design and Classification Advisory Branch** • Proactively consult with clients about mission and goals; aid in creation and execution of the desired organizational structure to achieve mission results. • Provide sound position management counsel and education to management (i.e., efficient structures, assess and create career paths, optimal supervisory ratios). • Consult and advise on position description development, formatting, and reformulation. Classify and code positions accurately (i.e., pay system, title, series, grade) and in accordance with OPM classification guidance; provide and maintain an accurate and accessible position description library. **Workforce Relations Branch** • Provide the full spectrum of Employee Relations/Labor Relations services including advising on drug testing, performance management, awards, grievances, appeals, disciplinary and adverse actions, contract administration, negotiations, and Labor Relations disputes. • Manage compensation programs including salary surveys, pay setting for WB and AD employees, and supervisory differentials. • Administer the benefits and work-life programs for the current and former employees, annuitants, survivors, and eligible family members of the offices served by the PMA HR SSC. • Authenticate, approve, and process all necessary HR actions in CHRIS and support requests for information through the management of official personnel records.

5.7.5 Office of Enterprise Assessments (EA)

The Department of Energy's (DOE) Office of Enterprise Assessments (EA) performs independent assessments for DOE senior leadership that report on whether national security material and information assets are appropriately protected and whether Departmental operations provide for the safety of its employees and the public. EA is responsible for the management and implementation of the DOE enforcement programs for safety and information security that are authorized by the Atomic Energy Act, promoting overall improvement in the Department's safety and security programs via enforcement investigations using systematic enforcement practices to thoroughly evaluate operational events and conditions that represent potentially serious violations of the Department's nuclear safety, worker safety and health, and classified and sensitive information security regulations. In addition, EA implements the Department's congressionally-authorized contractor enforcement programs for security and safety on behalf of the Secretary of Energy and operates the DOE National Training Center (NTC).

Because EA reports directly to the Office of the Secretary, it is organizationally independent of the DOE entities that develop and implement security and safety policies and programs; therefore, EA can provide a "check and balance" function by objectively:

1. Observing and reporting on the performance of DOE federal and contractor organizations' implementation of security and safety policies and programs,
2. Applying enforcement actions to contractor organizations for poor performance in adhering to legally enforceable security and safety requirements, and
3. Developing and delivering security and safety training programs that reflect best practices and lessons learned from EA independent assessments to enhance workforce performance.

The Office of Environment, Safety and Health Assessments conducts independent evaluations that provide objective information and constructive feedback on programs for and performance in protecting workers, the public and the environment from the nuclear and industrial hazards associated with DOE's past and present operations, with a particular focus on nuclear facility construction projects and high hazard nuclear operations.

The Office of Safeguards and Security Assessments conducts independent evaluations of the effectiveness of safeguards and security policies and programs throughout the Department, including those for protecting special nuclear material and classified and sensitive information, and makes extensive use of large- and small-scale performance testing to realistically evaluate site safeguards and security defense capabilities.

The Office of Cyber Assessments conducts independent evaluations of the effectiveness of classified and unclassified cybersecurity policies and programs throughout the Department that include performing detailed network penetration testing to detect vulnerabilities and risks that could be exploited by sophisticated adversaries or malicious insiders. The Office also analyzes cybersecurity trends and studies complex-wide issues to provide feedback on essential information assurance practices to DOE Headquarters and sites.

These programs are guided by EA's Strategic Goals:

1. **Strategic Goal 1 –** Conduct timely and effective independent oversight activities that

strengthen the safety, security, cybersecurity, and operations of the DOE.
2. **Strategic Goal 2 –** Conduct objective, timely, and effective contractor enforcement activities.
3. **Strategic Goal 3 –** Promote workforce development and performance improvements through training and learning activities that utilize a systematic approach.
4. **Strategic Goal 4 –** Enhance the use of risk-informed and fact-based analysis to identify and communicate emerging trends in safety, security, and cybersecurity within the DOE.
5. **Strategic Goal 5 –** Foster, empower, and sustain a skilled, diverse, and mission-driven workforce across EA, and provide superior leadership of EA organization and resources.
6. **Strategic Goal 6 –** Enhance collaboration across EA's spheres of expertise and stakeholders.

Strategic Goal 7 – Promote an inclusive EA team and workplace that values and celebrates a diversity of ideas, cultures, and backgrounds which foster safe, equitable, and productive work.

5.7.6 Office of Environment, Health, Safety, and Security (EHSS)

The Office of Environment, Health, Safety, and Security (EHSS) is the DOE's central organization responsible for health, safety, environment, and security; providing corporate-level leadership and strategic vision to coordinate and integrate these vital programs. EHSS is responsible for policy development and technical assistance; safety analysis; and corporate safety and security programs. EHSS advises DOE Senior Leadership on all matters related to environment, health, safety, and security across the complex.

On May 5, 2014, the Office of the Associate Under Secretary for Environment, Health, Safety and Security (AU) was established within the Office of the Under Secretary for Management and Performance to strengthen the effectiveness and efficiency of primary mission-support organizations of the Department and institute enterprise-wide solutions to common challenges across the complex. As part of a Secretarial organizational realignment on February 13, 2022, the Office of the Associate Under Secretary for Environment, Health, Safety and Security (AU) was realigned to report to the Deputy Secretary as the Office of Environment, Health, Safety and Security (EHSS).

EHSS' mission, vision, core values, and strategic goals and objectives are established within the EHSS Strategic Plan[78], which includes strategies and actions through which EHSS will achieve its strategic goals and objectives for the next three years guided by its core values. EHSS identifies and monitors its program goals via the EHSS Annual Operating Plan[79], publishes its accomplishments in the areas of environment, health, safety and security leadership, policy

[78] Latest version of EHSS Strategic Plan (for 2022-2024): https://www.energy.gov/sites/default/files/2022-11/2022-2024%20EHSS%20Strategic%20Plan%20%281%29.pdf

[79] Latest version of EHSS Annual Operating Plan (for 2023): https://www.energy.gov/sites/default/files/2023-01/EHSS%20FY%2023%20Annual%20Operating%20Plan.pdf

development, technical assistance, and the management via its EHSS Accomplishments Report[80].

5.7.6.1 Office of Departmental Representative to DNFSB

The Department Representative to the Defense Nuclear Facilities Safety Board (DNFSB) provides effective cross-organizational leadership in resolving DNFSB-related technical and management issues necessary to ensure public health and safety.

Functions include:

- Represents the Secretary and the Deputy, Environment, Safety and Health in regular and continuing interactions with the DNFSB (and/or also referred to as Board).
- Advises the Secretary, Deputy Secretary, Under Secretaries, Director, Office of Environment, Health, Safety and Security, Secretarial Officers, and other Department executives of Board priorities, concerns, actions, and plans.
- Manages the Department's interface activities and provides direction and advice to the line on Board-related matters.
- Coordinates with affected Secretarial Officers and designates a Cognizant Secretarial Officer to respond to a Board recommendation, Board correspondence, and other Board issues.
- Facilitates implementation of the Department's corporate issues management process for analysis and resolution of crosscutting issues from DNFSB recommendations and concerns.
- Facilitates communication and cooperation between Departmental elements and the external entities including the DNFSB and its staff.
- Reviews written communications from the Department to the DNFSB, for consistency and responsiveness.
- Serves as the initial Departmental lead for each incoming DNFSB recommendation until a Responsible Manager is identified.
- Manages the Department's Safety Issues Management System for DNFSB-related issues, commitments, and actions, as well as the Department's Defense Nuclear Facility Hazard Categorization and Request for Information (RFI) tracking databases.
- Prepares reports on DNFSB-related activities for senior Department management, Congress, and the President.
- Maintains and provides guidance on the Department's Interface Order and Joint DOE-DNFSB Memorandum of Understanding to Departmental Points of Contact and support personnel.
- Maintains and distributes a listing of key Department personnel for DNFSB-related activities.
- Maintains the Department's central repository of official DNFSB communications and

[80] Latest version of EHSS Accomplishments Report (for 2022): https://www.energy.gov/sites/default/files/2023-01/EHSS%20FY22%20Accomplishments%20Report_0.pdf

makes this information available to Department and contractor personnel.
- Coordinates Board review and comments resolution for DOE Directives of interest to the Board.

5.7.6.2 Office of Insider Threat

The Office of Insider Threat is the focal point, on behalf of the Department's Designated Senior Official for Insider Threat, for governance and oversight of the enterprise-wide Insider Threat Program to effectively deter, detect, and mitigate undesirable insider actions, either wittingly or unwittingly, by those granted authorized access. This office also coordinates the Department's Threat Working Group.

Functions include:

- Serve as Executive Secretary of the Department's Insider Threat Program Executive Steering Committee (ESC).
- Provide overall management, guidance, and oversight of the Department's Insider Threat Program (ITP) as outlined in DOE O 470.5, Insider Threat Program.
- Administer ITP policies, procedures, data records management, budget and contracts, legal review requests and other administrative management functions.
- Communicate with internal Departmental programs and staff offices.
- Provide support to the ESC and the Insider Threat Program Working Group (ITPWG).
- Coordinate the development of the ITP annual report to the Secretary.
- Communicate with external entities, to include responding to national level program requests for information and coordinating with national level entities and working groups such as the National Insider Threat Task Force.
- Provide subject matter and inquiry/investigative support to Local Insider Threat Working Groups (LITWG) and other Departmental offices.
- Provide program oversight of assessments, audits, inspections, and evaluations to the ITP.
- Foster the development of education and awareness material for the ITP.

5.7.6.3 Office of Special Operations

The Office of Special Operations has primary responsibility for the protection of the Secretary of Energy and other executive personnel as designated by the Secretary through the use of tactics, techniques and procedures designed to prevent physical assault, harm or embarrassment.

Functions include:

- Manage the development and execution of protective operations in support of the Secretary of Energy and other DOE Officials, when designated by the Secretary.
- Support Continuity of Government as they relate to the Secretary.
- Initiate inquiries and investigate potential violations of enforceable safeguards and security requirements, as well as certain security concerns, as directed.
- Provide support to the Metropolitan Washington, DC, Joint Terrorism Task Force (JTTF)

and other joint operations when feasible.

- Maintain active liaison in assigned areas of responsibility with other Federal law enforcement agencies, to include the Federal Bureau of Investigation, U.S. Secret Service, Diplomatic Security Service, U.S. Marshals, Transportation Security Administration, U.S. Capitol Police, and the Department of Homeland Security, along with state and local police departments and agencies.
- Maintain a robust protective intelligence program to assist with protective operations planning and to mitigate identified potential risks associate with security of the Secretary and other executive personnel under the protection umbrella.
- Develop and maintain a threat assessment, vulnerability assessment, security risk assessment, and statement of protection for the Secretary and Deputy Secretary.
- Ensure that agents are appropriately resourced and trained in accordance with approved standard operating procedures.

5.7.6.4 Office of Health and Safety

The Office of Health and Safety establishes worker safety and health requirements and expectations for the Department to ensure protection of workers from the hazards associated with Department operations. The Office conducts health studies to determine worker and public health effects from exposure to hazardous materials associated with Department operations and supports international health studies and programs. It implements medical surveillance and screening programs for current and former workers and supports the Department of Labor in the implementation of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). Additionally, the Office provides assistance to Headquarters and field elements in implementation of policy, encouraging excellence in safety and health programs, and resolving worker safety and health issues.

Functions include:

- Promulgates Rules and Directives to establish Departmental expectations for Worker Safety and Health, Radiation Protection. Contractor Substance Abuse Prevention, and Contractor Employee Assistance Programs.
- Assures that the Office implements an integrated approach to customer and stakeholder needs in the development and maintenance of worker safety and health policy and assisting Headquarters and field elements in implementation and resolving cross cutting issues.
- Maintains effective liaison with line managers, Field and Site Offices, contractors through EFCOG and other offices within the Office of Environment, Health, Safety and Security and external organizations to identify issues and concerns related to worker safety and health policy.
- Manages activities to develop, promulgate, and maintain worker safety and health policy.
- Maintains liaison with regulatory agencies with respect to worker safety and health matters.
- Provides recommendations to the Director, Office of Environment, Health, Safety and Security regarding approval of requests for planned special exposures in accordance with 10 CFR 835.204.

- Provides recommendations to the Director, Office of Environment, Health, Safety and Security regarding approval of alternative individual dosimetry monitoring in accordance with 10 CFR 835.402.
- Provides recommendations to the Director, Office of Environment, Health, Safety and Security regarding requests for exemptions to requirements of 10 CFR 835.
- Provides recommendations to the Director, Office of Environment, Health, Safety and Security regarding approval or denial or variances to 10 CFR 851.
- Serves as the responsible office for DOE O 226, Implementation of Department of Energy Oversight Policy.
- Serves as the Department's Co-Champion for the Integrated Safety Management Council.

5.7.6.5 Office of Environmental Protection and ES&H Reporting

The Office of Environmental Protection and ES&H Reporting works with line managers to minimize DOE's radiological and environmental footprint and reduce its occupational health and safety impacts. The Office mitigates and controls risks to the DOE mission by partnering with line management in areas such as: (1) developing policy and standards and providing assistance in protecting the public and the environment from environmental and radiological hazards associated with DOE operations using the current science and best practices; (2) minimizing energy use, natural resources consumption, and waste generation necessary to complete mission activities; (3) collecting, summarizing and sharing lessons from workplace occurrence and event information from across the DOE complex to improve environmental, safety and health performance at DOE sites, and (4) increasing the use and improving the effectiveness of organizational culture sustainment tools and strategies across the complex.

Functions include:

- Implements an integrated approach to customer and stakeholder needs in the development and maintenance of environmental policy, with particular emphasis on sustainable environmental stewardship and radiation protection of the public and the environment.
- Provides technical support and assistance to DOE program and field elements in understanding and implementing environmental policies and requirements.
- Maintains effective liaison with line managers and other offices within the Office of Environment, Health, Safety and Security and external organizations to assist in identifying and resolving site-specific and crosscutting issues and concerns related to environmental protection policy.
- Serves as the Department's Federal Preservation Officer, under section 110(c) of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306104, with agency-wide authority to support effective implementation of historic preservation programs.
- Serves as the Departmental Lead for addressing issues relating to per-and polyfluoroalkyl substances (PFAS), a widely used family of chemicals of increasing regulatory concern.
- Serves as the Department's representative on Federal and international organizations establishing public and environmental radiation protection policy.
- Maintains effective liaison to Headquarters and field organizations to effectively and efficiently implement the Department's sustainability requirements and related external

requirements.

- Maintains effective liaison to Headquarters and field organizations to identify and address and safety culture issues and concerns.
- Provides DOE field managers with high-quality analytical laboratory data for environmental decision-making, and to ensure that the DOE radiological and hazardous waste streams are properly accounted for, treated, and disposed of in a compliant manner.
- Shares important ES&H information and lessons learned through its management of DOE's occurrence reporting, operating experience, accident investigation and other related programs.
- Manages and directs corporate analyses to support line management decision-making in addressing ES&H performance trends.
- Ensures meaningful and easily understood assessments of the Department's overall effectiveness in protecting the public, the worker, and the environment are produced in a timely manner and communicated broadly.
- Leads the Department's Human Performance Improvement and Behavior Based Safety efforts and coordinates associated training.

5.7.6.6 Office of Nuclear Safety

The Office of Nuclear Safety develops and maintains nuclear safety requirements and expectations for the Department to ensure protection of its workers and the public from the hazards associated with DOE nuclear facilities and operations. The Office provides assistance to DOE Headquarters and Field Elements in implementation of policy and resolving nuclear safety, facility safety, and quality assurance (QA) issues. The Office works proactively with Headquarters and Field Offices to foster continuous improvement and nuclear safety excellence.

Functions include:

- Develops and maintains nuclear safety policy, requirements, and guidance for the Department in the areas of hazard and accident analysis; nuclear facility design; and operations, maintenance, training, and readiness assessment.
- Establishes and maintains facility safety policies, requirements, and guidance for the Department in the areas of fire protection and natural phenomena hazards that are applicable to nuclear and non-nuclear related activities.
- Establishes and maintains QA policies, requirements, and guidance for the Department for both nuclear and non-nuclear related activities.
- Provides assistance to Departmental elements and contractors in the interpretation and implementation of DOE nuclear safety, facility safety, and QA requirements and in the resolution of nuclear safety, facility safety, and QA-related issues.
- Maintains effective liaison with line managers and other offices within EHSS and external organizations to assist in identifying and resolving site-specific and crosscutting issues and concerns related to nuclear safety, facility safety, and QA.
- Leads the Departments nuclear safety research and development activities.
- Maintains liaison with regulatory agencies and interagency and international committees with respect to nuclear safety, facility safety and QA matters.
- If requested by the Secretary, provides recommendations to the Director, Office of

Environment, Health, Safety and Security regarding concurrence in the final decision to startup or restart a nuclear facility.
- Manages the Departments Technical Standards Program.
- Fulfills the role of Standards Executive for the Department of Energy.

5.7.6.7 Office of Headquarters Security Operations

The Office of Headquarters Security Operations strengthens national security by protecting personnel, facilities, property, classified information, and sensitive unclassified information for DOE Headquarters facilities in the National Capital Area under normal and abnormal (i.e., emergency) conditions, managing access authorization functions for Headquarters, ensuring that DOE Headquarters employees and visitors are fully protected, and supporting efforts to ensure the continuity of government in all circumstances as mandated by Presidential Decision Directive.

Functions include:

- Provides support, assistance and advice to the Director, Office of Environment, Health, Safety and Security regarding security operations, particularly as they relate to those programs under the purview of EHSS.
- Directs Headquarters security response activities in support of the Headquarters Occupant Emergency Plan. Provides management oversight and direction to the Headquarters security inquiry and investigations program.
- Conducts biennial reviews of vulnerability assessments at Forrestal and Germantown facilities to determine needed security upgrades, establish priorities for funding, program emphasis, and reallocation of personnel as required.
- Represents DOE at Interagency-level conferences and committees as it pertains to Headquarters security related issues.
- Establishes and maintains liaison with intelligence offices to facilitate coordinating the overall continuity activities relating to security.
- Manages the Headquarters Security Officer (HSO) Program ensuring that Headquarters Security programs are effective and dynamic to meet Headquarters operational needs.
- Provides direct security support to the Office of the Secretary and Deputy Secretary, and the direct Offices of the Under Secretary for Science and Innovation and the Under Secretary for Infrastructure, serving as their HSO.
- a Performance Assurance Program for DOE Headquarters security operations.
- Administers the Foreign Ownership, Control or Influence (FOCI) program for Headquarters as directed by 48 CFR Chapter 9, Department of Energy Acquisition Regulation.
- Administers the Security Education and Awareness Program for Headquarters.
- Administers the Headquarters Incidents of Security Concern Program as mandated by DOE Order 470.4B. Serves as liaison with Federal and local law enforcement agencies on regional security issues affecting DOE Headquarters facilities.
- Assess and assist Program Elements in the implementation of the security requirements contained in the Headquarters Facilities Master Security Plan (HQFMSP).
- Identify and evaluate available and emerging security protection technology that can be

incorporated into Departmental operations.

5.7.6.8 Office of Security

The Office of Security maintains and promotes the Department of Energy's corporate security strategies for the preservation of National Security and protection of critical assets entrusted to the Department. The Office of Security executes this mission through the development and promulgation of safeguards and security policy, by providing comprehensive security expertise to assist Headquarters and field elements in planning site protection strategies and protection operations, and by providing safeguards and security technical assistance, performance testing, and emerging technologies assessment, adaptation, and integration support.

Functions include:

- Establishes policies, procedures, and technical guidance for DOE-wide security to include program management and support, physical security, protective forces, information protection, personnel security, nuclear materials control and accountability, with all subordinate security topics.
- Coordinates with Other Government Agencies (OGA) regarding planning and implementation issues, and new approaches for enhancing security at DOE facilities, and establishes approaches to protect activities funded by OGA at DOE facilities (work for others programs).
- Provides an enterprise approach for the dissemination of security technology cost, performance, safety, and implementation information.
- Provides direction and control to manage the Department's Personnel Security Program.
- Provides direction and management oversight of the security assistance program and serves as the Departmental resource for implementing innovative and cost-effective protection strategies by fostering collaboration between field and Headquarters security professionals. The Office of Security expands the Department's performance test capabilities, enhances the quality and availability of data critical to testing and analytical efforts, and improves the complex's ability to assess the effectiveness of new security concepts and strategies. Functions include:
  - Conducts adversary "Red Cell" analyses of protection strategies and technologies,
  - Conducts analyses of advanced tactics, equipment, and evolving security needs,
  - Analyzes and provides adversary Tactics, Techniques, and Procedures (TTP),
  - Develops realistic and demanding adversary scenarios for performance testing,
  - Develops standardized performance test and safety protocols, tools, and simulation methods,
  - Develops tactical simulation products and target analysis concepts,
  - Compiles and disseminates security related test data.
- Provides direction and control to manage the Department's Safeguards and Security Information Management System (SSIMS) providing a dynamic collection and analysis capability for current and historical information.
- Provides direction and control for the review of safeguards and security findings, surveys, and other oversight reports to identify trends, potential impacts to, or suggestions for operational enhancement or enhancements in policy.

- Establishes the DOE Design Basis Threat (DBT) and associated vulnerability assessment policy guidance and technical standards.
- Represents the Department in the development of government-wide safeguards and security policies, to include Executive orders, proposed legislation, regulatory actions, and Presidential directives.
- Represents the Department's interests in domestic and international interagency counter-terrorism security technology research and development forums.
- Establishes policy, procedures, and guidance for foreign visits, assignments, and for the foreign ownership, control or influence (FOCI) program.
- Manages and maintains the DOE e-FOCI system.
- Renders determinations on security mitigation plans for companies whose FOCI exceed Departmental thresholds.
- Acts as DOE liaison to other federal agencies and the Committee on Foreign Investment in the United States in regard to FOCI actions.
- Manages and directs the Foreign Visits and Assignments program.
- Provides subject matter experts and DOE representation for international, inter- and intra-agency safeguards and security policy, including development of Government-wide security policy and standards.

5.7.6.9 Office of Classification

The Office of Classification develops and interprets Government-wide and Department-wide policies, procedures and guidance for the identification of Restricted Data (RD), Formerly Restricted Data (FRD), and Transclassified Foreign Nuclear Information (TFNI); performs document classification and declassification reviews; trains DOE and other-government agency classification officials on nuclear classification related matters to ensure the accurate identification of information and documents that must be classified or controlled under statute or Executive order to protect the National Security for the effective operation of the Government.

Functions include:

- Ensures a continuous review of classification policy and guidance for RD and FRD, and TFNI as required by the Atomic Energy Act of 1954, as amended.
- Recommends for the approval of the Director, Office of Environment, Health, Safety and Security all actions involving the declassification of RD, FRD, and TFNI.
- Maintains liaison with and serves as the DOE contact with foreign governments on matters concerning the classification and declassification of information. Directs the development of classification and declassification standards as required for international agreements for cooperation pursuant to the Atomic Energy Act and directs the review and evaluation of foreign classification policies and procedures established under such agreements to ensure compliance.
- Director Office of Classification serves as the DOE Restricted Data Management Official under 10 CFR § 1045.45(h).
- Develops, issues, and interprets policies and procedures to implement DOE's classification program under the Atomic Energy Act, 10 CFR part 1045, E.O. 13526, and 32 CFR part 2001.

- Implements the DOE classification program.
- Downgrades or upgrades the classification level of RD or FRD information with the concurrence of the Program Office with cognizance over the information.
- Coordinates the classification, transclassification, or declassification of any information with the Program Office with cognizance over the information.
- Director, Office of Classification originally classifies as National Security Information (NSI) any information under DOE's cognizance, declassifies any NSI under DOE's cognizance, and downgrades or upgrades the classification level of any NSI under DOE's cognizance, with the concurrence of the Program Office with cognizance over the information.
- Evaluates Headquarters and field element classification and Unclassified Controlled Nuclear Information (UCNI) programs to ensure compliance with national and DOE policy.
- Director, Office of Classification approves and cancels all classification guidance, with the concurrence of the NNSA Classification Officer for information under NNSA's cognizance.
- Conducts fundamental classification guidance reviews in accordance with section 1.9 of E.O. 13526 and 32 CFR § 2001.91(c).
- Performs the duties of the Classification Officer for DOE (not including NNSA) Headquarters elements.
- Director, Office of Classification makes the initial determination pertaining to the challenge of a classification determination concerning RD, FRD, TFNI or NSI.
- Director, Office of Classification serves as the Denying Official for any classified information contained in a document requested under statute or Executive order.
- Classifies an unmarked document found to contain classified information after the public requests the document under statute or Executive order and coordinates the classification with the Senior Agency Official for NSI determinations.
- Manages and conducts the training of Program Classification Officers, Classification Officers, Headquarters Classification Representatives, Alternate Headquarters Classification Headquarters Representatives, Original Classifiers, Derivative Declassifiers, and Headquarters Derivative Classifiers.
- Appoints DOE (not including NNSA) Federal and contractor Classification Officers as Derivative Classifiers.
- Appoints DOE (not including NNSA) Program Classification Officers, Classification Officers, Headquarters Classification Representatives, Alternate Headquarters Representatives, Derivative Declassifiers, and Headquarters Derivative Classifiers and terminates any appointments or authorities granted to these classification officials, as appropriate.
- Ensures that patent applications and reports of inventions or discoveries covered by section 151 of the Atomic Energy Act are reviewed to determine whether to impose a secrecy order under the Invention Secrecy Act of 1951 or whether to control as RD.
- Coordinates the search for and processing of documents requested under the mandatory declassification review provisions of 10 CFR part 1045 or section 3.5 of E.O. 13526.
- Conducts all coordination required to declassify a document or material that contains foreign government information.

- Conducts any interagency coordination required to declassify a document or material containing information under the cognizance of another Agency when the document or material relates to litigation or is requested under statute or Executive order.
- Establishes a system for processing, tracking, and recording formal classification challenges and declassification proposals made by authorized holders of classified information.
- Coordinates with the cognizant Classification Officer, Program Classification Officer, or Headquarters Classification Representative, as appropriate, and responds to formal challenges and declassification proposals received.
- Consolidates classification program data and reports such data to the ISOO annually as required by 32 CFR § 2001.90.
- Grants equivalencies and exemptions to the requirements in DOE Order 475.2B for DOE (not including NNSA).
- Administers the program to identify and protect UCNI, in coordination with the Associate Administrator for Defense Nuclear Security for information under NNSA's cognizance.
- Determines whether specific Government information is UCNI under 10 CFR 1017.6, in coordination with the Associate Administrator for Defense Nuclear Security for information under NNSA's cognizance.
- Approves and cancels UCNI guidance, in coordination with the Associate Administrator for Defense Nuclear Security for information under NNSA's cognizance.
- Appoints the following as Reviewing Officials: employees in DOE Headquarters elements and their contractors; DOE field element Classification Officers; and any employees in a DOE or contractor organization with no Classification Officer.

5.7.6.9.1 Office of Resource Management

The Office of Resource Management supports the infrastructure of the Office of Environment, Health, Safety and Security (EHSS) by providing balanced, unbiased, technically competent, and customer focused services in the areas of: (1) Financial Management, including budget formulation and execution; (2) Procurement Management, including contract and credit card programs; (3) Information Management, including technology-based solutions and programs; (4) Human Resources, including recruitment and retention programs; (5) Administrative Services, including property management, travel, and work space management; and; (6) Strategic and Program Planning including performance and efficiency measures.

Functions include:

- Performs required duties and acts as liaison between EHSS and other DOE and U.S. Government organizations as the EHSS official point of contact for various financial, procurement, information technology, human resources, and administrative programs.
- Provides direction and oversight for the efficient and effective management of all resource management activities, i.e., financial, budget, procurement, information technology, quality assurance, human resources, and administration.
- Ensures EHSS resource management related operations conform to Government-wide and Departmental requirements and goals.

- Provides a focal point for management and coordination of the EHSS budget formulation and execution processes by providing a comprehensive, performance-based budget consistent with government and Departmental planning processes and requirements; coordinating with EHSS Office Directors regarding budget issues; assisting the Deputy Director for Business Operations and the Director, Office of Environment, Health, Safety and Security to defend EHSS budget requests; and signing approved funding plans (AFP).
- Provides a focal point for management and coordination of the EHSS procurement activities by reviewing for approval all expenditures, work authorizations, and award fee determinations; and performing Contracting Officer Representative (COR) duties for selected contracts.
- Provides a focal point for management and coordination of the EHSS information technology activities.
- Provides a focal point for management and coordination of EHSS human resource programs including development of organization and staffing plans, manpower controls, management analyses in support of the EHSS operations, and implementation of Departmental policies for personnel-related activities such as affirmative action, executive succession, employee development, and training.
- Approves EHSS internal policies and procedures related to administrative, budget/financial, information technology, personnel, procurement, environment, health, safety, and security programs.
- Assists the Deputy Director for Business Operations and Director, Office of Environment, Health, Safety and Security and EHSS senior management with strategic planning, operational prioritization, and performance and efficiency measure activities; and assists and advises EHSS management regarding the integration and synchronization EHSS strategies with Government-wide and Departmental programs and associated systems.
- Integrates, synchronizes, and concentrates human resource management activities in support of EHSS, Departmental leadership, and other customers.
- Assists EHSS managers in recruiting and hiring qualified, talented, and capable candidates. Advises and informs EHSS managers on hiring requirements, capabilities, and limitations. Assists managers, candidates, and new employees through the employment process.
- Manages special hiring programs such as veterans, interns, disadvantaged and minorities.
- Administers the Senior Executive Service and DOE Headquarters employee performance management processes for EHSS. Ensures performance plans are aligned to an organizational goal and clearly focus on an intended result/outcome with credible measure for expected result. Ensures scheduled reviews, appraisals, awards, and other related actions are performed in a timely manner.
- Counsels, advises, and represents EHSS managers in labor-management issues such as employer-employee relationships, grievances, performance issues, misconduct, attendance problems, appeals, and adverse actions.
- Analyzes and evaluates workforce plans, employment trends; develops staffing targets and track staffing management throughout EHSS to identify needs and to ensure appropriate skills mix; reviews and coordinates earlyout and buyout plans.
- Develops internal management programs and assists EHSS compliance with human

resource statutes, regulations, and policies. Applies and enforces necessary administrative controls such as staffing ceilings, FTE allocations, and supervisory ratios.

- Manages organizational change, provides advice and assistance on major restructuring proposals, reviews proposed organizational change, advises EHSS senior managers of the potential impact on operational efficiency, resource utilization, and relationships to other major organizational components; and maintains EHSS organizational charts and mission and function statements.
- Manages and establishes EHSS human resource and administration policies and procedures.
- Maintains the EHSS Human Capital Strategic Plan and coordinates with the DOE Office of Human Capital to ensure effective implementation of the Department's Human Capital Strategic Plan.
- Serves as the EHSS liaison and focal point for Inherently Governmental and Commercial Activities Inventory.

5.7.6.9.2 Office of Headquarters Security Vetting

The Office of Headquarters Security Vetting oversees and manages both the Credentialing and Personnel Security elements responsible for, through national security mandates, as well as Federal and Departmental polices, the implementation of the Homeland Security Presidential Directive 12 (HSPD-12), and the access authorization (security clearance) functions for DOE Headquarters.

Functions include:

- Oversees the Office of Headquarters Credentialing Operations that manages the Personal Identity Verification (PIV) process for Headquarters, as required by Homeland Security Presidential Directive-12 (HSPD-12).
- Oversees the Office of Headquarters Personnel Security Operations that manages and implements access authorization (security clearance) functions for DOE Headquarters. This includes:
  - Processing reciprocal security clearances for Other Government Agency (OGA) employees who require access to Restricted Data, including members of Congress and their staff.
  - Being the chief organization responsible for managing the Classified Visit program at Headquarters facilities; and,
  - Managing the administrative review process under Title 10, Code of Federal Regulations, Part 710, for Headquarters personnel. Oversees the management and ensures the implementation of Trusted Workforce 2.0 requirements at Headquarters, as it relates to both the cleared and uncleared populations.

5.7.6.9.3 EHSS Databases and Dashboards

The Department synthesizes operational information to support continuous environment, health, safety, and security improvements. DOE's corporate safety reporting and analysis programs and activities are established to manage several viable safety indicators applicable to most DOE contractor operations that provide Departmental leadership, line management, and stakeholders

with timely information to gauge the success of Departmental safety program implementation. DOE operational and occurrence data are collected through various reporting mechanisms and provided through internet-based tools, one of which is databases:

- Comprehensive Epidemiologic Data Resource (CEDR) System: CEDR is a DOE public-use repository of data from occupational and environmental health studies of workers at DOE facilities and nearby community residents.
- Computerized Accident/Incident Reporting System (CAIRS): This system collects and analyzes DOE and DOE-contractor reports of injuries, illnesses, and other accidents that occur during DOE operations.
- DOE OPEXShare Lessons Learned database: The DOE OPEXShare is the central, web-based collection point for corporate operating experience lessons learned and best practices from across the DOE complex. DOE OPEXShare is a collaborative platform that is available to government and private users. By sharing lessons learned and best practices from work operations and project management, DOE OPEXShare subscribers could prevent adverse events and improve processes and performance. DOE OPEXShare replaces the DOE Corporate Lessons Learned database.
- Fire Protection: Data collection and a commitment has been made to the Defense Nuclear Facilities Safety Board to collect information and make it available utilizing a standard systematic approach. This approach is accomplished via a web-based system which will allow reporting organizations to enter or edit information. Use of the web interface requires registration. DOE O-231.1B, Environment, Safety, And Health Reporting, requires the submission of an Annual Fire Protection Summary.
- Occurrence Reporting and Processing System (ORPS): This system provides timely notification to the DOE complex of events that could adversely affect public or DOE worker health and safety, the environment, national security, DOE's safeguards and security interests, functioning of DOE facilities, or the Department's reputation.
- Radiation Exposure Monitoring System (REMS): The REMS database tracks occupational radiation exposures for all monitored DOE employees, contractors, subcontractors, and members of the public. A password is not needed to access this database.
- Radiological Source Registry and Tracking (RSRT): The RSRT is a DOE database that is maintained by the Office of Environment, Health, Safety and Security (EHSS), Office of Information Management (EHSS-72). The annual 10 CFR 835 Appendix E inventory data, and the transaction and verification information for Category 1 and 2 radioactive sealed sources will be reported to the RSRT Manager. Additional guidance for reporting transactions for Category 1 and 2 sources to the DOE RSRT is provided in the December 16, 2010 Chief Health, Safety and Security Officer memorandum, Reporting for Radiological Sealed Sources Transactions. The RSTS Manager is responsible for reporting the transaction to the NRC NSTS.

- Safety Basis Information System (SBIS): The SBIS database contains safety information from DOE nuclear facilities. The SBIS website provides access to the following items: 1) the Public Access Safety Basis Report; 2) the SBIS database (restricted password protected access for DOE and DOE contractors only); and 3) the SBIS account request page.
- Suspect/Counterfeit and Defective Items: The Department of Energy is committed to ensuring that items and components installed in safety-related or mission-critical applications meet their intended function and operability requirements. Therefore, EHSS has established a process for identifying Suspect/Counterfeit (S/CI) or Defective Items (DI) that are deemed safety-significant and broadly applicable to DOE facilities and for ensuring that action is taken.

In addition to databases, another internet-based tool implemented by DOE to capture operational and occurrence data is the use of dashboards:

- Public Final Occurrence Reports: Searchable information on DOE's Final Occurrence Reports since 2005, available to the public and updated daily.
- Computerized Accident Incident Reporting System (CAIRS) – Injury and Illness Dashboard: The Injury and Illness Dashboard is a tool that allows users to easily explore DOE occupational safety and health injury and illness information. Its features include: Graphical and tabular depictions of injury and illness information Calendar year and fiscal year incidence rates for DOE and DOE contractor total recordable cases (TRC) of injuries and illnesses and cases involving days away from work or on job transfer or restriction (DART) due to injury or illness Incidence rates of injuries and illnesses by DOE program organization and site Information on injury characteristics (e.g., nature of work being performed and injury sustained) by program organization and site a selection of metrics, including TRC and DART cases and rates.
- Nuclear Safety Information (NSI) Dashboard: The Nuclear Safety Information (NSI) Dashboard is a tool that enables users to easily identify, organize and analyze nuclear safety-related events reported into the DOE Occurrence Reporting and Processing System (ORPS). ORPS reporting criteria are assigned a weighted value to indicate their relative importance to nuclear safety; associated ORPS reporting criteria are combined in key groups and charted over time to index trends in nuclear safety.

  The NSI features include:

  - Graphical and tabular depictions of occurrence reporting information by major groups of ORPS reporting criteria for all of DOE or by program organization, site, or contractor.
  - List of ORPS reports within user-defined parameters.
  - Direct links to individual final ORPS reports.

- List of Integrated Safety Management codes, cause codes and keywords assigned to individual ORPS reports and related charts for the set of ORPS reports within user-defined parameters.
- Table that shows selected ORPS reporting criteria, weighted factors, and number of occurrences within user-defined parameters.

- Corporate Safety Performance (CSP) Dashboard: The Corporate Safety Performance (CSP) Dashboard establishes a set of strategic ES&H metrics of high importance and fundamental interest for use by DOE management. The metrics are data that is already collected and available to the DOE community. The 10-15 ES&H metrics in the CSP are based on user experience and DOE customer input. The benefits of the CSP are:
  - The CSP supports DOE Managers' ability to maintain ES&H operational awareness.
  - The metrics are reproducible and transparent and come from existing databases.
  - The metrics assist and support management's ability to focus resources and decisions on key issues of high importance and interest.
  - The CSP often acts as a bridge between the two sets of ORPS data for 232.2 and 232.2A.

5.7.7 Office of Federal Energy Management Programs (FEMP)

Mandated by law, the Federal Energy Management Program (FEMP) focuses on key services that help agencies meet energy- and water-reduction requirements and goals:

- Issue Legislative and Executive Guidance
- Facilitate Technology Integration
- Leverage Funding Sources
- Provide Technical Assistance
- Track Agency Accountability
- Develop Accredited Training

Focus areas include:

- Strategic Programming and Integration Planning

- Facility and Fleet Optimization**, including:**

  - Auditing
  - Commissioning
  - Data Centers
  - Energy-Efficient Products
  - Energy Management Information Systems
  - Federal Fleet Management
  - Healthy Buildings
  - Laboratories
  - Metering

- Operations and Maintenance
- Re-tuning
- Sustainable Federal Buildings
- Water Efficiency

- Energy and Water Resilience and Security

- Energy and Project Procurement Development Services**, including:**

  - Energy Savings Performance Contracts (ESPC)
  - ESPC ENABLE
  - ESPC Energy Sales Agreements
  - Utility Program and Utility Energy Service Contracts
  - Distributed Energy and Energy Procurement

- Federal Leadership and Engagement**, including:**

  - Agency Reporting and Data
  - Federal Energy and Water Management Awards
  - Interagency Working Groups
  - Training
  - U.S. Department of Energy Scholars Program

FEMP provides information and tools to help agencies report annual energy and water consumption and resource management efforts for federal facilities. FEMP also collects and publishes agency performance data:

- **Federal Comprehensive Annual Energy Reporting Requirements**: Comprehensive fiscal year reporting to meet the energy management requirements of the National Energy Conservation Policy Act, as amended (42 U.S.C. 8253-8258); the Energy Policy Act of 2005 (42 U.S.C. 15852); and associated executive orders.
- **EISA Federal Covered Facility Management and Benchmarking Requirements**: Reporting to meet the requirements of section 432 of the Energy Independence and Security Act of 2007 (EISA 432) and access to the FEMP EISA 432 Compliance Tracking System for reporting on facility evaluations, implementing and reporting efficiency measures, and benchmarking facilities per EISA 432 (42 U.S.C. 8253(f)).
  - For more information, visit the *FEMP EISA 432 Compliance Tracking System* at: https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Default.aspx?ReturnUrl=%2fCTSDataAnalysis%2fComplianceOverview.aspx

Federal performance data are available in two FEMP data sets.

- **Federal Comprehensive Annual Energy Performance Data**: Government performance toward efficiency goals, data sets for the most recently reported fiscal year, greenhouse gas emissions inventories, and historical energy data back to fiscal year 1975.

- **EISA Federal Covered Facility Management and Benchmarking Data**: Reports and data that illustrate federal progress in meeting the requirements of EISA 432 (42 U.S.C. 8253(f)).
    - For more information, visit the *FEMP EISA 432 Compliance Tracking System* at: https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Default.aspx?ReturnUrl=%2fCTSDataAnalysis%2fComplianceOverview.aspx

5.7.8 Office of Intelligence and Counterintelligence (IN)

The U.S. Department of Energy's Office of Intelligence and Counterintelligence (IN) is responsible for all intelligence and counterintelligence activities throughout the DOE complex, including nearly thirty intelligence and counterintelligence offices nationwide.

IN protects vital national security information and technologies, representing intellectual property of incalculable value. IN's contribution to national security is the ability to leverage the Department's unmatched scientific and technological expertise in support of policymakers as well as national security missions in defense, homeland security, cyber security, intelligence, and energy security.

IN is a member of the U.S. Intelligence Community.

5.7.9 Office of Management (MA)

The Office of Management (MA) is the Department of Energy's central management organization providing leadership in such mission critical areas as project and acquisition management. In addition, MA manages the Department's Headquarters complex and provides administrative support, emergency preparedness guidance and procedures, and property management support to employees in the Washington, DC area. This includes:

Table 15: MA Functions and Activities

Function	Activities
Aviation Management	The Mission of Aviation Management is to provide the Department of Energy, including the National Nuclear Security Administration (NNSA), with aviation policies, guidance, and program management oversight that ensure the delivery of effective, efficient, and safe aviation services required to support accomplishment of all the DOE mission. In accordance with the methods as described in OMB Circular A-76, Performance of Commercial Activities, agencies must also establish the cost effectiveness of all their aircraft operations every five years. (41 CFR 102-33.200). The Comprehensive Aviation Program Study IV (CAPS IV)

Function	Activities
	was DOE's fourth report that fulfills the requirements. The next CAPS report will commence in FY2023. • CAPS I, published in 1999, determined the extent of aviation activities needed to support DOE missions and validated the appropriateness of the type of aviation operations used to support those missions. • CAPS II, published in 2001, determined whether the aviation assets used at each field element were the appropriate compliment of aircraft and if those assets were the most cost-effective aircraft to meet the field element's mission requirements. • CAPS III was different from its predecessors as it was a comprehensive data analysis of the costs, missions, and flight hours from the data DOE/NNSA aviation programs submitted into the Federal Aviation Interactive Reporting System (FAIRS). The data analysis covered FY2000 through FY2012. CAPS III also included the results of the implementation of the recommendations from CAPS II. • CAPS IV, like CAPS III, is a comprehensive data analysis of the costs, missions, and flight hours from the data in FAIRS for fiscal years 2013-2017.
Executive Secretariat	The Executive Secretariat is organized into the following main areas: 1. **Document Management.** The Executive Secretariat receives, controls, and tracks correspondence and other written and electronic documents, including classified material. These documents are either addressed to the Secretary, Deputy Secretary, Under Secretaries, or members of the Office of the Secretary staff, or they are sent to the Department from the White House, the Congress, and Tribal leaders. In addition, The Executive Secretariat sets standards for document preparation through its Correspondence Guide. Information and guidance on the standards for document preparation, document handling and concurrence (or Collaborative Action Process [CAP]), are available to Departmental personnel under the Executive Secretariat on the Department's Powerpedia. Using the draft DOE directives online review, comment, and approval system (RevCom), the Executive Secretariat manages and supports the collaborative development, review, approval, and dissemination of new and revised Departmental Directives. 2. **Executive Commitments and Information Management.** The Executive Secretariat is the focal point for the dissemination of information, particularly electronic information, throughout the

Function	Activities
	Department. It provides information including executive messages, correspondence and executive commitments reports, and information about important events or development opportunities for Department and contractor staff. 3. **Advisory Committee Management**. The Executive Secretariat provides management support on the creation, direction, and termination of advisory committees, in accordance with the Federal Advisory Committee Act and implementing regulations. This function includes identifying issues that require attention of Department officials and Office of the Secretary staff. The Deputy Director of the Office of the Executive Secretariat serves as the Advisory Committee Management Officer for the Department. 4. **Executive Records Management.** The Executive Secretariat serves as the central Department records repository for all official documents and departmental actions and decisions, including classified material, for the Secretary, Deputy Secretary, and Under Secretaries. 5. **Conference Approval Management.** The Executive Secretariat coordinates the DOE Conference Approval process for conferences exceeding $100k in DOE costs which require Under Secretarial or Deputy Secretary approval. 6. **Official History and Archives.** The Executive Secretariat prepares the official history of the Department and guides departmental staff on the collection and preservation of historical records of the Department and its predecessor agencies and serves as the Department's institutional memory. The Chief Historian serves as the Department's Federal Preservation Officer. 7. **Ad Hoc Support to the Office of the Secretary.** The Executive Secretariat regularly responds to special requests from the Office of the Secretary. Requests include preparation of briefing papers and talking points and coordinating particular Department-wide activities. The Secretariat coordinates information security as well as information technology for the Office of the Secretary.
Sustainability Performance	As a part of the Office of Asset Management, the Sustainability Performance Division (SPD), formerly known as the Sustainability Performance Office (SPO), provides support to the Department of Energy by guiding programs to achieve and maintain sustainability goals in accordance with statutory and executive order requirements. This is accomplished through data collection, analysis, reporting, outreach, and frequent communications with programs to share knowledge and best practices, furthering our mission across the Department. SPD tracks performance for the Department, and reports progress towards sustainability goals to the Office of Management and Budget (OMB),

Function	Activities

	White House Council for Environmental Quality (CEQ), and Congress through the following plans, reports, dashboards, and scorecards:
	
	• FY 2022 Sustainability Plan[81], available at: https://www.energy.gov/management/spd/us-department-energy-sustainability-reporting
	  ○ Historic Sustainability Plans
	• Sustainability Dashboard
	• Office of the Federal Chief Sustainability Officer | Federal Agency Progress Data and Scorecards
	• DOE Vulnerability Assessment and Resilience Planning (VARP) Guidance 2022[82]
	• Climate Adaptation & Resilience Plan (CARP) and Climate Adaptation Policy Statement[83]
	  ○ 2022 CARP Progress report
	• Department of Energy FY 2021 OMB Scorecard (sustainability.gov)[84]
	  ○ DOE's Historic OMB Scorecards | Department of Energy

Energy Reduction at HQ	Office of Administration Environmental Management System (EMS) sets policy managing Department of Energy HQ facilities. This includes: • Minimizing and preventing pollution from entering the environment. • Achieving and maintaining compliance with all applicable environmental laws, regulations, and administrative policies.

[81] The fiscal year (FY) 2022 plan marks the thirteenth issuance of the annual plan. The latest plan highlights DOE's performance against key sustainability goals, including reductions to emissions, energy and water intensity, and fleet petroleum. While this progress is notable, the plan serves to ensure DOE maintains these gains while making strides to improve sustainability performance in all goal areas.

[82] DOE sites and offices conduct climate vulnerability assessments and develop resilience plans no later than one year from issuance of the CARP and update these documents at least every four years.

[83] In 2021, Executive Order 14008 asked each agency to prepare a climate action plan to respond to the climate crisis. DOE issued the Climate Adaptation & Resilience Plan (CARP) and Climate Adaptation Policy Statement to affirm its commitment to lead by example in federal efforts and manage the short and long-term effects of climate change on its mission, policies, programs, and operations. This forward-looking plan identifies and prioritizes the Department's adaptation and resilience efforts to ensure DOE continues to meet its mission despite climate change impacts. The actions described in this plan apply to all DOE programs and facilities and will be updated as needed.

[84] OMB publishes annual federal scorecards that demonstrate agency sustainability performance. DOE's FY 2021 scorecard serves as a benchmark to see where the Department has been successful in achieving its sustainability goals, reducing emissions, minimizing operating costs, and identifying opportunities for improvement.

Function	Activities
	• Continually improving the EMS by conducting annual system reviews and implementing modifications based on those reviews. The Headquarters Office of Administration, Office of Logistics and Facility Operations, has several energy saving initiatives in place or in progress at their Headquarters' facilities in the Forrestal Building in Washington, DC, and Germantown Maryland. Many of these initiatives are part of their Energy Savings Performance Contract (ESPC)[85]. ESPCs allow Federal agencies to accomplish energy savings projects without up-front capital costs and without special Congressional appropriations. DOE ESPCs help Federal agencies meet energy efficiency, renewable energy, water conservation, and emissions reduction goals by streamlining contract funding for energy management projects. Note: Emission reduction estimates are measured in MTCO2e, Metric Tonnes (tons) of Carbon Dioxide Equivalent. This is the standard measurement of the amount of CO2 emissions that are reduced or secluded from our environment, the Federal government's standard for measuring greenhouse gas emissions. Current energy reduction initiatives at DOE HQ include: • HQ LED Lighting Retrofit • Germantown 370 KW Solar Array • Forrestal Variable Air Volume HVAC Upgrade • Forrestal Central Chiller Plant Upgrade • Forrestal Canopy LED Lighting Upgrade • Forrestal Corridor Light Switching • Forrestal Solar Array • Steam Trap Replacement • Forrestal and Germantown Cool Roofs
Real Estate	Real Estate is part of the Office of Asset Management within the Office of Management (MA). Under the guidance of the Senior Real Property

[85] For more information on ESPCs visit the Federal Energy Management Program's (FEMP) web page.

Function	Activities
	Officer, the Office of Asset Management is responsible for the Department of Energy's real estate functions. Real estate functions encompass several key activities over the life cycle of real property assets including the planning, acquisition, management, and disposition, and providing technical support to all the Programs of the Department, all of which are reflected in: • DOE Asset Management Plan | Department of Energy • Excess Property Available for Economic Redevelopment | Department of Energy Per 41 CFR Part 102-84, Annual Real Property Inventories, and DOE Order 430.1C Real Property Asset Management, the Department annual submits data – from DOE's Facilities Information Management System (FIMS) and Condition Assessment Information System (CAIS) – to comprise the Federal Real Property Profile.
Facilities and Infrastructure	The Facilities and Infrastructure (F&I) Team is part of the Office of Asset Management within the Office of Management (MA). Under the direction of the Senior Real Property Officer, and with the support from real property holding program offices, this team develops and maintains policies and procedures for real property asset management and provides corporate implementation oversight.
Federal Advisory Committee Management	The Federal Advisory Committee Management Program assures the Department of Energy's overall compliance with the Federal Advisory Committee Act (FACA). The program is located in the Office of the Executive Secretariat. **Active Committees** • Advanced Scientific Computing Advisory Committee (ASCAC) • Appliance Standard and Rulemaking Federal Advisory Committee (ASRAC) • Basic Energy Sciences Advisory Committee (BESAC) • Biological and Environmental Research Advisory Committee (BERAC) • Biomass Research and Development Technical Advisory Committee • Defense Programs Federal Advisory Committee (DPAC) • DOE/NSF Nuclear Science Advisory Committee (NSAC) • Electricity Advisory Committee (EAC)

Function	Activities
	• Environmental Management Advisory Board (EMAB) • Environmental Management Site-Specific Advisory Boards (EM SSAB) • Fusion Energy Sciences Advisory Committee (FESAC) • High Energy Physics Advisory Panel (HEPAP) • Hydrogen and Fuel Cell Technical Advisory Committee (HTAC) • Methane Hydrate Advisory Committee (MHAC) • National Coal Council (NCC) • National Petroleum Council (NPC) • Nuclear Energy Advisory Committee (NEAC) • President's Council of Advisors on Science and Technology (PCAST) • Secretary of Energy Advisory Board (SEAB) • State Energy Advisory Board (STEAB) **Inactive Committees** • Technical Advisory Committee on Verification of Fissile Materials and Nuclear Warheads • Technical Panel on Magnetic Fusion • Hydrogen Technical Panel
Freedom of Information Act (FOIA)	Annual FOIA reports can be found here: https://www.energy.gov/management/foia-annual-reports
Personal Property	Personal Property Policy is part of the Office of Asset Management within the Office of Management (MA), and includes: • Advising and providing staff assistance to headquarters and field organizations that perform personal property management functions • Establishing performance-based personal property management objectives, measures, expectations • Evaluating federal and contractor personal property management systems, functions, operations, procedures, and self-assessment programs • Collecting and consolidating critical data (excess personal property, precious metals recovery, exchange/sales actions, property furnished to non-Federal recipients, and supply activities) to assist leadership decision making

Function	Activities

	• Preparing agency reports providing an analysis of data for trends, anomalies to detect and correct problems which may have enterprise-wide impact
	• Serving as:
	  ○ Career manager for establishing and administering the personal property management career development program
	  ○ DOE National Utilization Officer responsible for promoting acquisition and utilization of excess personal property

Acquisition and Financial Assistance	The Office of Acquisition Management (OAM) is responsible for all contracting, financial assistance, and related activities to fulfill the Department's multitude of missions through its business relationships. Key policy and guidance include: • Balanced Scorecard performance measures, targets, and program description • Benefit Value Study Desk Manual • Cost Study Manual • PERT Review for Contractors' Purchasing Systems
Certifications and Professional Development	Acquisition ANSWERS - Dept of Energy - MAX Federal Community, which provides additional information on: **PROFESSIONAL DEVELOPMENT** • Acquisition Career Management Program (ACMP) **FIELD ASSISTANCE AND OVERSIGHT** • Procurement Management Review • Collaboration area **STRATEGIC PROGRAMS** • Category Management • FAIR Act • Purchase Card • PERT • Service Contract Inventory **REPORTING** • Generating reports to assist in management and performance tracking

Function	Activities
	SINGLE AUDIT • Single Audit and For-Profit Audit of Grants and Other Financial Assistance Awards **COMMUNITIES OF PRACTICE COLLABORATION AREAS** • Strategic Partnership Projects Community of Practice • Catalog of Federal Domestic Assistance Community of Practice • Procurement Systems Working Group • Federal PRISM User Group • DOE Acquisition Council • M&O Subcontract Reporting Capability **KNOWLEDGE SHARING** • Data Quality - Lessons Learned/Best Practices

5.7.10 Office of Hearings and Appeals (OHA)

The Office of Hearings and Appeals (OHA) is a legal office separate from the Office of the General Counsel. It is composed of more than 15 dedicated attorneys and staff members who specialize in investigating, evaluating, and resolving legal disputes. Legal issues that come before the Department of Energy (DOE) often involve discrete disputes between individuals and the agency or its contractors. DOE recognizes that such matters can sometimes be resolved most fairly and efficiently in a quasi-judicial forum. OHA holds personnel security hearings and handles FOIA appeals, whistleblower hearings and appeals, product efficiency appeals and other legal matters. Due to OHA's independent nature and the skill set of its staff, OHA also serves as the home of the DOE's Alternative Dispute Resolution (ADR) Office.

Over the years, OHA has heard appeals from a variety of DOE determinations, including those related to the Department's Alternative Fuel Transportation Program, physician panel reviews of DOE worker occupational illness claims, payment-equal-to-taxes claims under the Nuclear Waste Policy Act of 1982, civil penalties imposed for violations of DOE's worker safety and health rule, and the equity interests in production from Elk Hills Oil Field, formerly Naval Petroleum Reserve No. 1. Over the years, OHA has heard appeals from a variety of DOE determinations, including those related to:

- FOIA decisions
- Security Hearing decisions
- Whistleblower decisions

- EIA decisions
- Oil Refund decisions
- Product Efficiency decisions

The procedures that OHA uses vary, depending on the type of case involved. OHA procedures are flexible and easily adaptable to new situations, allowing OHA to minimize "start-up" times and to produce high-quality work in new areas.

5.7.11 Office of the Inspector General (OIG)

The Office of the Inspector General (OIG) strengthens the integrity, economy and efficiency of the Department's programs and operations by deterring and detecting fraud, waste, abuse, and mismanagement. OIG audit and inspection reports can be found here: https://www.energy.gov/ig/calendar-year-reports.

Reports are also categorized by mission/support area:

- Environment Cleanup
- Financial Assistance
- Human Resources
- Management & Administration
- National Security & Safety
- Science & Innovation

OIG conducts an annual review of its programs, publishing the review in annual performance plans[86]. Metrics are derived from the goals as written in the *U.S. Department of Energy Office of Inspector General Strategic Plan 2022 – 2026*. Previous DOE OIG Strategic Plans can be found here: https://www.energy.gov/ig/strategic-plans. OIG's planned audits and inspections are guided by their Strategic Plan but also its annual Work Plan. OIG also publishes semiannual reports to Congress, highlighting key accomplishments of the OIG, particularly pertaining to our efforts to work with agency management to ensure the economy, efficiency, and effectiveness of DOE operations: https://www.energy.gov/ig/listings/semiannual-reports-congress. Other OIG audits, inspections, and other reports include:

- Consolidated Financial Statements
- Follow Up

[86] Latest OIG FY Annual Performance Results: https://www.energy.gov/ig/articles/fiscal-year-fy-2023-annual-performance-results

6 Evaluation, Statistics, Research, and Analysis Sources

Overall

- SECTION 260—Performance and Strategic Reviews, OMB Circular No. A-11 (2020) Page 7 of Section 260: https://www.whitehouse.gov/wp-content/uploads/2018/06/s260.pdf
- SECTION 270—Program and Project Management, OMB Circular No. A-11 (2020) Page 2 of Section 270: https://www.whitehouse.gov/wp-content/uploads/2018/06/s270.pdf
- DOE G 120.1-5, Guidelines for Performance Measurement: https://www.directives.doe.gov/directives-documents/100-series/0120.1-eguide-5
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- Deputy General Counsel for Administration: https://www.energy.gov/gc/administration
- Assistant General Counsel for Ethics and Personnel Law: https://www.energy.gov/gc/office-assistant-general-counsel-ethics-and-personnel-law
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- Office of Environment, Health, Safety, and Security (EHSS): https://www.energy.gov/ehss/environment-health-safety-security
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- Office of Environmental Protection and ES&H Reporting: https://www.energy.gov/ehss/office-environmental-protection-and-esh-reporting
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- Office of Headquarters Security Operations: https://www.energy.gov/ehss/office-headquarters-security-operations-0
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- Post-Closure Benefits: https://www.energy.gov/lm/services/post-closure-benefits
- STEM with LM: https://www.energy.gov/lm/stem-lm
- Title X: https://www.energy.gov/lm/title-x
- Uranium Leasing Program: https://www.energy.gov/lm/uranium-leasing-program
- LM 2020-25 Strategic Plan: https://www.energy.gov/lm/articles/2020-2025-strategic-plan
    - LM Strategic Plans: https://www.energy.gov/lm/strategic-plans
- FY 2021-2025 High Performing Organization Plan: https://www.energy.gov/lm/articles/fy-2021-fy-2025-high-performing-organization-plan
- LM Quarterly Program Updates: https://www.energy.gov/lm/listings/program-updates
    - Office of Legacy Management, LM Program Update, April-June, 2023: https://www.energy.gov/lm/articles/program-update-2nd-quarter-2023
- 2019 Environmental Justice Second Five-Year Implementation Plan: https://www.energy.gov/sites/default/files/2019/05/f62/2019FiveYearImplementationPlan_ONLINE.pdf

Office of Hearing and Appeals (OHA)

- Office of Hearings and Appeals (OHA): https://www.energy.gov/oha/office-hearings-and-appeals
- Personnel security hearings: https://www.energy.gov/oha/personnel-security-hearings
- FOIA appeals: https://www.energy.gov/oha/foia-privacy-act-appeal-information
- Whistleblower hearings: https://www.energy.gov/oha/whistleblower-hearings-and-appeals product efficiency appeals
- Alternative Dispute Resolution (ADR) Office: https://www.energy.gov/oha/alternative-dispute-resolution-office
- DOE Determinations: https://www.energy.gov/oha/listings/decision-summaries
    - FOIA decisions: https://www.energy.gov/oha/listings/foia-cases
    - Security Hearing decisions: https://www.energy.gov/oha/listings/security-cases
    - Whistleblower decisions: https://www.energy.gov/oha/listings/whistleblower-cases
    - EIA decisions: https://www.energy.gov/oha/listings/eia-cases
    - Oil Refund decisions: https://www.energy.gov/oha/listings/oil-refund-decisions
    - Product Efficiency decisions: https://www.energy.gov/oha/listings/product-efficiency-cases

Office of Intelligence and Counterintelligence (IN)

- Office of Intelligence and Counterintelligence (IN): https://www.energy.gov/intelligence/office-intelligence-and-counterintelligence
- U.S. Intelligence Community: https://www.intelligencecareers.gov/
- Office of the Director of National Intelligence: http://www.dni.gov/index.php
- National Counterproliferation Center: http://www.dni.gov/index.php/about/organization/national-counterproliferation-center-who-we-are
- National Counterterrorism Center: http://www.nctc.gov/
- National Counterintelligence and Security Center: https://www.dni.gov/index.php/ncsc-home

Office of Indian Energy Policy and Programs (IE)

- Program Reviews: https://www.energy.gov/indianenergy/projects/program-review
    - Archived Program Reviews (prior to 2010): https://www.energy.gov/indianenergy/archived-program-review
- IE Technical Assistance Opportunities: https://www.energy.gov/indianenergy/other-technical-assistance-opportunities
- IE Completed Technical Assistance: https://www.energy.gov/indianenergy/completed-technical-assistance

Arctic Energy Office (AEO)

- Arctic Energy Office (AEO): https://www.energy.gov/arctic/arctic-energy-office
- Arctic Engagements: https://www.energy.gov/arctic/arctic-related-publications
- ArcticX: https://www.energy.gov/technologytransitions/arcticx
- Innovative Solutions: https://www.energy.gov/eere/water/articles/north-future-wpto-helps-alaskan-partners-pursue-clean-energy-future-water-power
- Existing energy projects: https://www.energy.gov/articles/arctic-innovation-abounds-department-energy-projects
- Alaskan energy issues, events, and opportunities, from FY15 to FY 23 as of May 2023: https://www.energy.gov/arctic/alaska-funding-awards
- DOE Arctic Strategy: https://www.energy.gov/sites/default/files/2022-11/DOE_Arctic_Strategy_202211_1.pdf
- National Strategy for the Arctic Region (NSAR): https://www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf
- Arctic Research Plan 2022-2026: https://www.iarpccollaborations.org/plan/index.html

- AEO's history, mission, collaborations, and efforts: energy.gov/sites/default/files/2023-03/AEO fact sheet_March 2023 revision_031523_UPDATED.pdf
- AEO's history, mission, collaborations, and efforts: energy.gov/sites/default/files/2023-03/AEO fact sheet_March 2023 revision_031523_UPDATED.pdf
- Additional Arctic-related publications: https://www.energy.gov/arctic/arctic-related-publications

7 Department of Energy FY 22-26 Learning Agenda

The mission of the Energy Department is to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.[87] By law, the Department of Energy (DOE) is responsible for formulating and implementing a coordinated national energy policy to address energy production and use; advancing the energy and nuclear security of the United States; conducting scientific research and technological innovation in support of that mission; conducting basic research in the physical sciences; and advancing national nuclear waste management, including environmental cleanup.

The Department of Energy (DOE) recognizes the importance of evidence and evaluation to understand and improve the efficiency and effectiveness of its programs and operations in pursuit of the Department's mission. To support evaluation planning, the DOE has established a Learning Agenda in alignment with the *Foundations for Evidence-Based Policymaking Act.*[88] The Learning Agenda identifies the priority evidence building questions that, when answered,

[87] https://www.energy.gov/mission
[88] www.congress.gov/bill/115th-congress/house-bill/4174

will provide the evidence needed to advance agency priorities as articulated in the Preliminary Strategic Plan.

7.1 Goal 1: Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Priority Learning Question:
In what ways, and to what extent, does EERE's research and testing infrastructure support research that contributes to commercialization of viable energy technologies?

- Who are the users of EERE's research and testing infrastructure?
- How many technologies developed with EERE's infrastructure reached commercialization?
- What is the economic impact of investing in EERE's infrastructure?

Impact: Building the evidence base will:

- Assist in planning future infrastructure based on the needs of specific types of customers.
- Identify the users most likely to successfully transition technologies to the market.
- Estimate the economic returns of investments in EERE's infrastructure.

Anticipated Activities: The Department will apply appropriate evaluation research designs and statistical methods according to specific questions and the related types of evaluations conducted.

Anticipated Challenges and Proposed Solutions:

Progress and Accomplishments: Activities to address these learning questions are in the planning stage.

7.2 Goal 2: Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability

7.2.1 EERE influence or impact on growth of small businesses

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Priority Learning Question:
What is the effect of EERE's investments on startups and small businesses?

- To what extent do younger, pre-commercial companies / startups who receive significant portions of initial revenue from EERE grow to become larger companies with commercialized products and profitable revenue streams?
- Does small businesses funded by EERE attract follow-on-investments to a greater extent to similar, equally qualified companies not funded by EERE?

Impact: Better understanding the effects of investing in small businesses and startups will improve:

- The visibility of results from funding small businesses and startups;
- Planning the amount of funding provided to each recipient;
- Defining selection criteria for funding.

Anticipated Activities:

Anticipated Challenges and Proposed Solutions:

Progress and Accomplishments: These activities are at the scoping stage.

7.3 Goal 3: Advance Science Discovery and National Laboratory Innovation

7.3.1 Portfolio-wide economic return on investment of R&D

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Priority Learning Question: What approaches and strategies are effective in directing R&D dollars to deliver economic results to the American public?

- To what extent R&D investments pay for their research cost?
- What is the impact of R&D investments on economy-wide net energy savings?
- What is the impact of R&D investments on environmental preservation?
- Is there a significant impact of R&D investments on the health of communities?
- What R&D portfolios provide the most benefits to the nation?

Impact: Building this evidence base will:

- Enable EERE to determine if its R&D investments are worth it and are paying for the research cost and returning value to the economy.

Anticipated Activities: EERE has previously assessed the ROI of its investments. Evaluations are under consideration for updating the work with more target sub-portfolios.

Anticipated Challenges and Proposed Solutions: Contracting of execution from external providers is a potential risk. It will be addressed through a streamlined contracting scheduled issued by GSA.

Progress and Accomplishments: These evaluations are the planning stage.

7.3.2 Peer reviews

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Description: Peer reviews are a fundamental tool used at many laboratories and research institutions for ensuring the integrity of portfolios. They are, perhaps, the most important evidence-generating activity because they determine the allocation of resources to individual projects. Also, these evaluations are fully integrated in EERE's management practices, and applied to the full RDDD innovation chain. In FY25, seven of EERE's Technology Offices are scheduled for review.

Enterprise Learning Agenda. These evaluations support DOE's understanding of the following ELA question:

- What is the best portfolio of projects to optimize the RDDD chain?

Learning Questions. DOE seeks the answer to the following learning questions and their sub-components in these studies:

- What projects merit initial or further funding?
- What projects should receive funding priority?
- Is project execution a major cause for failure?

Impact: Results of these evaluations will:

- Inform the selection of projects to include/maintain in EERE's portfolio.

Data & Evaluation Methods: the data collected, and analysis method is defined based on particular characteristics of each project. Usually, the data includes technical success factors and estimates of outcomes if successful. The portfolio is selected to optimize the balance of risk against overall portfolio outcomes.

Evidence Use and Dissemination: results from these evaluations are distributed to EERE's decision makers to inform funding decisions.

Progress and Accomplishments: These evaluations are at the planning stage.

7.4 Goal 4: Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities

7.4.1 DOE Category Management

Lead DOE Program/Support Office: Office of Acquisition Management (OAM) and NNSA Acquisition and Project Management (NA-APM)

Enterprise Learning Agenda: These evaluations will support DOE's understanding of the following ELA question:

- What approaches are effective in increasing the efficiency Procurement Offices (POs)?

Learning Questions:

- How does the Office of Acquisition Management (OAM) coordinate with NNSA's Office of Acquisition and Project Management (NA-APM) to manage procurement systems and provide procurement policy & oversight?
- How does OAM coordinate with NA-APM to manage processes with respect to procurement transactions the POs award, administer, modify, closeout, and terminate?
- How does OAM issue policy, establish annual goals, and lead a CM Working Group (CMWG) to identify opportunities resulting from analyzing spend data?
- How does OAM work with NA-APM to collect, analyze, and disseminate large amounts of spend data?
- How do OAM and NA-APM processes ensure the ability to actively monitor, evaluate, and meet data quality standards?
- What OAM and NA-APM practices demonstrate consistent effectiveness, and thereby hold potential for adoption on an agency-wide basis for program and functional activities?
    - What aspects of these tools and methods lead to improved outcomes?
    - What aspects of these processes could be made more effective or efficient?

Impact: The potential effects of CM are:

- Eliminating redundancies, increasing efficiency, and delivering more value and savings from DOE's acquisition program
- More effectively managed contract spending through a balance of Government-wide, agency-wide, and local contracts
- Continued achievement of small business goals and other socioeconomic requirements

Description: The Office of Acquisition Management (OAM) coordinates with NNSA's Office of Acquisition and Project Management (NA-APM) to manage procurement systems and provide procurement policy & oversight for DOE Procurement Offices (POs). With respect to procurement transactions the POs award, administer, modify, closeout, and terminate actions.

The Office of Management and Budget (OMB) has mandated that agencies utilize Category Management (CM) principles when buying common goods and services. To accomplish this, OAM has issued policy, established annual goals, and leads a CM Working Group (CMWG) to identify opportunities resulting from analyzing spend data found in the Federal Procurement Data System, Strategic Integrated Procurement Enterprise System, purchase card database, Management and Operating Subcontract Reporting System, General Service Administration's Data to Decisions, and PO forecasts.

Anticipated Activities

Step 1 – Establish an annual forecast for expiring awards
Step 2 – Identify procurement strategy for awards in Step 1
Step 3 – Establish procurement office fiscal year (FY) goals for BIC and SUM

Step 4 – Collect and consolidate information for DOE and NNSA
Step 5 – Review information for complex-wide requirements and opportunities
Step 6 – Report quarterly status from HCAs to DOE and NNSA

Evidence Use and Dissemination. DOE program staff would receive recommendations on activities that lead to greater goal achievement, as well as activities that could be adapted to improve the effectiveness and efficiency of surveillance reviews. Results will be presented to DOE program managers and senior leadership, published on the DOE website, and shared in the DOE's Evidence and Evaluation Community of Practice.

- The CMWG leads DOE's CM implementation. Each HCA assigns dedicated staff to participate in the CMWG.
- The DOE Acquisition Council governs the CMWG.

Anticipated Challenges and Proposed Solutions: The coordination between the offices (OAM, NA-APM, and Pos) can be challenging for identifying improvement opportunities. Therefore, a working group was created to improve the interfaces among them.

Progress and Accomplishments: The following are Category Management accomplishments over the last 2 years:

- Achieved 107.2% ($34.8B) of Spend Under Management goal in FY23
- Achieved 119.9% ($265.8M) of Best-In-Class goal in FY23
- Continued quarterly DOE CM training; trained 315 Contracting Officers and Contract Specialist in FY23. (For more, go to: Executive Summary Dashboard | D2D (gsa.gov).)
- DOE Acquisition Guide Ch. 8.3, Category Management, revised March 2022 to incorporate revised guidance from OMB (all awards to small disadvantaged businesses receive Tier 2 SUM credit)
- Developing revision of DOE Acquisition Guide Ch. 8.3 to clarify order of preference with small business considerations and waiver processing
- Expanded DOE Preferred Solutions list to nine contracts
- Continued to review CM during each site Procurement Management Review; six in FY23
- Maintained cadence of monthly Category Management Working group meetings

7.5 Goal 5: Promote Equity and Energy Justice

7.5.1 Ensure 40% of the Benefits from DOE's Clean Energy, Energy Efficiency, and Climate Programs Flow to Underserved Communities

Lead DOE Program/Support Office: Office of Energy Justice and Equity (EJE); requires support of all departmental elements

Enterprise Learning Agenda: These evaluations will support DOE's understanding of the following ELA question:

- What aspects of program design, management, and monitoring are effective in meeting in the Justice40 goals related to program benefits?

Priority Learning Question:

- What time and resources are needed to take action towards improving program rules to better implement the Justice40 Initiative?
- How can program offices satisfactorily determine which policy priorities and metrics might apply to a funding opportunity?
- What guidance can be given to funding recipients seeking to understand what communities in their jurisdiction are classified as disadvantaged by the White House Climate and Economic Justice Screening Tool (CEJST) to ensure program and funding benefits are flowing to communities most in need? In other words, where can these metrics be attributed? Who is benefitting?
- How can program offices ensure their recipients are appropriately tracking the benefits flowing to specific communities or locations (e.g., connecting benefits accrued with particular addresses, zip codes, and/or census tracts)?

Description: The Department's mission areas touch upon equity and provide an opportunity to advance justice. From the households grappling with issues of energy burden and energy insecurity, to the universities advancing basic research with Department funds and the business and community-based organizations that partner with DOE to deliver on its mission, the Department has an extraordinary reach. During his first week in office, President Biden issued Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*. Section 223 of EO 14008 established the Justice40 Initiative, which directs 40% of the overall benefits of certain Federal investments – including investments in clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of clean water infrastructure – to flow to disadvantaged communities (DACs). DOE has a history of supporting disadvantaged communities. Efforts include the statutory Office of Minority Economic Impact (OMEI) programs supporting BIPOC communities, MBEs, and MSIs. DOE also maintains the Office of Small and Disadvantaged Business Utilization, the Office of Indian Energy Policy and Programs, and the Office of Legacy Management to serve underrepresented communities, overburdened communities, and Tribal nations.

Activities: Based on stakeholder engagement, priorities identified by White House Environmental Justice Advisory Council and additional research, the Office of Economic Impact and Diversity identified eight policy priorities to guide DOE's implementation of Justice40:

1. Decrease energy burden in disadvantaged communities (DACs).
2. Decrease environmental exposure and burdens for DACs.
3. Increase parity in clean energy technology (e.g., solar, storage) access and adoption in DACs.
4. Increase access to low-cost capital in DACs.

5. Increase clean energy enterprise creation and contracting (MBE/DBE) in DACs.
6. Increase clean energy jobs, job pipeline, and job training for individuals from DACs.
7. Increase energy resiliency in DACs.
8. Increase energy democracy in DACs.

Accordingly, actions are being taken to address each of these policy goals. Examples of activities include:

- Acquiring geospatial data for understanding of overall investment impact (e.g., census tract, census block, or community level);
- Assessment of benefits (or disbenefits) that DOE Program Offices can have in a community;

Data: Data gathered may include:

- Information concerning participation in DOE organized stakeholder meetings and events;
- Equity-related metrics in demonstration and deployment activities (e.g., programs utilize different approaches to capturing energy savings, avoided emissions, reduction in household energy burden, and investments in workforce training);
- Information concerning tracking of information from Community Benefits Plans.
- Benefits accrued in census tracts recognized by DOE's DAC reporter, but not recognized by CEJST where use of the DAC reporter was recommended.
- Reduction in deferral rates.
- Reduction in energy burden.
- Benefits delivered to disadvantaged communities.
- Weatherization workforce demographics and diversity.

Evidence Use and Dissemination:

- DOE will publicly post its results to the Environmental Justice Scorecard page, which highlights work to support Justice40 Initiative and environmental and civil rights laws.
- When an applicant is selected, their Community Benefits Plan will be part of the contractual obligation of the funding recipient. A summary of the Community Benefits Plan will be publicly posted on DOE's website for transparency and accountability.
- Progress may be reported in DOE publications, newsletters, and other internal and public-facing documents.

Anticipated challenges and proposed solutions: Community engagement is perceived as a potential challenge. The challenge is being addressed through extensive dissemination of information about assistance programs.

Progress and Accomplsihments: Early accomplishments include:

- Publicizing DOE's score on the White House Environmental Justice (EJ) Scorecard. The EJ Scorecard is the first-ever government-wide assessment to track the federal government's progress on advancing environmental justice, to provide transparency for

the public, and to increase accountability for federal agencies. The report highlights DOE's work on: 1) Justice40 Initiative, 2) Environmental and Civil Rights Protection, and 3) Institutionalizing Environmental Justice.

- Identifying 146 DOE Justice40 covered program(s).
- Releasing over 100 funding announcement(s) covered under the Justice40 Initiative
- $21,800,000,000 in funding made available from Justice40 covered programs.
- The $25 million Renewables Advancing Community Energy Resilience opportunity required local community engagement to develop inclusive methodologies, investigate energy community needs, and identify vulnerabilities in technology development, demonstration, and deployment.
- The $13 million Community Geothermal Heating and Cooling Design and Deployment opportunity funds community coalitions in developing systems that supply at least 25% of the community's heating and cooling loads. This opportunity supports disadvantaged communities subject to high heating and cooling costs.
- Opportunities to help provide electric power to Tribal government buildings that are otherwise unelectrified – integrating energy systems and energy infrastructure. DOE focused on installing clean energy systems and efficiency measures in Tribal government buildings, deployed community clean energy generation, and integrated energy systems for autonomous operation during emergencies.
- Program modifications for Justice40 covered programs such as:
    - The Office of State and Community Energy Programs' Weatherization Enhancement and Innovation program specified four focus areas: place-based initiatives, multi-family housing, single family housing, and workforce development. This opportunity specifies: disadvantaged communities that are disproportionally impacted by high energy burdens, individuals underrepresented in the clean energy industry, and growing community partnerships. In 2022, DOE announced 21 project selections totaling $37 million in investment.
    - The Vehicle Technologies Office prioritized benefits to disadvantaged communities through approximately $27 million included in a program-wide announcement for clean mobility solutions, community engagement, outreach, technical assistance and training, community-driven electric charging deployment, and workforce development.
    - American-Made Equitable and Affordable Solutions to Electrification Prize offered $2.4 million in cash prizes and technical assistance vouchers to innovators to make the electrification process faster and more affordable for homeowners across all housing types.
- Advancing a department-wide effort to integrate the Justice40 Initiative into funding opportunities by requiring applicants to develop Community Benefits Plans. Community Benefits Plans are assessed in the merit review and account for up to 20% of the score based on how effectively projects: ensure diversity, equity and inclusion, and the development of quality jobs and a skilled workforce; meaningfully engage with communities; and support Justice40 goals for disadvantaged communities. Community Benefit Plans are a cornerstone of DOE's approach to direct 40% of the overall benefits from covered federal investments to disadvantaged communities.
- Implementing agency-wide Justice40 strategy through the Justice40 Community of Practice (COP). The COP continues to meet monthly to address challenges and

opportunities associated with Justice40. The Community of Practice involves approximately 50 participants who represent all DOE program offices and several support offices. The COP has focused its effort on measuring benefits of the covered programs.

- Launching the *Energy Justice to the People* Roadshow, a series of workshops and community listening sessions with industry leaders, local governments, community stakeholders and local businesses to share information about available funding opportunities to support disadvantaged frontline communities and advance U.S. energy security in a just and equitable way. The tour stops included workshops in Rio Grande Valley and Corpus Christi, Texas and Port Arthur, Texas and Lake Charles, Louisiana. Future tour locations will include the Midwest and Cancer Alley in Louisiana.
- Deployment of the following tools:
  - Energy Justice Dashboard (BETA), to map relevant DOE investments in disadvantaged communities.
  - Energy Justice Mapping Tool for Schools, to allow users to explore and produce reports for a specific school facility which include but are not limited to the following metrics:
    - Whether the school is located in a DAC,
    - Whether it is in a rural location (coded as 41, 42, 43),
    - Whether it is designated as a community shelter, the percentage of students who are eligible to receive free and reduced priced meals, and
    - Whether the school qualifies for Title I Schoolwide programming.
  - Energy Justice Mapping Tool - Disadvantaged Communities Reporter, to allow users to explore and produce reports on census tracts that the White House Climate and Economic Justice Screening Tool has categorized as disadvantaged pursuant to Executive Order (EO) 14008 - *Tackling the Climate Crisis at Home and Abroad*.
    - Equity-Eligible Buildings Mapping Tool, developed as part of the Buildings Upgrade Prize (Buildings UP), focused on rapidly scaling energy efficiency upgrades in existing buildings. This tool aims to provide teams applying to or participating in Buildings UP with a resource to identify equity-eligible buildings for their proposed decarbonization zones (see official rules on HeroX.com/BuildingsUP for the full definition of equity-eligible buildings).

7.5.2 Statistical Methodology Improvement Plan (SMIP)

Lead DOE Program/Support Office: U.S. Energy Information Administration (EIA)

Enterprise Learning Agenda: These evaluations will support DOE's understanding of the following ELA question:

- What factors most influence the Department's ability to improve EIA's statistical methodologies and data quality?

Priority Learning Questions:

- How does EIA's statistical methodologies serve to help EIA meet its goals to collect, analyze, and disseminate large amounts of data?

- How do EIA processes ensure its ability to actively monitor, evaluate, and meet data quality standards?
- How well does the SMIP support improvement EIA's statistical methodologies and data quality?
- What best practices should be adopted from the SMIP on an agency-wide basis for program and functional activities?
    - What aspects of these tools and methods lead to improved outcomes?
    - What aspects of these processes could be made more effective or efficient?

Description: As one of the 13 principal federal statistical agencies, EIA collects, analyzes, and disseminates large amounts of data to inform citizens, businesses, and lawmakers about energy production, transformation, and consumption. To perform this service, EIA adheres to both established professional statistical practices and complies with the Office of Management and Budget (OMB) statistical standards and oversight. EIA must receive approval from OMB every three years to conduct a particular survey. To receive this approval, EIA must show that it is actively monitoring, evaluating, and meeting data quality standards. To meet these requirements, EIA has developed a Statistical Methodology Improvement Plan (SMIP) that reviews and improves the data quality of EIA surveys and products.

Impact: The SMIP's explicit goal is to improve EIA's statistical methodologies and data quality. To this end, the SMIP provides a structured five-year program that covers the processes to review and improve surveys and products, an in-depth list of statistical methodologies with which to improve surveys and products, and the statistical roles and training that will improve current staff statistical capabilities and further the use of newer data science techniques.

Activities: The following describes the three SMIP plan processes to review and improve data products.

- **Evaluation Process.** A process that evaluates the statistical methodologies used to conduct, process, and publish a data product. This process outlines possible methodological improvements or alternative approaches for surveys and products. The process also provides data validation and quality monitoring.
- **Targeted Methodology Improvement Process.** A process that implements improvements that are most readily identifiable and achievable for the statistical methodologies used to conduct, process, and publish a data product.
- **Full Methodology Improvement Process.** A process that completely reviews and updates, as necessary, all statistical methodologies currently used to conduct, process, and publish a data product.

Evidence Use and Dissemination: The initial term of the SMIP, used to implement and achieve the SMIP's goal of improving EIA's statistical methodologies and data quality, is for five years, after which time EIA will review and update it as needed to respond to lessons learned in its implementation. DOE program staff would receive recommendations on activities that lead to greater goal achievement, as well as activities that could be adapted to improve the effectiveness and efficiency of surveillance reviews. Results will be presented to DOE program managers and senior leadership, published on the DOE website, and shared in the DOE's Evidence and Evaluation Community of Practice.

Anticipated Challenges and Proposed Solutions:

Progress and Accomplishments: Notable accomplishments includes completion of 17 SMIP projects:

- Seven (7) Evaluation Process projects that have evaluated survey and data products to review methodological performance and outline possible improvements;
- Seven (7) targeted Methodology Improvement Process projects that have improved specific methodological elements of EIA surveys and data products; and
- Three (3) Full Methodology Improvement Process projects that have substantially transformed the methodologies of EIA surveys and data products.

EIA's Office of Statistical Methods and Research (SMR) has outlined an update process and schedule through the end of FY 2023 that will:

- Revise the SMIP's implementation process to reflect past practices and adjustments;
- Align with higher-level EIA strategic plans and other agency-wide efforts;
- Coordinate with EIA's methodological and data research initiatives and act as a vehicle to implement the research results;
- Update information regarding current statistical methodologies, resources, and capabilities;
- Update with OMB's survey clearance process schedule; and
- Review and update information on EIA organizational changes and administrative processes since the SMIP's adoption.

7.5.3 STEM Diversity Evaluations

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Enterprise Learning Agenda: These evaluations will support DOE's understanding of the following ELA question:

- What program features or components are effective in attracting diverse professionals to STEM and clean energy careers?

Priority Learning Questions. DOE seeks the answer to the following learning questions and their sub-components in these studies:

- To what extent STEM education programs promote clean energy career choices?
- What aspects of STEM programs are effective in bringing professionals to clean energy careers?

Activities: Review and analysis of program implementation information and data. Process and outcome evaluations of STEM education programs.

Anticipated Challenges and Proposed Solutions: Engaging an external vendor to execute the work is perceived as a risk for the evaluations. The new streamlined contracting channel made available by GSa will be used to address this risk.

Progress and Accomplishments: These evaluations are at the planning stage.

7.6 Goal 7: Operational Excellence

7.6.1 Optimize Carry-Over Balances for DOE Program and Support Functions

Lead DOE Program/Support Office: Office of the Chief Financial Officer (OCFO)

Priority Learning Question: What factors influence the Department's ability to obligate appropriated budget authority in the current fiscal year and "carry-over" unused funds to the next fiscal year?

- How does the government review process serve as a tool to help agencies meet their goals obligated appropriated budget authority in the current fiscal year?
- How does the government review process serve as a tool to help agencies "carry-over" unused funds to the next fiscal year as appropriate?
- What are the appropriate tools and methods for managing carry-over balances?
- What best practices should be adopted on an agency-wide basis for program and functional activities?
    - What aspects of these tools and methods lead to improved outcomes?
    - What aspects of these processes could be made more effective or efficient?

Description: Most DOE programs and functions obligate appropriated budget authority in the current fiscal year and "carry-over" unused funds to the next fiscal year due to a variety of factors. There are circumstances that justify carrying over unused funds including maintaining reserves to manage risk and phased execution of long-term capital projects. At present, there is no Department-wide analysis to provide best practices to manage carry-over balances.

An analysis will be conducted to determine appropriate tools and methods for managing carry-over balances, and whether certain best practices should be adopted on an agency-wide basis for program and functional activities.

Activities: The OCFO will review and analyze appropriations and carry-over balances for select DOE program and function offices for the past 5 fiscal years. The study will:

- analyze appropriations and carry-over balances to determine if trends and outliers exist
- determine the nature of work conducted by program or support office and consider how this should affect carry over balances
- interview program managers for insight into how they manage carry-over balances
- review carry-over data for non-DOE programs and determine whether relevant comparisons to DOE can be made
- determine if best practices can be recommended to DOE programs and support functions for managing carry-over balances
- determine if corrective action for managing any DOE carry-over balances is advisable

Timeline: OCFO anticipates this study will take 6-9 months. Instituting recommendations produced by the study will take an additional 12-24 months.

Data: Data gathered for this study may include:

- 5-years of appropriations and carry-over balances for select DOE programs & functions
- appropriations and carry-over balances of non-DOE programs
- interviews of DOE program and function managers
- interviews of non-DOE program and function managers

Evidence Use and Dissemination: DOE program staff would receive recommendations on activities that lead to greater goal achievement, as well as activities that could be adapted to improve the effectiveness and efficiency of surveillance reviews. Results will be presented to DOE program managers and senior leadership, published on the DOE website, and shared in the DOE's Evidence and Evaluation Community of Practice.

Progress and Accomplishments: While a formal study has not yet been conducted to analyze and provide recommendations for optimization, CF-32 generates (and provides to programs) status updates pertaining to Time Limited Funds (TLF) and to remind programs of funding that will "expire" (unobligated) and "cancel" (uncosted) before the end of the fiscal year. This information is also accessible from the QTR Budget Execution Review dashboard, *Daily Time Limited*, as users can track "Unobligated" and "Daily Unobligated" as well as "IIJA funding only" or "Base funding". In addition, CF-32 sends monthly reports to appropriations staff and OMB on balances (i.e., Base Financial Reports). Reports are available via DOE's iPortal: Perf & Financial Reports (doe.gov). Also, OCFO staff, in working with DOE program offices, is considering improvements to apportionment process to:

- Ensure that prior year funds are used before "new" funds are considered for multi-year funded contracts;
- Review "closed out" contracts to ensure timely close out audits and only necessary funds are being withheld;
- For grants and cooperative agreements, review if there has been "recent" activity and consider revising the scope and conditions; and
- Review funding for federal operations to ensure timely expenditures and costing.

7.6.2 Optimize DOE Corporate Business Systems & Services for Cloud-Based Delivery

Lead DOE Program/Support Office: Office of the Chief Financial Officer (OCFO)

Priority Learning Question: What factors most influence the Department's ability to support conversion of OCFO-managed IT systems to cloud-based solutions by FY 2021?

- How does the Office of the Chief Financial Officer (OCFO) coordinate to determine the optimal mix of which DOE corporate business systems should be migrated to the cloud:
  - "As-is",

    - Which should be upgraded during migration, and
    - Which systems can be consolidated and/or retired?
- How do OCFO processes ensure the ability to actively manage, monitor, evaluate, and meet IT support standards for both cloud applications and corporate business systems?
- How does the OCFO IT strategy ensure effective software and hardware solutions for corporate business services to current DOE capabilities?
- What best practices should be adopted from OCFO on an agency-wide basis for the IT cloud migration program and functional activities?

Description: The Office of Chief Financial Officer manages over 30 IT systems and other tools that provide corporate business solutions to the Department of Energy (DOE). These systems support enterprise-level financial transactions, accounting, audit, budget, internal controls, business intelligence, procurement, human resources, travel, employee training and performance evaluations, and many other functions. Some of these systems are approaching end-of-life; others have support contracts that are either expiring or require exercising options to continue.

The Office and Management and Budget has mandated that agency-managed IT systems must be converted to cloud-based solutions by FY 2021. To meet this goal, OCFO will conduct an evaluation to determine the optimal mix of which DOE corporate business systems should be migrated to the cloud "as-is", which should be upgraded during migration, and which systems can be consolidated and/or retired.

Activities: The OCFO will engage a leading private sector provider of Federal IT services to conduct a comprehensive study of DOE's corporate business system portfolio and to recommend an optimal strategy for cloud-based migration of its systems. The study will compare current leading software and hardware solutions for corporate business services to current DOE capabilities. The study will further examine the structure and terms of existing DOE IT contracts and determine an optimal mix of strategy to continue as-is, renew, or enter into new contracts.

Timeline: OCFO anticipates 6-9 months will be required to issue a contract for the study, conduct strategic analysis, and to issue recommendations. Implementation of the study's recommendations is anticipated to occur in stages over the next 1-2 years as OCFO migrates some systems to the cloud, acquires new cloud-based solutions, and retires and/or consolidates other systems.

Data: Data gathered for this study may include:

- reviewing DOE's current and anticipated corporate business process requirements
- comparing current DOE IT system capabilities to meet business process requirements vs. other available IT system solutions
- predicting total cost for migrating existing DOE systems to the cloud and associated operations & maintenance effort vs. acquiring new solutions
- reviewing DOE's existing contract terms with IT service providers to determine whether to upgrade DOE systems, consolidate and/or retire systems, or maintain current systems in a cloud-based environment

Evidence Use and Dissemination. DOE program staff would receive recommendations on activities that lead to greater goal achievement, as well as activities that could be adapted to improve the effectiveness and efficiency of surveillance reviews. Results will be presented to DOE program managers and senior leadership, published on the DOE website, and shared in the DOE's Evidence and Evaluation Community of Practice.

Progress and Accomplishments: In FY22:

- 32 Corporate Business Systems migrated to the cloud
- 234 cloud-based Virtual Machines established
- Total of 84 environments distributed across four cloud-based systems
- Completed Data Center migration:
  - Total of 774 Terabytes of standard storage in the cloud

With those accomplishments, this Learning Agenda item has been completed.

7.6.3 Improve Automation to Increase Efficiency and Effectiveness of DOE Corporate Business Systems

Lead DOE Program/Support Office: Office of the Chief Financial Officer (OCFO)

Priority Learning Question: What applications of Robotic Process Automation provide measurable gains in productivity without posing risks to accuracy?

- Which tools and methods – enhanced by RPA – would result in the most improvements?
- Which processes (e.g., reporting of monthly DOE financial data to Treasury, creation of requests for reimbursable work and creation of associated data values in DOE financial systems for reimbursable work orders and inter-entity work orders, reconciliation of DOE's database of vendor information with GSA's database, etc.) could be made more effective or efficient through the use of RPA?
- What factors most influence the Department's ability to identify, select, and implement RPA use cases?
- What type of work will be enabled if the RPA pilot is successful?
- How many errors (i.e., error rate) will be reduced?
- How much faster can critical reports become available?

Description: Robotic Process Automation (RPA) is an IT technology that is used to automate repetitive, predictable, and rules-based tasks. RPA-based solutions function by using IT to emulate human actions, thereby enabling process owners or staff to deploy automations (i.e., "bots") that can dramatically reduce an organization's low-value workload, and allow employees to shift their focus to and execution of high value work.

The Offices of Chief Financial Officer (CF), Chief Information Officer (IM), and Acquisition Management (MA-60) conducted a joint pilot to acquire institutional knowledge on implementing RPA solutions to automate certain DOE enterprise business processes. Significant interest in RPA technology among DOE departmental elements and lessons learned from

planning and executing the joint CF/IM/MA pilot have indicated that the department as a whole could benefit from a coordinated approach to RPA governance (i.e., use of "bots" to increase automation of manual processes). This action would help the department avoid duplication of RPA investments and development efforts, encourage reuse of common RPA solutions, and enable wide diffusion of RPA awareness and knowledge transfer throughout the department.

OCFO has identified approximately 50 processes for application of RPA technology, as business cases were provided by DOE's OCFO and Office of Management (MA). OCIO will provide input on DOE IT infrastructure and security requirements, and access to and oversight of DOE's IT corporate business systems.

Activities: The OCFO will study the following:

- Foundational knowledge at DOE headquarters on how to successfully deploy RPA solutions to automate enterprise-level business processes.
- Criteria for selecting an optimal RPA technology platform for DOE usage.
- Software development to automate each DOE business case on each RPA technology platform that will be evaluated. Software must be executable in the DOE enterprise environment.
- Training of DOE staff on RPA software development, including documentation on processes and procedures.
- Support for RPA systems administration, including support of an Authorization to Operate the RPA platform on DOE enterprise systems and network.
- Support for deployment of chosen RPA platform on DOE's enterprise systems, including documentation of process and procedures.

Timeline: While no timeline has been identified, progress is being monitored regularly by programs implementing specific automation/bot efforts.

Data: Relevant data for evidence building may include:

- Estimated time to create
- User input required
- Data format
- Number of steps required
- Number of systems accessed/required
- Number of external systems required/involved
- Number of users
- Frequency of query/use
- Manual processing time vs automated processing time
- Download query results as text files
- Process text files using macros
- Delay for human responses

Evidence Use and Dissemination: Evaluation for the use of Robotic Process Automations (Bots) in CF managed systems enacts a disciplined approach to the review, approval, and implementation of all proposed RPA business use cases and changes. Changes include but are not limited to:

- Procedures,
- Technical changes (software and/or hardware),
- Process changes, and
- New RPA business processes.

The review and approval process is based on:

- Assessment of project impacts,
- Identification and assessment of cross-team impacts and dependencies,
- Evaluation of request criticality,
- Security and cyber impacts,
- Return on investment (ROI),
- Complexity, and
- Risk(s) associated with the implementation of the business use case.

The evaluation starts with the identification and mapping of potential business processes/use cases that can be selected as automations. This is accomplished by providing a clear vision of what is to be achieved with RPA and how the impact will be measured. Defining the goals, such as reducing cumbersome redundant manual activities, reducing costs, time savings, enhancing customer experience, improving data quality and reporting are all important aspects of the evaluation.

Use cases selected are typically high-volume, low-variation, and rule-based processes that involve structured data and standardized inputs and outputs. The use case is generally routine and well-defined. The current business process needs to be established and should not change frequently. Tasks performed in the business process should be the same, processed in the same order, and use systems that rarely change – and when changes do occur, they are manageable in that the RPA use cases are included as part of the overall system change configuration management plan (e.g., CF software application upgrade).

Each use case should be fully documented including all processes and steps utilizing flowcharts, diagrams, or process maps, highlighting the steps, inputs, outputs, roles, personnel, and systems involved. Once the use cases have been fully defined and mapped, establishing the criteria for selecting and prioritizing RPA use cases is the next step. The prioritization of each use case includes factors such as feasibility, scalability, complexity, organization impact, ROI, or alignment with business objectives and strategic goals. Additional factors can be considered such as process stability, data availability, technical feasibility, and change management requirements. The aim is to select the use cases that have the highest value and the lowest complexity for the RPA implementation.

Progress and Accomplishments:

- Completed in FY22 RPA Pilot and established RPA automation.
- Established in FY 22 RPA Working Group – an advisory group of subject matter experts on DOE business and operational processes, technology platforms, coding, systems integration and configuration, and cyber security applicable to RPA.
- Developed use case prioritization framework in FY22 that includes factors such as feasibility, scalability, complexity, organization impact, ROI, and/or alignment with business objectives and strategic goals.
- Identified and mapped over 50 potential business processes/use cases that can be selected as automations. Of the 50 use cases, 15 use cases were selected – and 11 were implemented – all of which were high-volume, low variation, and rule-based processes that involved structured data and standardized inputs and outputs.
- Office of Acquisition Management (OAM) announced in June 2023 the implementation of the STRIPES Batch Award Autonumbering Bot, which has been programmed to create a batch of STRIPES Financial Assistance awards in sequential order, set up document access for the awards, and generate/save/send a register of award numbers to the Bot Requestor. The Bot will also create a document relationship between the award(s) and a Funding Opportunity Announcement when applicable.
- OAM and OCFO have developed and implemented an RPA/BOT program designed to automate steps within procurement related business and corporate system (i.e., STRIPES) processes. Two bots were developed in tandem to address PCARD transactions:
    - The PCARD Closeout BOT is programmed to address inactive Purchase Card (PCard) Orders in the STRIPES production environment. The BOT automatically closes PCard Orders in the STRIPES production environment that are 120 days beyond their date of award where the period of performance has passed, all invoices have been paid, deobligation(s) have been processed and no remaining funds exist on the PCard order. The BOT performs specified data entry within the closeout section of the PCard order and then automatically closes it (changing the award status from Released to Closed). The development of the BOT was completed in late 2022 and pilot testing was completed in January 2023.
    - The "Historical PCard BOT" is programmed to address STRIPES PCard orders with an award/issue date spanning fiscal years 2008-2019 that are in a CLOSED status. For consistency purposes, the BOT is programmed to open closed PCard orders to perform the same specified data entry within the closeout section of the PCard order and then re-close the order. The development of the BOT was completed in late 2022 and pilot testing was completed in January 2023. The BOT was tasked to update 72,000 PCard orders. To date, 33,538 have been completed.

8 FY 2025 Annual Evaluation Plan

DOE makes extensive use of evaluation methods as part of its decision-making processes. As an integrated system, DOE's management processes provide opportunities for leadership to be involved at every step of its Program evaluations. Consequently, all evaluations are designed to meet DOE priorities, answer research questions in the Enterprise Learning Agenda, and build a suite of evidence to inform decision-making. Further, owing to the seamless integration of its evaluations and other management decision-making processes, DOE's evaluations are always in alignment with the mission areas defined in the Agency's *FY 2022-2026 Strategic Plan*. This

integration requires a broad range of evaluation types to allow for tailoring to specific missions. DOE also sees value in using good quality information for decision-making. To this end, DOE follows the principles of ethics, independence, rigor, relevance, and transparency reflected in OMB Circular A-11, Section 290[89] and OMB Memoranda M-19-23[90], M-20-12[91], and M-21-27[92].

A selection of evaluations at DOE during fiscal year 2024 is presented in this Annual Evaluation Plan (AEP). This document does not attempt to capture all continuous evaluations taking place at DOE, but only a few examples. It intends to provide the public with a window to glance through and search for further information in the areas where there may be interest.

8.1 Selected Evaluations in FY 2025

8.1.1 Manufacturing and Energy Supply Chains

8.1.1.1 Grant Merit Review Evaluations

Program Name: DOE Heat Pump Defense Production Act Program (DE-FOA-0002987)

Evaluation Question: Does an applicant's submission meet eligibility requirements and expand domestic production capability of efficient electric heat pump systems, components, and materials in the United States?

Type of Evaluation: Merit Review

Evaluation Method of Approach: The sole purpose of this evaluation is to evaluate the technical merit of all incoming proposals related to the DOE Heat Pump Defense Production Act Program Funding Opportunity Announcement. Applicants are rated on a 1-10 scale for each criterion and weighted appropriately based on the criterion weights. Those final scores are used to compare applications against one another to determine which are recommended for selection and eventual award.

Applications that are determined to be eligible will be evaluated in accordance with this FOA, by the standards set forth in EERE's Notice of Objective Merit Review Procedure (76 Fed. Reg. 17846, March 31, 2011), and the guidance provided in the "DOE Merit Review Guide for

[89] s290.pdf (whitehouse.gov)

[90] MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES M-19-23 (whitehouse.gov)

[91] www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf

[92] M-21-27 (whitehouse.gov)

Financial Assistance," effective September 2020, which is available at: Merit Review Guide for Financial Assistance and Unsolicited Proposals - Current Guides | Department of Energy.

Applications will be evaluated against the technical review criteria shown below. All sub-criteria are of equal weight.

- Criterion 1: Technical Merit, Innovation, and Impact (25%)
- Criterion 2: Financial and Market Viability (25%)
- Criterion 3: Project Workplan (15%)
- Criterion 4: Management Team and Project Partners (15%)
- Criterion 5: Community Benefits Plan (20%)

While in this instance other program policy factors were NOT used, there are program policy factors that may be used in determining which Full Applications to select for award negotiations.

- The degree to which the proposed project is likely to lead to increased high quality employment and manufacturing in the United States;
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
- The degree to which the proposed project incorporates applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Serving Institutions); and partnerships with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or tribal nations;
- The degree to which the proposed project, when compared to the existing DOE project portfolio and other projects to be selected from the subject FOA, contributes to the total portfolio meeting the goals reflected in the Community Benefits Plan criteria; and
- The degree to which the proposed project will employ procurement of U.S. iron, steel, manufactured products, and construction materials.

Evaluation Timeline: From deadline of concept papers to selection notifications, MESC is targeting four (4) months for evaluation timeline.

Data Expected to be Collected: Full applications must conform to the following requirements. Full details about data collected can be found in the FOA under Section D: Content and Form of the Full Application.

Estimated Cost of Evaluation: Cost of evaluation for NETL FTE and contractor support are estimated around $250k.

8.1.2 Fossil Energy and Carbon Management

8.1.2.1 Rare Earths Demonstration Facility

Program Name: Minerals Sustainability

Evaluation Question: Are we on track to complete the design of a demonstration facility for the production of commercial grade CM/REE from waste coal, unconventional and other sources,

producing 1-3 tonnes/day of mixed rare-earth oxides/salts critical minerals at purities of a minimum of 75% by the end of 2025?

Type of Evaluation: Technical Program Reviews/ Advisory Committee Reviews

Evaluation Method of Approach: Conduct interim and final project reviews and conduct techno-economic assessments of results to determine what project(s) should receive funding to build a large-scale demonstration facility for rare-earth elements from secondary sources.

Evaluation Timeline: Interim review will take place in Q3 of FY 2024. Review of design studies will take place in Q2 of FY 2025.

Data Expected to be Collected: Process cost estimates and estimates of process efficiency.

Estimated Cost of Evaluation: The estimated cost of conducting this evaluation is $10,000.

8.1.2.2 Rare Earths and Critical Minerals Evaluation

Program Name: Minerals Sustainability

Evaluation Question: Are we on track to complete a detailed evaluation of domestic rare earth elements and other critical minerals potential resources from secondary and unconventional sources by the end of FY 2025?

Type of Evaluation: Technical Program Reviews/Advisory Committee Reviews

Evaluation Method of Approach: Assemble technical experts to conduct review of final product.

Evaluation Timeline: Expert review will take place in Q1 of FY 2025.

Data Expected to be Collected: Potential resource of rare earth elements and other highly valued critical minerals across the United States from unconventional and secondary sources.

Estimated Cost of Evaluation: The estimated costs of conducting this evaluation is $5,000.

8.1.3 Grid Deployment Office

8.1.3.1 Grid Resilience Formula Grants

Program name: Grid Resilience State and Tribal Formula Grants (BIL 40101(d))

Evaluation question: Have the formula grants and associated technical assistance improved recipients' (States, Territories, and Tribes) ability to plan for and invest in grid resilience and reducing the likelihood and consequences of disruptive events?

Type of evaluation: Implementation/process

Evaluation method or approach: Recommend internal staff focused on the evaluation along with an independent, outside objective evaluator to review the internal evaluation. Internal evaluation will focus on reported metrics and qualitative reporting from subaward processes as required of subaward recipients. Independent evaluation will validate anticipated resilience impacts and assess benefits to State, Territory, and Tribal resilience planning and investment postures.

Evaluation timeline: April 1, 2024- September 30, 2024

Data expected to be collected: GDO evaluation will refer to anticipated resilience impacts of subawarded projects, including both quantitative metrics submitted as part of required recipient reporting and qualitative focus areas of investment types and identified hazards. Evaluation will also include relationship between subaward processes and resilience planning processes in recipient States, Territories, and Tribes, and assess the impact of technical assistance on both subaward processes and resilience planning generally. Because States have broad need for resilience planning to inform their governance over the electric grid operators within their jurisdictions and account for the majority of 40101 formula funding allocation, we expect this analysis to focus primarily on State recipients.

Estimated cost of conducting the evaluation: $450K

8.1.4 State and Community Energy Programs

8.1.4.1 Home Energy Rebates

Program name: Home Energy Rebate Programs

Evaluation Questions: SCEP will be conducting several formal evaluations (listed below), as well as primary and secondary market research to quantify market effects, and will engage with states to collect informal evaluation information and facilitate a platform for sharing and program learnings.

Types of evaluations: SCEP will be conducting Impact, Process and market effects evaluations.

Evaluation method or approach: A combination of engineering and statistical evaluations (for impact evaluations), using consumer bills and data reported by states. Process evaluations will be done through interviews with states and key stakeholders. Market effects research will include both primary and secondary data collection and analysis.

Evaluation timeline: 2025-2029

Data expected to be collected: See DOE Data and Tools Requirements for data required to be either reported to or retained by State: https://stage.energy.gov/scep/articles/ira-home-energy-rebates-data-and-tools-requirements-guide

Estimated cost of conducting the evaluation: $10-13 million currently budgeted.

8.1.5 Office of Energy Efficiency and Renewable Energy

8.1.5.1 Evaluating use of research and testing infrastructure

Lead DOE Program/Support Office: Office of Energy Efficiency and Renewable Energy

Evaluation question: Does past performance of R&D facilities justifies continued investment?

Type of Evaluation: Outcome

Evaluation method or approach: The evaluation methods for this work will be selected according to each research question given in section 2, and the form of information available. Evaluation methods were compiled by Ruegg in 2014, which can be sourced for the execution of this research[93]. Those include, but are not limited to:

- Bibliographic Methods;
- Survey Methods;

[93] Overview of Evaluation Methods for R&D Programs (energy.gov)

- Benchmarking;
- Technology Commercialization Tracking Method;
- Benefit-Cost Case Study;
- Historical Tracing;
- Spillover Analysis.

Questions such as the presence of other possible infrastructure providers are likely to require some market research, whereas questions revolving around the knowledge productivity of EERE-funded facilities should appeal to Historical Tracing when connecting outcomes to specific facilities. The extensive use of surveys with the 30 EERE-related organizations is anticipated to collect facility-specific data such as infrastructure costs, primary users, and types of projects supported.

Evaluation Timeline: 2024-2025

Data expected to be collected: It is expected that the following data will become available for answering the research questions stated in section 2:

- Total initial infrastructure costs and major upgrade costs, including data on any cost-share for each facility
- Number of individual testing activities per calendar year at each facility
- Primary users (organization name and type)
- Total testing hours / year
- For each test, total dollar value funded by EERE, Other DOE, Other Federal, and Non-federal sponsors
- Types of projects or tests being conducted:
    - Technology maturity: Exploratory research, tests on precommercial technology, tests on commercialized or partially commercialized technologies
    - Market penetration: For tests and demonstrations of pre-commercial or commercial technologies, the degree to which those technologies were eventually deployed in the market
- Publications identifying work conducted at test facilities, and knowledge scores for those publications

The data elements above will be collected for an estimated 100 research facilities corresponding to those facilities mostly funded by EERE. Further, the selected facilities are funded by only about 30 EERE-related organizations. Therefore, data collection will involve contacting 30 or less organizations. Data on funding from previous years is to be procured from the facilities themselves, since they mostly keep good historical funding data.

Estimated cost of conducting the evaluation: $1.5M

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9 DOE Capacity Assessment of Statistics, Evaluation, Research, and Analysis

CAPACITY ASSESSMENT SUMMARY: In assessing the coverage, quality, methods, effectiveness, and independence of the of the Department of Energy's (DOE) statistics, evaluation, research, and analysis personnel, agency infrastructure (i.e., DOE elements, and sub-elements), and current and planned evidence building activities, the DOE Evaluation Officer has determined the current personnel, agency infrastructure, and activities dedicated to statistics, evaluation, research, and analysis are commensurate with the DOE mission and programs – and in alignment with the Department's Strategic Goals for FY2022-26.

The need for resources, agency infrastructure, and evidence building activities will be continuously monitored via DOE Strategic Human Capital Planning, as well as feedback received from the Office of Management and Budget (OMB) for future budget cycles and oversight of management initiatives (e.g., Strategic Planning). As DOE continues to fulfill its core missions as well as the recently formed S3 organization, DOE is actively staffing its Clean Energy Corps, which is comprised of the staff from more than a dozen offices across DOE — current staff and new hires — to research, develop, demonstrate, and deploy solutions to clean energy challenges.

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
[96]AEO	(refer to OP)	(refer to OP)	1	1. Engagements involving the Arctic. 2. Innovative solutions 3. Existing energy projects	• Goal 5, *Promote Equity and Energy Justice*
AITO	1,000	0	0	The Artificial Intelligence & Technology Office (AITO) mission is to coordinate responsible and trustworthy artificial intelligence (AI) governance and capabilities. This includes conducting the following, all in support of national AI leadership and innovation: • Advocate for program offices; • Provide advice on trustworthy AI/machine learning (ML) strategies; and • Expand public, private, and international partnerships, policy, and innovations	• Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 7, *Operational Excellence*

[94] FY 2024 Congressional Budget Justification (energy.gov)

[95] FY 2024 Congressional Budget Justification (energy.gov)

[96] FY 2024 Budget in Brief (energy.gov), page 70: "Funding will support enhanced energy policy and trend analysis work as an essential function to support urgently needed technology, economic, job creation, and energy-related goals; and the development of a new statistical/analytical capability to provide trend analyses of key energy indicators that can be used by policymakers across the entire government to inform decisions. Funds will also support the Arctic Energy Office."

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				Developed in consultation with the National Institute of Standards and Technology (NIST), the DOE's AI Risk Management Playbook (AI RMP) is an interactive reference guide that contains recommended mitigations to advance responsible and trustworthy (R&T) AI use and development. AI leaders, practitioners, and procurement teams are advised to use the AI RMP to: • Educate and upskill the workforce on AI risk management to further organizational resiliency; • Accelerate prevention planning by integrating AI RMP risks and recommended mitigations into procurement and project life cycles including edge AI; • Augment risk management methodologies with integrated ethical and equity AI governance and suggested practices; • Inform AI risk assessment development and implementation planning; • Generate customized checklists that contain specific risks and recommended mitigations; and/or • Describe the necessity of R&T AI to advance mission imperatives.	

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
ARPA-E	470,000	650,200	53	ARPA-E Exploratory Topics are developed through the FOAs, and include: **2023-Present:** 1. Exploratory Topic A: Low-Energy Nuclear Reactions 2. Exploratory Topic B: Intermodal Freight Transportation System 3. Exploratory Topic C: Creating Revolutionary Energy And Technology Endeavors (CREATE) 4. Exploratory Topic D: Aviation Contrails 5. Exploratory Topic E: Algal Mining 6. Exploratory Topic F: Superconducting Tape **2019-2022:** 1. Exploratory Topic A: Extremely Durable Concretes and Cementitious Materials 2. Exploratory Topic B: Downhole Tools to Enable Enhanced Geothermal Systems 3. Exploratory Topic C: Leveraging Innovations Supporting Nuclear Energy 4. Exploratory Topic D: Diagnostic Resource Teams to Support the Validation of Potentially Transformative Fusion-Energy	Goal 3, *Advance Science Discovery and National Laboratory Innovation*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				Concepts 5. Exploratory Topic F: High Value Methane Pyrolysis 6. Exploratory Topics G & T: Supporting Entrepreneurial Energy Discoveries 7. Exploratory Topic H: Establishing Validation Sites for Field-Level Emissions Quantification of Agricultural Bioenergy Feedstock Production 8. Exploratory Topic I: Electricity System Models for Carbon Capture Resources 9. Exploratory Topic J: Biotechnologies to Ensure a Robust Supply of Critical Materials for Clean Energy 10. Exploratory Topic K: Recycle Underutilized Solids to Energy 11. Exploratory Topic L: Insulating Nanofluids and Solids to Upgrade our Large Aging Transformer Equipment 12. Exploratory Topic M: Mining Incinerated Disposal Ash Streams 13. Exploratory Topic N: Waste into X 14. Exploratory Topic O: Direct Removal of Carbon Dioxide from Oceanwater 15. Exploratory Topic P: Direct Removal of Carbon Dioxide from Ambient Air 16. Exploratory Topic Q: Connecting Aviation	

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				By Lighter Electric Systems 17. Exploratory Topic R: Lowering CO_2: Models to Optimize Train Infrastructure, Vehicles, and Energy Storage 18. Exploratory Topic S: Topology Optimization and Additive Manufacturing for Performance Enhancement of High Temperature and High Pressure Heat Exchangers 19. Exploratory Topic U: Sulfur Hexafluoride (SF_6)-Free Routes for Electrical Equipment	
BPA	[97]self-financed and receives no direct annual appropriations from Congress	[98]self-financed and receives no direct annual appropriations from Congress	394	1. Bonneville Power Administration (BPA) has created a Strategic Plan centered on what BPA intends to do in the near term to deliver on their public responsibilities. This strategic plan with wide input from the region. This strategic plan is updated with a Strategic Progress Update. 2. BPA also conducts an Integrated Program Review (IPR), which plays a significant role in BPA's overall financial planning process. It provides the public an opportunity to review and comment on BPA's spending	Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

[97] FY 2024 Budget in Brief – BPA

[98] FY 2024 Budget in Brief – BPA

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				levels for its capital and expense programs before establishing them in rate cases. 3. BPA's Finance organization conducts annual and quarterly financial reviews to present quarter and fiscal year-to-date unaudited financial information, including financial position as of the reporting date. In addition, BPA also conducts a Quarterly Business Review, which is a forum that started in 2008 to share financial results and provide updates on major spending areas (e.g., proposed capital projects) in order to provide more visibility on budgets and an opportunity for stakeholder input. Based on feedback from BPA's customers in fiscal year 2018, the QBR switched from a heavy focus on financial reporting to a briefing on the state of the business. BPA also holds the QBR Technical Workshop, which takes place after the QBR and provides additional details about BPA's financial performance. **BACKGROUND:** BPA incorporates program plans in 4 areas: • Power • Transmission • Energy Efficiency • Environment, Fish & Wildlife	

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				The development of future data requires the forecast of revenues, expenses and investment as detailed in DOE Order RA 6120-2.	
CESER	200,000	245,475	35	1. Cybersecurity for Energy Delivery Systems Research and Development 2. Cybersecurity Testing for Resilient Industrial Control Systems 3. Cybersecurity for the Operational Technology Environment (CyOTE) 4. Department of Energy CyberForce Program 5. Clean Energy Cybersecurity Accelerator Program 6. OT Defender Fellowship 7. Securing Energy Infrastructure Executive Task Force 8. CESER's Office of Petroleum Reserves (OPR) manages the Strategic Petroleum Reserve Office (SPRO) M&O Contract. The Strategic Petroleum Reserve (SPR), the world's largest supply of emergency crude oil), consisting of salt caverns storing crude oil in Texas and Louisiana. This was established primarily to reduce the impact of disruptions in supplies of petroleum products and to carry out obligations of the United States under the international energy program.	Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				CESER manages this support using an M&O Contract. CESER follows a Site Specific approach to evaluate its M&O contractors that uses detailed performance criteria. Under this approach, most performance criteria are objective criteria, and a few are broader, subjective criteria. CESER's objective performance criteria are defined based on quantifiable metrics and performance targets performance goals are established in the overarching M&O contract for the Strategic Petroleum Reserve. The Available Award Fee shall be established considering the level of complexity, difficulty, cost effectiveness, and risk associated with specific objectives/incentives defined in the Performance Evaluation and Measurement Plan (PEMP). The Performance Evaluation and Measurement Plan(s) sets out the criteria upon which the Contractor will be evaluated relating to any technical, schedule, management, and/or cost objectives selected for evaluation. These criteria are generally objective, but may also include subjective criteria.	
CF	62,283	67,345	58	1. Finance & Accounting	• Goal 1, *Drive U.S. Energy Innovation*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Prepares the Department's consolidated financial statements, Agency Financial Report, and other managerial reports. • Leads the Department's internal controls, fraud risk management, and payment integrity programs. • Delivers timely and reliable financial management reporting and analysis. 2. Financial Policy and Audit Resolution • Provides policy guidance and support to Departmental offices on audit resolution, coordination, and follow-up. 3. Budget Formulation & Execution • Overall planning and implementation for budget formulation, analysis, execution, and evaluation. • Supports development and management of the Department's Agency Performance Report, Strategic Plan, and associated evaluation of progress of goals. • Specialized analysis and prioritization of Departmental resources for the Future-Years Energy Program (FYEP) and other strategic analysis of budget resources.	*and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				4. Corporate Business Systems • Provides qualified Information Technology project management support. • Oversees completion of internal and external CF Information Technology reporting.	
CI	5,000	7,198	6	1. Serving as a central point of contact for interactions on congressional matters, the congressional affairs team offers expertise in coordinating and directing the legislative programs of the Department, as well as the significant relationships between Departmental officials and Members of Congress. 2. The Office of Intergovernmental and External Affairs (IGEA) serves as the Departmental interface for state, tribal and local governments to ensure easy and timely access to relevant programs, technological assistance, funding opportunities and other DOE resources.	Goal 5, *Promote Equity and Energy Justice*
EA	85,427	94,154	11	1. Appraisal Process Protocols provide an overview of the general process that applies to all of the functions and activities conducted under the Office of Enterprise Assessments (EA) Independent Oversight Program. The protocols describe the principal activities used to evaluate the effectiveness of DOE line management organizations in implementing DOE policy	Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				and requirements, and the overall philosophy, approach, scope, and methods to be used when conducting appraisals. The three EA offices that are principally responsible for implementing the Independent Oversight Program – the Office of Safeguards and Security Assessments; the Office of Cyber Assessments; and the Office of Environment, Safety and Health Assessments – have developed and implemented office-specific procedures and techniques for accomplishing their respective responsibilities that complement the overall processes described in this document. These documents are also available on EA's web pages.	
EJE	34,140	53,665	48	1. Equity in Energy – designed to expand the inclusion and participation of individuals in underserved communities, such as minorities, women, veterans, and formerly incarcerated persons, in all the programs of the Department of Energy and in the private energy sector. The Department's 200-Day Equity Assessment completed in 2021 pursuant to EO 13985[99] revealed a range of barriers underserved communities face when accessing DOE's procurement,	• Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*

[99] Executive Order (EO) 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				funding, R&D, and deployment processes and activities. 2. Promoting Energy Justice – implementing Justice40 Initiative – a plan to deliver 40% of the overall benefits of climate investments to disadvantaged communities and inform equitable research, development, and deployment within the DOE. With the beta launch of the Energy Justice Dashboard (BETA), DOE is working to better understand how the Department's funding and investments are distributed to overburdened and underserved communities that have been left behind and unheard for too long. The Energy Justice Dashboard (BETA) is a pilot data visualization tool that displays DOE-specific investments in communities across the country experiencing disproportionately high and adverse economic, human health, climate-related, environmental, and other cumulative impacts. The Dashboard displays DOE cost data — grants, cooperative agreements, and contracts — from more than twenty-five DOE program offices, for the fiscal years 2019 to present. • The Office of Energy Justice Analysis Division conducts energy and environmental justice research and evaluation, and technical assistance on Federal energy policy and programs and makes recommendations to advance	

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				equity for racial and ethnic minorities and other disadvantaged communities and individuals. • The Office of Energy Justice Policy Division conducts energy and environmental justice policy analysis and technical assistance on Federal energy policy and programs and makes recommendations to advance equity for racial and ethnic minorities and other disadvantaged communities and individuals. • The Office of Energy Justice Policy and Analysis collaborates on the development and maintenance of multiple tools to illustrate and evaluate energy questions, policies, regulations, and practices with respect to energy and environmental justice. ○ Energy Justice Dashboard, to deliver 40 percent of the overall benefit of relevant federal investments to disadvantaged communities. ○ Energy Justice Mapping Tool for Schools, to allow users to explore and produce reports for a specific school facility which include but are not limited to the following metrics: ▪ Whether the school is located in a Disadvantaged Community (DAC), ▪ Whether it is in a rural location (coded as 41, 42, 43),	

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				▪ Whether it is designated as a community shelter, the percentage of students who are eligible to receive free and reduced priced meals, and ▪ Whether the school qualifies for Title I Schoolwide programming. ○ Energy Justice Mapping Tool - Disadvantaged Communities Reporter, to allow users to explore and produce reports on census tracts that the U.S. Department of Energy has categorized as disadvantaged communities pursuant to Executive Order (EO) 14008 - *Tackling the Climate Crisis at Home and Abroad*. 3. DOE recently issued its first-ever Diversity, Equity, Inclusion, and Accessibility (DEIA) Strategic Plan, which outlines actions to strengthen the Department's efforts to recruit, hire, develop, promote, and retain our Nation's talent; remove inequitable barriers to career and advancement opportunities; and build and sustain an inclusive and accessible work environment.	
EE	3,460,000	3,826,116	163	1. Outcome Evaluations 2. Impact Evaluations 3. In-Progress Peer Reviews Most of EERE's new investments directly support deployments or demonstrations of	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 3, *Advance Science Discovery*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				technologies that show viable pathways for achieving EERE's five programmatic priorities: • Decarbonizing the electricity sector. • Decarbonizing transportation across all modes: air, sea, rail, and road. • Decarbonizing the industrial sector. • Reducing the carbon footprint of buildings. • Decarbonizing the agriculture sector, specifically focused on the nexus between energy and water. EERE consists of several offices that support EERE's mission: **Energy Efficiency** • Advanced Manufacturing • Buildings • Federal Energy Management • Weatherization and Intergovernmental **Renewable Power** • Geothermal • Solar • Wind • Water **Sustainable Transportation** • Bioenergy	*and National Laboratory Innovation* • Goal 5, *Promote Equity and Energy Justice*

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				• Hydrogen and Fuel Cells • Vehicles 4. The M&O Contractor for the National Renewable Energy Laboratory (NREL) is assessed against all elements of the SOW: Golden Reading Room: Other NREL Documents | Department of Energy 5. The EERE Strategic Analysis (SA) team performs cross-cutting, gap-filling, and corporate analysis associated with the research, development, demonstration, and deployment of EERE technologies. SA develops tools and methods to enable consistent evaluation and analysis across EERE and serves a leadership role in related analysis across DOE, other government agencies, and external stakeholders. SA's mission is to provide evidence-based, portfolio-wide analysis for energy decision makers in EERE and beyond. **REFERENCE:** Downloads of EERE outcome evaluation reports can be found in the EERE Evaluation Library.	
EHSS	215,539	231,263	47	**DATABASES** 1. Comprehensive Epidemiologic Data Resource (CEDR) System 2. Computerized Accident/Incident Reporting System (CAIRS) 3. DOE OPEXShare Lessons Learned	• Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				database 4. Fire Protection 5. Occurrence Reporting and Processing System (ORPS) 6. Radiation Exposure Monitoring System (REMS) 7. Radiological Source Registry and Tracking (RSRT) 8. Safety Basis Information System (SBIS) 9. Suspect/Counterfeit and Defective Items **DASHBOARDS AND REPORTS:** 1. Public Final Occurrence Reports 2. Computerized Accident Incident Reporting System (CAIRS) – Injury and Illness Dashboard 3. Nuclear Safety Information (NSI) Dashboard 4. Corporate Safety Performance (CSP) Dashboard	
EIA	135,000	156,550	269	1. Petroleum & Other Liquids 2. Natural Gas 3. Electricity	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 5, *Promote*

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				4. Consumption & Efficiency 5. Coal 6. Renewable & Alternative Fuels 7. Nuclear & Uranium 8. Total Energy 9. Analysis & Projects 10. Markets & Finance 11. Environment 12. Energy Disruptions 13. U.S. States 14. Maps 15. International Energy Statistics 16. Regional Dashboards & Data **BACKGROUND:** The U.S. Energy Information Administration (EIA) is committed to enhancing the value of its free and open data by making it available through an Application Programming Interface (API) and open data tools to better serve our customers. The data in the API is also available in bulk file, in Excel via the add-in, in Google Sheets via an add-on, and via widgets that embed interactive data visualizations of EIA data on any website. By making EIA data available in machine-readable formats, the creativity in the private, the non-	*Equity and Energy Justice*

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				profit, and the public sectors can be harnessed to find new ways to innovate and create value-added services powered by public data. The EIA API is offered as a free public service, although registration is required.	
EM	8,848,670	8,706,769	232	1. EM annual performance results can be found in the Department of Energy Annual Performance Reports. EM manages cleanup contracts at the following sites: • Laboratory - Management and Operations for Savannah River Site (SRS) • Management and Operations for Savannah River Site (SRS) • Waste Isolation Pilot Plant (WIPP) Management and Operations Contract • Central Plateau Cleanup Contract • Idaho Clean-up Contract • Los Alamos Legacy Cleanup • Moab Remedial Action Contract (Moab RAC) • Oak Ridge Reservation Cleanup Contract (ORRCC) • Savannah River Liquid Waste Disposition (Liquid Waste)/ Integrated Mission Completion Contract • Tank Operations Contract (TOC) (ORP) • West Valley Demonstration Project • Portsmouth Decontamination & Decommissioning (Ports D&D)	• Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 5, *Promote Equity and Energy Justice* • Goal 6, *Advance Clean-Up of Radioactive and Chemical Waste*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Hanford Mission Essential Services Contract • Paducah Infrastructure • Portsmouth Infrastructure Support 2. The Savannah River National Laboratory (SRNL) is the DOE Office of Environmental Management (EM) national laboratory, and its resources are used to assist in the cleanup of the Cold War legacy waste for which EM is accountable. SRNL works collaboratively with other DOE laboratories to deploy technologies critical to environmental remediation and risk reduction; nuclear materials processing and disposition; nuclear detection, characterization, and assessments; and gas processing, storage, and transfer systems. SRNL starts its second year under an independent Management and Operating contract, to grow and modernize to assure it meets DOE's mission needs. SRNL's core missions are to provide innovative and practical solutions to address complex environmental cleanup, long-term stewardship, and nuclear security problems in EM, LM, and NNSA missions. EM also expects over the next few years to complete transfer of site landlord responsibilities to NNSA. This transfer is being pursued in recognition of the increasing role Savannah River will play in NNSA's ongoing nuclear security missions. EM will remain focused	

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				on completing the remaining legacy cleanup activities at the site. A transition plan is expected to be completed by the summer of 2023 that will define responsibilities and management of functions and capabilities for each organization. DOE currently expects the transfer to begin in 2025. **BACKGROUND:** The Savannah River National Laboratory Policy Office (as known as the EM Laboratory Policy Office (EM LPO) sponsors and coordinates the involvement of national laboratories in support of the EM mission activities, in accordance with the EM National Laboratory Governance Framework for the Savannah River National Laboratory (SRNL), which includes the charter for the EM National Laboratory Network (EMNLN). The EM LPO leads oversight and management of SRNL in partnership with the National Nuclear Security Agency (NNSA) Office of Policy with support from the EM and NNSA Savannah River Site/Field Offices.	
FECM	890,000	905,475	98	Since 2020, FECM has issued FECM has issued reports and studies in the following areas: 1. Point Source Capture (PSC) Research and Development (R&D) 2. Carbon Transport and Storage 3. Minerals Sustainability	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency,*

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				4. Carbon Dioxide Removal (CDR) 5. Carbon Conversion (CC) 6. Methane Mitigation Technologies	*Affordability, and Reliability* • Goal 5, *Promote Equity and Energy Justice*
FEMP	57,000[100]	82,200	13	1. FEMP provides information and tools to help agencies report annual energy and water consumption and resource management efforts for federal facilities. FEMP also collects and publishes agency performance data: • **Federal Comprehensive Annual Energy Reporting Requirements**: Comprehensive fiscal year reporting to meet the energy management requirements of the National Energy Conservation Policy Act, as amended (42 U.S.C. 8253-8258); the Energy Policy Act of 2005 (42 U.S.C. 15852); and associated executive orders.	Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050*

[100] DOE FY 2024 Budget in Brief (energy.gov), page 58: "FEMP tracks energy, water, and greenhouse gas data to annually report to Congress Federal agency progress and help prepare Office of Management and Budget Sustainability Scorecards. These activities were previously funded within the Office of Energy Efficiency and Renewable Energy (EERE)."

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• **EISA Federal Covered Facility Management and Benchmarking Requirements**: Reporting to meet the requirements of section 432 of the Energy Independence and Security Act of 2007 (EISA 432) and access to the FEMP EISA 432 Compliance Tracking System for reporting on facility evaluations, implementing and reporting efficiency measures, and benchmarking facilities per EISA 432 (42 U.S.C. 8253(f)). o For more information, visit the *FEMP EISA 432 Compliance Tracking System* at: https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Default.aspx?ReturnUrl=%2fCTSDataAnalysis%2fComplianceOverview.aspx 2. Federal performance data are available in two FEMP data sets. • **Federal Comprehensive Annual Energy Performance Data**: Government performance toward efficiency goals, data sets for the most recently reported fiscal year, greenhouse	

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				gas emissions inventories, and historical energy data back to fiscal year 1975. • **EISA Federal Covered Facility Management and Benchmarking Data**: Reports and data that illustrate federal progress in meeting the requirements of EISA 432 (42 U.S.C. 8253(f)). ○ For more information, visit the *FEMP EISA 432 Compliance Tracking System* at: https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Default.aspx?ReturnUrl=%2fCTSDataAnalysis%2fComplianceOverview.aspx	
GC	41,725	45,630	7	1. The Deputy General Counsel for Administration directs, manages, supervises and coordinates the activities and functions assigned to the following offices: • Assistant General Counsel for Ethics and Personnel Law • Associate General Counsel for Fiscal and Information Law 2. The Deputy General Counsel for Litigation, Regulation and Enforcement directs, manages, supervises and coordinates the activities and functions assigned to the	• Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				following Assistant General Counsels responsible for: • Litigation • Enforcement • Legislation, Regulation, and Energy Efficiency 3. The Deputy General Counsel for Environment and Compliance directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Environment • International and National Security Programs • NEPA Policy and Compliance 4. The Deputy General Counsel for Transactions, Technology, & Contractor Human Resources directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Procurement and Financial Assistance • Technology Transfer and Intellectual Property	

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				• Contractor Human Resources 5. The Deputy General Counsel for Energy Policy directs, manages, supervises and coordinates the activities and functions assigned to the following Assistant General Counsels responsible for: • Civilian Nuclear Programs • Standard Contract Management • Electricity and Fossil Energy 6. Office of the Chief Counsel for Loans Programs 7. Office of the Chief Counsel for Loans Programs 8. Office of the Chief Counsel for ARPA-E	
GDO	0	106,600	82	GDO's work within the Generation Credits, Transmission, and Grid Modernization Divisions leverage unique authorities to drive transmission investment, improve resource adequacy by maintaining and investing in critical generation facilities, improve transmission and distribution system resilience, and provide access to technical assistance and national laboratory expertise, modeling, and analytical capabilities. Key studies and initiatives include: 1. National Transmission Planning Study	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				(NTP) 2. National Transmission Needs Study 3. National Electric Transmission Congestion Study 4. Building a Better Grid Initiative 5. Atlantic Offshore Wind Transmission Study (AOSWTS) 6. West Coast Offshore Wind Transmission Study	
HC	35,300	40,144	38	1. Recruitment and Advisory Services (ORAS) 2. Human Resource Operations and Compensation (OHROC) 3. Employee and Labor Relations, Policy, and Oversight 4. Talent Management **REFERENCE:** DOE Strategic Human Capital Plan | Department of Energy	• Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*
HG	4,477	4,499	10	The Office of Hearings and Appeals (OHA) is a legal office separate from the Office of the General Counsel. It is composed of more than 15 dedicated attorneys and staff members who specialize in investigating, evaluating, and resolving legal disputes. Over the years, OHA has heard appeals from a variety of DOE determinations, including those related to: • FOIA decisions	Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Security Hearing decisions • Whistleblower decisions • EIA decisions • Oil Refund decisions • Product Efficiency decisions The procedures that OHA uses vary, depending on the type of case involved. OHA procedures are flexible and easily adaptable to new situations, allowing OHA to minimize "start-up" times and to produce high-quality work in new areas.	
IA	32,000	50,142	21	The Office of International Affairs coordinates Department efforts to ensure a unified voice in DOE's international energy policy. IA works closely with other Federal departments and agencies, and the private sector, to align DOE's international energy objectives with national energy policies and activities. IA also coordinates and manages DOE cooperation with counterparts from other nations and international organizations. IA leads over two dozen bilateral and regional energy dialogues, partnerships, councils, and other forums to help countries achieve their energy security, energy access, and climate goals. Among other areas, IA experts maintain extensive knowledge of the following issues: 1. Multilateral Engagement	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 3, *Advance Science Discovery and National Laboratory Innovation*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				2. Europe & Asia 3. International Economic Opportunity 4. Asia & the Indo-Pacific 5. The Middle East & Africa 6. International Science & Technology Collaboration 7. The Americas 8. Foreign Investment and National Security Research, Technology & Economic Security	
IE	75,000	110,050	3	1. IE leverages public-private partnerships, inter- and intra-governmental coordination, and government-to-government partnerships to maximize the return on investments in the future of Native American communities, and annual Program Review meetings to provide an opportunity for tribes and Alaska Native villages to share their successes and best practices. **BACKGROUND:** The Office of Indian Energy Policy and Programs (IE) is authorized to fund and implement a variety of programmatic activities that assist American Indian Tribes and Alaska Native villages with energy development, capacity building, energy cost reduction, and electrification of Indian lands and homes. IE works with American Indian Tribes and Alaska Natives to maximize the value of their energy resources through: • Facilitation of energy development	Goal 5, *Promote Equity and Energy Justice*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Education and training • Technical assistance • Funding	
IG	86,000	165,161	34	1. Over the years, OHA has heard appeals from a variety of DOE determinations, including those related: i. Economic oil regulations ii. Freedom of Information Act (FOIA) and Privacy Act appeals iii. Whistleblower matters iv. Exceptions and special redress v. Dispute resolutions vi. Department's Alternative Fuel Transportation Program vii. Physician panel reviews of DOE worker occupational illness claims viii. Payment-equal-to-taxes claims under the Nuclear Waste Policy Act of 1982 ix. Civil penalties imposed for violations of DOE's worker safety and health rule x. Equity interests in production from Elk Hills Oil Field, formerly Naval Petroleum Reserve No. 1. OIG audit and inspection reports can be found here: https://www.energy.gov/ig/calendar-year-reports. Reports are also categorized by mission/support area: • Environment Cleanup • Financial Assistance • Human Resources	Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Management & Administration • National Security & Safety • Science & Innovation 2. OIG conducts an annual review of its programs, publishing the review in annual performance plans. Metrics are derived from the goals as written in the *U.S. Department of Energy Office of Inspector General Strategic Plan 2022 – 2026*. Previous DOE OIG Strategic Plans can be found here: https://www.energy.gov/ig/strategic-plans. OIG's planned audits and inspections are guided by their Strategic Plan but also its annual Work Plan. OIG also publishes semiannual reports to Congress, highlighting key accomplishments of the OIG, particularly pertaining to our efforts to work with agency management to ensure the economy, efficiency, and effectiveness of DOE operations: https://www.energy.gov/ig/listings/semiannual-reports-congress. 3. Other OIG audits, inspections, and other reports include: • Calendar Year Reports • Consolidated Financial Statements	

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Follow Up 4. OIG also undergoes Inspection and Audit peer reviews conducted by independent third parties (i.e., IGs from other agencies), as all audit organizations must have an external peer review performed by an independent organization periodically.	
IM	215,000	245,169	37	1. Responsible for the management of the Federal Information Technology Acquisition Reform Act (FITARA) program, DOE IT Governance (i.e., Cyber Council), the Enterprise IT Project Management Office (ePMO), DOE Section 508 Program, DOE IT Budget and Capital Planning and Investment Control (CPIC), IT Policy, Paperwork Reduction Act, and Government-wide IT initiatives. This direction includes enterprise-wide compliance with external laws, regulations, policies, and standards. • FY 2018-2022 Information Resource Management (IRM) Strategy | Department of Energy • U.S. Department of Energy Federal Information Technology Acquisition Reform Act (FITARA) Common Baseline Implementation Plan and Self-Assessment | Department of Energy	Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Instructions for Performing the FY 2023 Agency IT Portfolio Summary (AITPS) • Instructions for Performing the FY 2023 Agency IT Portfolio Details (AITPD) Submission 2. The Integrated Joint Cybersecurity Coordination Center (iJC3) Operations provides Cyber Threat Intelligence and Cyber Incident Tracking and Reporting Coordination across DOE, including: 24/7/365 Operations, enterprise reporting, managing internal/external reporting related to BODs, EDs, and C-CARs and managing the Vulnerability Disclosure Program for the enterprise. 3. DOE's Geospatial Science Program Management Office (GS-PMO) – co-chaired with voting representation from the Office of Legacy Management (LM), with the OCIO providing technical, operational, administrative, and financial support as well as supporting external coordination efforts – was established to optimize geospatial investments across the DOE complex and to enable prudent stewardship of the resources provided by the American taxpayer. 4. Within the OCIO: • Chief Information Security Officer (CISO): Responsible for establishing and maintaining the enterprise vision, strategy, and program to ensure information assets and technologies are	

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				adequately protected. • Chief Privacy Officer (CPO): The DOE Privacy Program, overseen by the CPO, consists of four Focus Areas with corresponding privacy strategic objectives, performance measures and program outcomes. • Chief Data Officer: The CDO's focus is Enterprise Data Strategy, Enterprise Data Governance, Strategic Data Science, Analytics and Visualization, and Quality Management, leveraging data as a strategic asset in a cross-functional capacity.	
IN	N/A	N/A	38	IN protects vital national security information and technologies, representing intellectual property of incalculable value. IN's contribution to national security is the ability to leverage the Department's unmatched scientific and technological expertise in support of policymakers as well as national security missions in defense, homeland security, cyber security, intelligence, and energy security. IN is a member of the U.S. Intelligence Community.	Goal 4, *Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities*
LM	190,909	196,302	16	1. LM's responsibilities include long-term stewardship of 100 sites across the United States and Puerto Rico. This includes a variety of programs related to the country's nuclear defense and energy legacy, ranging	• Goal 5, *Promote Equity and Energy Justice* • Goal 6, *Advance Clean-Up of*

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				from oversight of the administration and management of legacy contractor benefits to assessing the condition of 2,500 defense-related uranium mines on federal public land. 2. The LM quarterly Program Updates highlight the key initiatives throughout the entire organization including the specific contributions and accomplishments of individuals responsible for LM's continued success with the following programs: • Applied Studies and Technology (AS&T) • Aviation Program • Defense-Related Uranium Mines Program • Environment, Safety, Health, and Quality (ESH&Q) • Environmental Sciences Laboratory (ESL) • Legacy Site Programmatic Framework • Post-Closure Benefits • STEM with LM • Title X • Uranium Leasing Program 3. LM 2020-25 Strategic Plan represents the fifth iteration of LM's organization's strategic planning efforts, accounting for LM's increased site management responsibilities. 4. LM's FY 2021-2025 High Performing Organization Plan is an internal planning	*Radioactive and Chemical Waste*

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				document LM staff uses to set management excellence and program performance goals. 5. LM oversees the Department's Environmental Justice (EJ) program, as the agency continues to be committed to EJ. DOE's EJ goals and objectives can be found in its latest EJ Implementation Plan: 2019 Environmental Justice Second Five-Year Implementation Plan (energy.gov).	
LP	-122,218	-107,224	19	1. Once LPO closes a loan or loan guarantee, projects are monitored and evaluated throughout project development, construction, commissioning, and operation until the loan has been repaid in full. LPO's team of financial, technical, environmental, and legal professionals is dedicated to advancing an all-of-the-above energy strategy that avoids, reduces, or sequesters greenhouse gases. 2. After financial close or first funding, responsibility for managing a project transfers from the LPO Origination Division to the Portfolio Management Division (PMD). PMD provides ongoing monitoring and oversight to ensure that the construction and completion phase of a project is executed in accordance with the terms and conditions of the loan documents. PMD is also responsible for maintaining compliance with the loan documents terms and conditions after project completion. Some of PMD's responsibilities include, but are not	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 5, *Promote Equity and Energy Justice*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				limited to, monitoring borrower activities to ensure compliance with the loan documents; monitoring and analyzing project costs, schedule, and performance quality; and review borrowers requests for amendments, consents, or waivers to the loan documents. 3. Each month, the LPO Monthly Application Activity Report (MAAR) updates: i. The total number of current active applications that have been formally submitted to LPO; ii. The cumulative dollar amount of LPO financing requested in these active applications; iii. The 24-week rolling average of new applications per week as of the close of the previous month; iv. Technology sectors represented by applications; v. Proposed project locations represented by applications; and vi. Status of where applications stand in the review process. **NOTE:** For more, refer to MAAR Metrics-Tech Sector Breakdown or MAAR Proposed Project Locations. 4. LPO publishes an Annual Portfolio Status Report for each FY. The latest can be found here: LPO-APSR-FY-2022.pdf	

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				(energy.gov).	
MA	66,000	103,245	63	1. Aviation Management 2. Executive Secretariat 3. Sustainability Performance 4. Energy Reduction at HQ 5. Real Estate 6. Facilities and Infrastructure 7. Federal Advisory Committee Management 8. Freedom of Information Act (FOIA) 9. Personal Property 10. Acquisition and Financial Assistance 11. Certifications and Professional Development	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*
MESC	0	179,490	51	DOE Bipartisan Infrastructure Law Provisions led by the Office of Manufacturing and Energy Supply Chains include: • Advanced Energy Manufacturing and Recycling Grant Program • Battery and Critical Mineral Recycling - Retailers as Collection Points, and State and Local Programs • Battery Manufacturing and Recycling Grants	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 3, *Advance Science Discovery and National*

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				• Battery Material Processing Grants • Energy Efficient Transformer Rebates • Extended Product System Rebates • Implementation Grants for Industrial Research and Assessment Centers • Industrial Assessment Centers • Rare Earth Elements Demonstration Facility • State Manufacturing Leadership	*Laboratory Innovation* • Goal 4, *Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities*
NE	1,773,000	1,562,620	43	1. NE manages the Idaho National Laboratory (INL) M&O Contract. INL is the nation's leading center for nuclear energy research and development. 2. NE publishes the **NE Scorecard Summary**, which documents progress regarding new plant construction, operating fleet status, and international status as it pertains to the following reactor technologies: • Light Water Reactors • Advanced Reactors ○ Advanced Reactor Demonstration Program • Versatile Test Reactor • Small Modular Reactors	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 5, *Promote Equity and Energy Justice* • Goal 6, *Advance Clean-Up of Radioactive and Chemical Waste*
NNSA	22,162,564	23,845,000	461	1. Every fiscal year, the NNSA completes an assessment of their management and	• Goal 1, *Drive U.S. Energy Innovation*

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				operating (M&O) partners' effectiveness in meeting the performance expectations as established by NNSA in NNSA NAP 540-3. This assessment is based on an evaluation of the annual Performance Evaluation and Measurement Plans (PEMPs) linked to each NNSA site. NNSA performance assessments are documented annually in a Performance Evaluation Report (PER), and award fee amounts are documented in a Fee Determination Memorandum. 2. In support of NNSA's major mission areas, the NNSA has established procedures to ensure that the planning, programming, budgeting, and evaluation (PPBE) activities of the NNSA comply with sound financial management principles, specifically to assess and determine whether progress has been made toward achieving identified performance measures at multiple levels within the NNSA. Major missions of the National Nuclear Security Administration include • Maintaining the Stockpile - NNSA ensures the United States maintains a safe, secure, and reliable nuclear stockpile through the application of unparalleled science, technology, engineering, and manufacturing. • Nonproliferation - NNSA works to prevent nuclear weapon proliferation and reduce the	*and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 4, *Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities* • Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				threat of nuclear and radiological terrorism around the world. The agency endeavors to prevent the development of nuclear weapons and the spread of materials or knowledge needed to create them. • Counter-terrorism and Counter-proliferation - NNSA plays a key role in preventing, countering, and responding to a terrorist or other adversary with a nuclear or radiological device. • Powering the Nuclear Navy - NNSA provides militarily effective nuclear propulsion plants and ensures their safe, reliable, and long-lived operation. **BACKGROUND:** The NNSA is responsible for eight (8) Government Owned, Contractor Operated (GOCO) facilities and laboratories, including three (3) FFRDC national laboratories; all supported by M&O Contracts: • Kansas City National Security Campus • Lawrence Livermore National Laboratory (LLNL) • Los Alamos National Laboratory (LANL) • Savannah River Site (SRS) • Naval Nuclear Laboratory, formerly known as Bettis/Knolls Atomic Power Laboratories (Bettis/KAPL) • Nevada National Security Site (NNSS) • NNSA Production Office (NPO) Pantex Plant and Y-12 National Security Complex	

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				• Sandia National Laboratory (SNL)	
OCED	89,000	215,300	67	Scope of OCED in the Bipartisan Infrastructure Law includes: • Advanced Reactor Demonstration Program • Carbon Capture Large-Scale Pilot Projects • Carbon Capture Demonstration Projects Program • Clean Energy Demonstration Program on Current and Former Mine Land • Energy Improvement in Rural and Remote Areas • Energy Storage Demonstration and Pilot Grants • Industrial Emissions Demonstration Projects • Long Duration Demonstration Initiative and Joint Program • Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency • Regional Clean Hydrogen Hubs	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 5, *Promote Equity and Energy Justice*
OE	350,000	297,475	13	In October 2023, DOE will hold the 2023 DOE Office of Electricity, Energy Storage Program Annual Meeting and Peer Review to assembled researchers from across the DOE landscape – national laboratories,	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				industry, government, and academia – to summarize the state of the art in energy storage research, development, and application. Program reviews solicit feedback from formal peer reviewers and attendees to ensure that program activities remain centered in high-impact focus areas, thereby optimizing the use of federal resources to fill critical R&D gaps. OE uses expert feedback to improve the program quality, and project principal investigators review evaluations to improve project efforts. In addition, reviews provide attendees with an opportunity to learn more about OE's vision, direction, and ongoing activities. **NOTE:** Evaluations conducted prior to 2015 can be found here: https://www.energy.gov/oe/reviews-archived	• Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 5, *Promote Equity and Energy Justice*
OP	23,950	52,037	17	• Office of Technology Policy focus areas include: o Energy Innovation o Energy Earthshots Initiative i. The first Energy Earthshot – **Hydrogen Shot™**	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency,*

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				ii. The second Energy Earthshot – **Long Duration Storage Shot™** iii. The third Energy Earthshot– **Carbon Negative Shot™** iv. The fourth Energy Earthshot– **Enhanced Geothermal Shot™** v. The fifth Energy Earthshot– **Floating Offshore Wind Shot™** vi. The sixth Energy Earthshot – **Industrial Heat Shot™** vii. The seventh Energy Earthshot – **Clean Fuels & Products Shot™** ○ National Climate Strategy • Office of Deployment and Infrastructure Policy focus areas include: ○ Supply Chains ○ Clean Energy Reliability • Office of State, Local, and Tribal Policy focus areas include: ○ Communities LEAP ○ Place-based Strategy ○ Justice40 ○ Cross-DOE Collaboration • Office of Energy Jobs focus areas include: ○ **U.S. Energy and Employment Report** ○ **DOE Labor Working Group** – The DOE Labor Working Group is a forum	*Affordability, and Reliability* • Goal 4, *Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities* • Goal 5, *Promote Equity and Energy Justice*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				for DOE and labor unions to engage on key energy topics.	
OTT	22,098	56,550	17	1. OTT conducts data management and analysis, evidence-based impact evaluations, and stakeholder engagement. The office also oversees two major DOE initiatives, the Technology Commercialization Fund (TCF) and the Lab Partnering Service 2. OTT also compiles market analysis reports, technology roadmaps, and other analyses of technology-market fit and pathways to commercialization from across the Department of Energy, which OTT has compiled to highlight the most useful ones. 3. Developed by OTT, the Practices to Accelerate the Commercialization of Technologies (PACT) Laboratory Call encouraged Labs to develop new ways to increase technology commercialization by reducing barriers to accessing Labs' capabilities, lowering transaction costs and improving the complex's ability to serve the private sector effectively. 4. In 2020, OTT launched the COVID-19 Technical Assistance Program (CTAP) to support efforts against the global pandemic, providing targeted funding for DOE's National Labs to offer short-term engagements with U.S. external entities in the fight against the novel coronavirus.	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 5, *Promote Equity and Energy Justice*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				5. OTT is statutorily required to develop and submit three reports to Congress annually: the "Technology Transfer Execution Plan", the "Report on the Utilization of Federal Technology, formerly the Report on Technology Transfer and Related Technology Partnering Activities at the National Labs and Other Facilities", and the "Technology Commercialization Fund Outcomes Report". In addition, since 2015 OTT has administered the Department's Annual Technology Transitions Data Call, whereby OTT collects from all DOE Labs, Plants, and Sites, manages, analyzes, and evaluates technology transfer performance data and contracts data in accordance with DOE Policy 482.2, *Laboratory Technology Transfer Data and Management*, and DOE O 471.7, *Controlled Unclassified Information*. Contracts data include partnership agreements - Federal and Non-Federal Strategic Partnership Projects (SPPs), Cooperative Research and Development Agreements (CRADAs), and Agreements for Commercializing Technologies (ACTs). Analyses are performed to support DOE technology transfer and commercialization activities, DOE programmatic evidence-based evaluation and decision-making, placed-based regional innovation, communications and external outreach, and reporting to	

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				OMB, Congress, and the public.	
PA	5,936	5,965	2	1. Identify opportunities to develop new content and share existing content about DOE's portfolio. 2. Monitor media, legislative, and stakeholder communications to advise senior agency officials about emerging news and public affairs issues and concerns. https://www.energy.gov/newsroom	Goal 7, *Operational Excellence*
PM	13,550	14,953	9	1. The Office of Project Management (PM) provides a monthly assessment of DOE's portfolio of capital assets projects, which is summarized in the monthly Project Dashboard report. This report assesses all active projects with an established performance baseline, including scope, cost, and schedule. Based on current performance: • GREEN projects are expected to meet their performance baseline • YELLOW projects are at-risk of breaching their performance baselines • RED projects are expected to breach their performance baselines For reference: August 2022 Project Dashboard | Department of Energy	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability* • Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 4, *Ensure America's Nuclear Security by Harnessing Unparalleled Science and*

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				2. Root Cause Analysis Report (RCA) 2008 - The Root Cause Analysis report identifies the key elements necessary to make the meaningful changes required to consistently deliver projects within cost and schedule performance parameters. 3. Corrective Action Plan (CAP) 2008 - The Root Cause Analysis Corrective Action Plan ensures that the root causes identified in the Root Cause Analysis report (above) are addressed with meaningful and lasting solutions in order to improve contract and project management performance. 4. RCA/CAP Closure Report of 2011 - This RCA/CAP Closure Report presents a status of the Department's initiatives to address the most significant issues and their corresponding root causes and officially closes out most of the issues and root causes. 5. Overall Contract and Project Management Improvement Performance Metrics and Targets: • FY 2008 • FY 2009 • FY 2010 • FY 2011 • FY 2012 • FY 2013 • FY 2014 • FY 2015 • FY 2016	*Technology Capabilities* • Goal 6, *Advance Clean-Up of Radioactive and Chemical Waste* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• FY 2017 • FY 2018 • FY 2019 • FY 2020 • FY 2021 • FY 2022	
SB	4,200	5,472	7	1. Every year, the Small Business Administration (SBA) works with each agency to set their prime and subcontracting goals and their grades are based on the agreed upon goals. Each federal agency has a different small business contracting goal, negotiated annually in consultation with the SBA. The SBA ensures that all the goals meet the 23 percent target for the federal government as well as the socio-economic goals established by statute. The latest SBA Scorecard can be found here: DOE FY 2021 Small Business Procurement Scorecard. 2. SBDU Annual Reports provide a comprehensive review of DOE performance in engaging small businesses. These reports contain a broad overview of small business prime contracts, first-tier Management and Operating (M&O) Subcontracts, and	• Goal 5, *Promote Equity and Energy Justice* • Goal 7, *Operational Excellence*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				other subcontracts to small business. OSDBU also publishes quarterly updates on their activities and achievements.	
SC	8,100,000	8,800,400	122	1. Technical, cost, schedule, and management peer reviews ("Lehman" reviews) of SC construction projects and large experimental equipment 2. Laboratory Appraisal Process 3. Merit Reviews for research grant applications 4. Peer Reviews for review and selection of research projects, including: o Advanced Scientific Computing Research (ASCR) peer reviews o Basic Energy Science (BES) peer reviews o Biological and Environmental Research (BER) peer reviews 5. Federal Advisory Committees (FAC), which provide independent advice to SC regarding complex scientific and technical issues influencing the planning, management, and implementation of research programs. 6. Laboratory Appraisals of: o Ames Laboratory in Ames, Iowa (https://www.ameslab.gov/) o Argonne National Laboratory in Argonne, Illinois (https://www.anl.gov/)	• Goal 3, *Advance Science Discovery and National Laboratory Innovation* • Goal 5, *Promote Equity and Energy Justice*

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				○ Brookhaven National Laboratory in Upton, New York (https://www.bnl.gov/world/) ○ Fermi National Accelerator Laboratory in Batavia, Illinois (https://www.fnal.gov/) ○ Lawrence Berkeley National Laboratory in Berkeley, California (https://www.lbl.gov/) ○ Oak Ridge National Laboratory, in Oak Ridge, Tennessee (https://www.ornl.gov/) ○ Pacific Northwest National Laboratory in Richland, Washington (https://www.pnnl.gov/) ○ Princeton Plasma Physics Laboratory in Princeton, New Jersey (https://www.pppl.gov/) ○ SLAC National Accelerator Laboratory in Stanford, California (https://www6.slac.stanford.edu/) ○ Thomas Jefferson National Accelerator Facility in Newport News, Virginia (https://www.jlab.org/)	

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				SC administers research through multiple program offices, spanning a broad range of disciplines: 1. Advanced Scientific Computing Research, 2. Basic Energy Sciences, 3. Biological and Environmental Research, 4. Fusion Energy Sciences, 5. High Energy Physics, 6. Nuclear Physics, 7. Project Assessment, 8. Workforce Development for Teachers and Scientists, 9. Small Business Innovation Research and Small Business Technology Transfer, 10. Accelerator R&D and Production (ARDAP), and 11. Isotope R&D and Production (IP)	
SCEP	0	705,000	104	1. Programs led by the Office of State and Community Energy Programs include: • Building, Training, and Assessment Centers • Career Skills Training • Energy Auditor Training Grant Program • Energy Efficiency Materials Pilot Program • Energy Efficiency Revolving Loan Fund Capitalization Grant Program	• Goal 1, *Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050* • Goal 3, *Advance Science Discovery and National Laboratory Innovation*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				• Energy Efficiency and Conservation Block Grant Program • Grants for Energy Efficiency Improvements and Renewable Improvements at Public School Facilities • State Energy Program • Weatherization Assistance Program 2. WAP and SEP provide funding and technical assistance to states, territories, the District of Columbia, and Native American tribes to enhance energy security, advance state-led energy initiatives, maximize the benefits of decreasing energy waste, and reduce energy costs for low-income households.	• Goal 5, *Promote Equity and Energy Justice*
SEPA	[101]0	0	4	1. The objectives of SEPA are to market electric power and energy generated by the Federal reservoir projects while encouraging widespread use of the power at the lowest possible cost to consumers. Power rates are formulated based on sound financial principles. Preference in the sale of power is given to public bodies and cooperatives, referred to as preference customers. Southeastern does not own transmission	Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

[101] DOE FY 2024 Budget in Brief (energy.gov), page 56: "Southeastern's use of receipts and alternative financing offsets its appropriations resulting in a net-zero balance for the program."

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				facilities and must contract with other utilities to provide transmission, or "wheeling" services, for the Federal power. 2. Program reporting is via annual reports, which discusses program status and financial performance. **BACKGROUND:** The development of future data requires the forecast of revenues, expenses and investment as detailed in DOE Order RA 6120-2.	
SWPA	[102]10,608	11,440	8	1. The SWPA announced its new Strategic Plan in October 2020. This Strategic Plan, focused on their vision for SWPA both the short and long-term providing a pathway to future workforce development, operations, partnerships, and evolving services. 2. This plan is coupled with an annual SWPA Performance Plan – including a Goal Overview. 3. SWPA details performance in SWPA Annual Reports. **BACKGROUND:** The Southwestern Power Administration's (SWPA's) mission is to	Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

[102] DOE FY 2024 Budget in Brief (energy.gov), page 57: "To maintain the infrastructure and modernize systems to increase the reliability, efficiency, and use of Federal assets, Southwestern utilizes appropriations, Federal power receipts, and alternative financing. Of these, 93.0% is derived from use of receipts and alternative financing, resulting in a net appropriation of only 7.0%."

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				market and reliably deliver Federal hydroelectric power with preference to public bodies and cooperatives. As one of four Power Marketing Administrations in the United States, SWPA markets hydroelectric power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas. Over 5.6 billion kilowatt-hours of energy are marketed annually within this six-state region from interconnected Federal hydropower projects, and more than 10 million end users are served by the municipalities, electric cooperatives, and military installations to which Southwestern markets wholesale power and energy. The development of future data requires the forecast of revenues, expenses and investment as detailed in DOE Order RA 6120-2.	
WAPA	98,732	99,872	112	1. WAPA's strategic plan, Power Forward 2030, provides direction to ensure WAPA remains a trusted source of affordable and reliable energy and transmission services, an innovative contributor to grid resilience, an engaged partner, and a supportive employer. 2. WAPA provides program status and reporting via annual reports. Status is based on objectives laid out in the WAPA Tactical Action Plan.	Goal 2, *Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability*

DOE Element	[94]FY23 Enacted ($K)	[95]FY24 Request ($K)	# of Staff (Fed)	Applicable Evaluations, Studies, Research, and Analyses	FY22-26 Strategic Goal(s) (DRAFT)
				3. WAPA has a created a website (called The Source), which offers a one-stop shop for financial and operational information as WAPA has partnered with customers to determine data elements and information that would be most helpful to understand cost drivers and expenditures. **BACKGROUND:** The Western Area Power Administration's (WAPA) mission to market and deliver clean, renewable, reliable, cost-based federal hydroelectric power and related services.[103] WAPA's service area encompasses a15-state region of the central and western U.S. where our more than 17,000 circuit mile transmission system carries electricity from 57 hydropower plants operated by the Bureau of Reclamation, U.S. Army Corps of Engineers and the International Boundary and Water Commission. Together, these plants have an installed capacity of 10,504 megawatts. The development of future data requires the forecast of revenues, expenses and investment as detailed in DOE Order RA 6120-2.	

[103] Western Area Power Administration, FY 2020 Annual Report: https://www.wapa.gov/newsroom/Publications/Documents/FY-2020-annual-report.pdf