1.0 Purpose

The Office of Energy Efficiency and Renewable Energy (EERE) in the U.S. Department of Energy is committed to proactively conducting evaluations and using the results to support efficient management of our investments and achieve greater accountability to the American people.

Evaluation, per the Evidence Act[1], means "an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency."[2] Appendix A provides definitions and examples of different types of evaluations. Some of the main categories include:

- Process or Implementation Evaluations - which encompass existing Peer Review processes that are already well-established throughout EERE, and seek to evaluate the strategic aim and execution of activities;
- Outcome Evaluations - which investigate whether the products and outputs of work are effectively being utilized to achieve intended outcomes, but do not determine causal linkages to outcomes, and;
- Impact Evaluations - which utilize more rigorous experimental or quasi-experimental designs to establish causal linkages between activities, outputs, and the outcomes of the funded work.

All of these are referred to throughout this document as 'evaluations.' Evaluations enable EERE to establish a culture of continuous learning for process improvement and document achieved outcomes and impacts.

During the past 18 years EERE has established a capacity form performing peer reviews (a form of process evaluation) and each Technology Office now routinely conducts peer reviews of ongoing projects, often along with the strategic aims and balance across its portfolio, every year or two. A peer review guide exists that provides requirements and guidance for EERE Offices to develop and maintain In-Progress Peer Reviews as part of their program management process. https://www.energy.gov/eere/analysis/peer-review-guidance-december-2020-eere-g-413001

EERE has further work to do to strengthen its capacity to conduct and utilize other types of evaluations. This document serves as guidance to be utilized within EERE to improve its capabilities to conduct high-quality evaluations, and for the scoping and implementation of these other types of evaluations, though it is particularly focused on formal impact evaluations.   This is because formal impact evaluations are very complicated, and there are well-established professional principles/standards and federally recognized best-practices in conducting them. This guide is also consistent with Office of Management and Budget (OMB) M-20-12, M-19-23, and M-21-27, which

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[1] Pub. L. No. 115-435, 132 Stat. 5529 (2019), available at
https://www.congress.gov/115/plaws/publ435/PLAW115publ435.pdf.
[2] Office of Management and Budget, Memorandum M-21-27, available at: https://www.whitehouse.gov/wp-content/uploads/2021/06/M-21-27.pdf

requires federal agencies to establish evaluation policies and encourages various sub-organizations within the agencies to do so as well.

2.0 Applicability

This Guidance is applicable to different types of evaluations at different program life cycle stages, including planning and early implementation, during program operations, at or shortly after closeout, or much later after program completion. Offices are encouraged to consider and conduct different types of evaluations depending upon their different needs and resources. EERE staff are encouraged to consult and utilize this Guidance when planning and managing evaluations or when communicating evaluation results.

3.0 Evaluation Principles

Evaluators need to practice and apply several principles to ensure that established standards, where applicable, are applied in their work. This is in accordance with OMB Memoranda M-20-12 and M-21-27 and consistent with practices in the broader professional evaluation community[3]. This includes relevance and utility, rigor, independence and objectivity, transparency, and ethics. Recently, agencies have added a principle for equity. EERE establishes the following guiding principles for evaluations:

Relevance and Utility

EERE evaluations should be scoped to address one or more of the following interest areas:

- Legislative requirements,
- Administrative priorities,
- Departmental priorities,
- EERE Leadership priorities, or
- Important other interests in new or diverse programs.

Evaluations should produce timely and actionable findings to help inform EERE management; aid in program design and improvement, budgeting, and accountability; and serve the information needs of key external stakeholders.

Rigor

Regardless of the type of evaluation, EERE evaluations should produce credible findings based on accepted scientific principles and methods. This includes using the most appropriate design and sound methods, consistent with scale, available resources, timeline, and other feasibility considerations. Impact evaluations should consider the most appropriate and feasible research design to ensure rigorous cause and effect inferences. For these evaluations, research design decisions should be considered based on the following sequence – first, Randomized Control Trials, second, Quasi-experimental designs with a comparison group, and lastly, Observational

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[3] Guiding Principles for the American Evaluation Association, available here: https://www.eval.org/About/Guiding-Principles

design using an appropriate rigorous counterfactual approach. In all cases validity threats should be identified and treated as possible. Further detail on specific methodologies and best practices for impact evaluations can be found in Appendix C.

To the greatest extent possible, determinations about how to potentially evaluate and consideration of the data collection necessary to support evaluation should be specified at the outset of new projects or programs, for which evaluations are either planned or likely.

Independence and Objectivity

Independence and objectivity are important for evaluations to be viewed as credible and unbiased. For all EERE evaluations, the personnel conducting and managing evaluations should operate with the appropriate levels of independence given the type of evaluation being conducted. This is one of the main reasons why existing Peer Review processes utilize independent, external expert reviewers and any possible appearances of conflict of interest are identified and mitigated. While Peer Reviews are important for internal management decision-making and project adjustment, their results are also critically important for demonstrating to external stakeholders that EERE is committed to the independent evaluation of the execution of its work.

Process evaluations for instance, whose results are most likely to be utilized within EERE to consider effectiveness and potential changes to business processes, may not require independent, external evaluators. Regarding impact assessments, OMB and other best practices do recommend the use of separate independent, external organizations to conduct and then review the findings for these types of studies, including peer review of methodology and draft findings by separate experts not conducting the evaluation. Regardless of the type of evaluation, they should be scoped in such a way as to be as objective as possible and reduce the appearance of bias. This will better ensure that any results of evaluations are accepted by decision makers, stakeholders, and the public. Independence and objectivity apply to evaluation planning, design, conduct, interpretation, and dissemination of findings.

Transparency

EERE evaluations should clearly document and broadly share their purpose, objectives, design, and methods, and present all results, whether the findings are favorable, unfavorable, or null. Evaluations must provide a clear explanation of limitations. Documentation should include sufficient detail for other parties to review, interpret, or reanalyze the work. Once evaluations are complete, EERE should endeavor to publicly release findings in a timely manner. The level of transparency in publicly sharing evaluation information can consider any sensitive internally focused management information, legal, ethical, national security, or other constraints that may prohibit full disclosure.

Ethics

EERE will conduct evaluations in an ethical manner[4]. This includes adhering to applicable human subject protection laws and safeguarding the dignity, rights, safety, and privacy of participants and other stakeholders.

Equity

Equity[5] should be considered in the lifecycle of EERE evaluations activities and evaluation projects. This includes the cultural and contextual perspectives from diverse stakeholders who are impacted by the program or project being evaluated. Equity concerns are applicable not just in how the evaluation is conducted, but also in who conducts the evaluation. Efforts should be made to use Minority and Women-Owned Businesses and Disadvantaged Business Enterprises when conducting evaluations, in accordance with existing DOE and government-wide best practices.

4.0   When to Evaluate

EERE Offices are encouraged to consider the following when determining the need and opportunity for different types of evaluations.

Possible Considerations in Determining the Need and Opportunity to Evaluate

1. Priority investment areas (Administration, DOE, or organizational objectives)
2. Compliance with statutory requirements to produce evidence or formally evaluate
3. Large size investments (relative to the average annual Office budgets) either over a short time period or cumulative investments in specific areas over many years
4. When a reasonable time-to-effect is expected to have occurred, considering the type of evaluation (for example, a short-term outcome evaluation of the usage and uptake of R&D products may be ideal within 1-3 years after the completion of funded activities, whereas conducting a longer-term impact evaluation may be best suited 5-10 years after projects have ended)
5. Whether a program/portfolio of significant size or importance has been evaluated at any point in its life cycle. (If so, how long ago and to what extent and rigor?)
6. Whether activities are designed and executed with new, untested approaches
7. Whether there is likely interest in scaling up or down, redesigning, or possibly replicating a program or investment elsewhere

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[4] Department of Energy Standards of Ethical Conduct, available here: https://www.energy.gov/ig/standard-ethical-conduct-employee

[5] Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government defined equity as: "the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and LGBTQ+ persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality."

8. If there is a need to determine why an investment is underachieving or not achieving intended results
9. If an interest exists to determine how varying program design or management practices across different activities have led to different outcomes (for instance, how different ways of designing and structuring prize competitions have led to differing results)
10. Whether programs include high public profile activities
11. Whether common metrics and/or common stakeholders exist across many Technology Offices that could be useful for comparison

It is also important to note that, unlike the Guidance for Peer Reviews[6], which recommends reviewing a majority of an Office's portfolio every few years, it will often not be useful or possible to conduct multiple different types of evaluations for large percentages of EERE or individual Technology Office's portfolios. Decisions regarding when to evaluate must be selective based on the criteria above and/or other leadership priorities, and take into consideration the time and cost for evaluation vs. the intended use and benefit.

Moving forward after the finalization of this Guidance, Technology Offices are strongly encouraged to identify evaluations (and types) they believe would be beneficial to conduct in future years (e.g., FY_{+1}, FY_{+2}). Beginning in FY 2024, EERE intends to begin an annual process for considering how to support different types of Technology Office-led evaluations as part of the yearly budget process. It is intended that identifying new desired Technology Office-led evaluations, and determining the prioritization of those will be driven by the Technology Offices themselves, and will be encouraged but not required by EERE leadership.

5.0   Quality Assurance Standards for Impact Evaluations

EERE must specifically ensure that its impact evaluation studies are well-executed and have credibility with program managers, EERE Senior Management, Office of Management and Budget (OMB), Congress, and other stakeholders. These studies are often the most complicated, costly, time-consuming, and subject to skepticism or dismissal of results if not carried out carefully. Offices should adhere to established quality assurance (QA) operating procedures that promote high quality evaluations. EERE has had as impact evaluation QA procedure that has been in place since 2006, recommending that offices have their impact evaluation technical plans and subsequent draft final reports peer reviewed by evaluation and other subject matter experts. For all impact evaluations, it is highly recommended that the EERE Manager of the study conduct two reviews (one of the study methodology before execution, and one of draft results), usually using the same independent, external review panel.

The methodology and technical plan typically include detail on the program logic model, research questions, metrics aligned with the questions and logic, data collection plan, specification of the evaluation research design, discussion of sampling and intended statistical analysis, and explanation on how any anticipated internal, external, and measurement validity threats could be

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addressed. It is better to identify and correct possible technical weakness in the design of a study at this early stage, before the study fully begins. Second, after the technical plan is revised per reviewer comments, the study can be executed by a contracted, independent third-party. Later, reviewers should be reconvened to consider the draft final report before it is completed and published. More details on the quality assurance standards for impact evaluations can be found below in Appendix C.

6.0 Roles and Responsibilities

Key roles and responsibilities are outlined below in Table 1, with Peer Review roles and responsibilities presented separately from those for other types of evaluation because EERE peer review guidance already exists. The processes for Technology Offices to plan and conduct Peer Reviews and identify staff to organize them has been well-established in recent years. For peer reviews, each Office Director already appoints a Peer Review Lead (PRL) to facilitate the Peer Review process.

However, there have never been formally identified points-of-contact within the Technology Offices to support other evaluation activities and develop necessary expertise. This Evaluation Guidance seeks to address that gap and asks each EERE Technology Office to assign an Evaluation Point of Contact (POC) and a backup staff member who can develop impact and other evaluation expertise over time, can help to identify possible Office-specific evaluations, and can provide input to EERE corporate evaluation activities.

The best-practice will be for EERE Technology Office primary evaluation POCs to be career federal staff members, though exceptions can be made given staff turnover or other circumstances. The requirement is that 15% of the POC's time would be made available for training and various other activities (with 5% of a Backup POC's time being made available, mainly for some lesser amount of training and to attend some meetings and support the primary POC). Mainly, Evaluation POCs in EERE Technology Offices would be responsible for:

- Receiving a base level of initial training (with additional annual trainings) in program and impact evaluation methods and evolving federal best practices,
- Proposing, planning, and helping to manage any Technology Office-specific evaluation activities,
- Staying aware of and contributing to ongoing EERE-wide evaluation activities
- Communicating and maintaining contact with the EERE's Evaluation team in the Office of Integrated Strategies,
- Participating in monthly meetings for updates on all ongoing EERE evaluations and efforts to improve EERE data systems to support evaluation activities.

It is envisioned and encouraged that these Technology Office Evaluation POC's be rotated every few years, so that new staff members can receive evaluation training and experience, and over time the number of staff in each Office who are knowledgeable about basic evaluation principles and best practices can grow.

Whereas specialized subject matter expertise is less essential for process (inclusive of peer reviews), formative, and outcome evaluations, impact evaluations should be managed and conducted by qualified evaluators.[7] Impact evaluation involves applying experimental or quasi-experimental research designs and appropriate analytics that are not necessary for other types of evaluation. It is important that EERE federal personnel managing impact evaluation studies be knowledgeable and experienced in impact evaluation methods and practices. It is also important that independent contractors hired to perform impact evaluations be qualified SMEs with demonstrated experience in the field. The corporate EERE Evaluation Team will also have impact evaluation SMEs available to provide any necessary assistance required by the Technology Offices, including help in scoping, procurement, management, review or dissemination of impact evaluation results.[8]

Table 1. Key Evaluation Roles and Responsibilities

Key role	Responsibility
Integrated Strategies Senior Advisor for Metrics, Measures and Evaluation	• Develop the strategy for improving Evaluation capacity across EERE • Coordinate amongst the Evaluation Team, PDAS, EE-1, and Technology Office staff
Integrated Strategies Evaluation Team	• Manage the Evaluation Function for EERE that supports the PDAS, EE-1, and all Technology Offices
EERE Technology Office Directors	• Appoint an Office Evaluation POC and Backup • Engage in ongoing annual processes to identify Technology-Office specific evaluation priorities • Appoint a Peer Review Lead and ensure that Reviews are conducted regularly, per requirement in the EERE Peer Review Guide
Peer Review	
Peer Review Lead (PRL)	• Leads the team in the coordination, planning, and execution of Peer Reviews in accordance to established EERE guidance

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[7] Impact evaluators must have evaluation subject matter expertise and demonstrated experience in, but not limited to, the following areas.
- A relevant amount of experience as a program evaluation subject matter expert,
- Experience with summative, formative, and process evaluations,
- Completed more than one impact evaluation study [retrospective; not forecasting or prospective] to determine the causal effects of interventions and programs,
- Demonstrated experience with developing and using appropriate research designs (e.g., randomized control trial, quasi-experimental, mixed methods) to enable estimation of net effects,
- Knowledge of relevant measurement methods for obtaining energy and other outcomes,
- Demonstrated experience with using statistical sampling approaches and inferential statistical analysis, and
- A deep understanding of validity threats in quantitative research and approaches to eliminate or mitigate them.

[8] The EERE Evaluation team maintained in the Office of Integrated Strategies includes evaluation staff who perform the following activities – a) establish EERE corporate guidance and standards of evaluation practice, b) design and manage EERE corporate impact evaluation studies, including sometimes for individual EERE offices, c) develop evaluation methodology and tools, d) provide evaluation technical assistance and organize training, e) provide expert review of EERE evaluation studies, f) lead the Evaluation Community of Practice (CoP), g) maintain the EERE Program Evaluation website, and h) represent EERE in interagency evaluation meetings.

Peer Review Support Services Contractor	• Supports the PRL in the planning, executing, and documenting the Peer Review
Experts who serve as reviewers in an office peer review	• Reviewers will review materials provided, participate in the review, and provide independent evaluations and scoring for each project or activity. Reviewers are not to seek to obtain consensus with other reviewers.
Impact, Outcome, or other Process Evaluations	
EERE Technology Office Evaluation POC (and Backup)	• Responsible for undertaking certain amounts of both internal and external training and professional development to build evaluation expertise (that are built into professional development and/or performance plans), for helping their Technology Office to consider and scope new evaluation activities, and to remain cognizant and provide input to EERE corporate evaluation efforts.
Evaluator Contractor	• If required given the type of evaluations, assists in planning and independently performs an evaluation study and prepares the study report. This contractor must be a qualified professional evaluator.
Evaluation reviewers (especially necessary for Impact Evaluations)	• Recognized experts who review study research design, data quality, treatment of validity threats, study transparency and documentation, interpretation of findings, energy sector subject content, etc. Most of these expert reviewers should be qualified evaluators and not part of the team or organization that carried out the evaluation.

References

1. Foundations for Evidence-Based Policymaking Act of 2018. 2019.

2. Office of Management and Budget, Memorandum M-20-12: Phase 4 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Program Evaluation Standards and Practices. March 10, 2020.

3. Office of Management and Budget, Memorandum M-21-27: Evidence-Based Policymaking: Learning Agendas and Annual Evaluation Plans. June 30, 2021.

4. Office of Management and Budget, Memorandum M-19-23: Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance, July 10, 2019.

5. Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. January 20, 2021, The White House: Washington, DC.

6. U.S. Department of Energy Evaluation Policy, September 2021. https://www.directives.doe.gov/directives-documents/400-series/0410.3-APolicy/@@images/file

7. National Science Foundation Evaluation Policy, September 2020. https://nsf-gov-resources.nsf.gov/2021-07/nsf_evaluation_policy_september_2020_0.pdf

Appendix A. Definitions of Types of Evaluations and EERE Examples

As described in OMB Memorandum M-20-12, different types of evaluations include:

- **Formative Evaluation:** Typically conducted to assess whether a program, policy, or organizational approach, or some aspect of these, is feasible, appropriate, and acceptable before it is implemented. It may include process and/or outcome measures. However, unlike outcome and impact evaluations, which seek to answer whether the program, policy, or organization met its intended goals or had the intended impacts, a formative evaluation focuses on answering questions and learning before program implementation. Formative evaluations are often conducted internally and are useful in developing of a formal logic model or theory-of-change.

  EERE example: The Structure and Operation of the Commercial Building Market

- **Process or Implementation Evaluation:** Assesses how the program or service is delivered relative to its intended theory of change and often includes information on content, quantity, quality, and structure of the project or services provided. These evaluations can help answer questions such as, "Was the program, policy, or organization implemented as intended?" or "How is the program, policy, or organization operating in practice?"
  EERE example: Process Evaluation of the Better Buildings Neighborhood Program (Final Evaluation Volume 4)

- **Output and Outcome Evaluation:** Measures the extent to which a program, policy, or organization has achieved its intended outcome(s) and focuses on outputs and products (like patents, publications, other newly produced tools or infrastructure) to assess effectiveness. Unlike impact evaluation, it does not discern causal attribution. Importantly, it is distinct from, but complementary to, performance measurement. An outcome evaluation can help answer questions like, "Were the intended outputs and products of the effort delivered?", "Have dissemination and/or utilization of the outputs and products met expectations?", or "Are there measurable outcomes or changes to behavior that can be logically or directly linked to the dissemination/utilization of outputs and products?"
  EERE example: Results of the 2008/2009 Knowledge and Opinions Surveys Conducted for the U.S. Department of Energy Hydrogen Program

- **Impact Evaluation:** Assesses the causal impact of a program, policy, or organization, or aspect thereof, on outcomes relative to those of a counterfactual. In other words, this type of evaluation estimates and compares outcomes with and without the program, policy, or organization, or aspect thereof. Impact evaluations include both experimental (i.e., randomized controlled trials) and quasi-experimental designs. An impact evaluation can help answer the question, "Does it work, or did the intervention lead to the observed outcomes?"
  EERE example: Analysis of the U.S. Department of Energy's Energy Efficiency and Renewable Energy and Fossil Fuel SBIR Programs

Table B1. Roles and Responsibilities for Managing and Performing Evaluations

Steps in Performing and Managing Evaluation Studies	Roles and Responsibilities	
	DOE Evaluation Project Manager	**Third Party Evaluator**
Step 1. Prepare for the Evaluation		
• Initial Evaluation Planning (may be done in consultation with experts)		
o Determine and prioritize the intended uses of evaluation information	✓	
o Identify what kinds of evaluation information is needed for the intended uses and decide on the type of evaluation needed to develop the information	✓	
o Align timeline for completing the evaluation with when information is needed	✓	
o Determine the level of evaluation rigor needed to satisfy the intended uses of the results	✓	
o Formulate an initial program logic model, metrics, and evaluation questions	✓	
o Estimate evaluation cost and other resources needed	✓	
o Organize background data and program records for use in the evaluation	✓	
Step 2. Hire an Independent Outside Evaluator		
• Develop the request for proposals (RFP)	✓	
• Implement the RFP competitive solicitation process to hire an independent evaluator	✓	
• Ensure EERE quality assurance protocol for the evaluation is set up to be implemented (i.e., a procedure for external peer review)	✓	
Step 3. Develop the Evaluation Plan		
• Develop a final program logic model, metrics, and researchable evaluation questions		✓
• Perform an evaluability assessment		✓
• Determine an appropriate research design		✓
• Establish a data collection plan		✓
• Choose the appropriate analytical method(s) for the selected research design	✓	✓
• Participate in peer review of the evaluation plan	✓	✓
Step 4. Conduct the Evaluation		
• Perform sampling, data collection, measurement and verification		✓
• Complete data analyses and calculations		✓
• Identify key findings		✓
Step 5. Manage the Evaluation Project During Implementation		
• Hold and participate in periodic project progress-review meetings	✓	✓
• Review project status reports from the third party evaluator	✓	✓
• Monitor evaluator's achievement of milestones and expenditures	✓	✓
• Manage the internal and external review process	✓	
• Anticipate and address technical and management challenges	✓	✓
Step 6. Report the Evaluation Results		
• Prepare draft and final evaluation reports using DOE reporting guidelines		✓
• Participate in peer review of draft evaluation report and publish final report	✓	✓
Step 7. Use the Evaluation Findings		
• Distribute the evaluation report and results	✓	
• Use the results to make decisions about the program	✓	
• Use the results for high impact communications	✓	
• Establish/Update Program Records for use in future evaluations	✓	

Source: Project Manager's Guide to Managing Impact and Process Evaluation Studies, by Yaw O. Agyeman, Lawrence Berkeley Laboratory & Harley Barnes, Lockheed Martin August 2015; https://www.energy.gov/sites/default/files/2015/09/f26/project_manager_guide_managing_impact_process_evaluation_studies.pdf

Appendix C. Standard Operating Procedure (SOP) Regarding Quality Assurance for Impact Evaluation Studies

[This SOP was originally finalized on June 26th, 2006 ([located here](#)), and will be considered abridged and updated when this guidance document is finalized.]

1.0   PURPOSE

As stated by OMB, "Federal evaluations must be independent and objective. These core and complementary principles of evaluation depend on the independence and objectivity of the evaluator(s)."[9]

> **1.1   Purpose**: The purposes of this SOP are to:
>
> > **1.1.1**   Provide independence and quality assurance procedures for impact evaluations to better ensure studies and their results will be seen as unbiased and of high quality by Program Managers, EERE Senior Management, Office of Management and Budget (OMB), Congress, and other stakeholders.
>
> **1.2   Applicability**: This SOP is applicable to all impact evaluations sponsored by EERE or its individual Technology Offices. For example, these evaluation studies include assessing both *retrospective, and realized* energy and environmental emissions achieved, among other metrics.
>
> **1.3   Policy:** It is EERE's policy to:
>
> > **1.3.1**   Ensure an objective and independent evaluation process is used in the conduct of impact evaluations.
> >
> > **1.3.2**   Use independent, unbiased experts who are third-party professional Evaluators with no conflict of interest to conduct impact evaluations as defined in 2.1.
> >
> > **1.3.3**   Promote high quality in the evaluation study design, data collection, analysis, and reporting by having the Evaluator's work reviewed by his/her peers.

2.0   DEFINITIONS

> **2.1   Impact Evaluations**: Attempt to analyze and document the causal impact of a program, policy, or organization, or aspect thereof, on outcomes relative to those of a counterfactual. In other words, this type of evaluation estimates and compares outcomes with and without the program, policy, or organization, or aspect thereof.[10] (Note, this does not pertain to prospective assessments of potential or desired impacts of ongoing or future activities.)
>
> **2.2   Sponsor**: An EERE office that provides the funds for the study and staff who have responsibility for managing the evaluator's contract for the study.
>
> **2.3   Evaluator**: An expert in evaluation methods who has the primary responsibility for developing the Evaluation Plan, conducting the study, and reporting results. The evaluator

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[9] OMB Memo M-20-12, March 2020. https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf
[10] OMB's June 2021 memo M-21-27, https://www.whitehouse.gov/wp-content/uploads/2021/06/M-21-27.pdf

may work alone or as the leader of a research group of professionals having this distinct expertise.

2.4   **Independent:** Unbiased parties with no conflict of interest would conduct the evaluation. Evaluations conducted by a Technology Office itself (or those who are part of the organization that conducted the work to be evaluated) should generally not be considered 'independent;' however, if the agency or program has contracted out the evaluation to a third party this may qualify as being sufficiently independent. Evaluations conducted by an agency's Inspector General or program-evaluation office might also be considered 'independent'.

3.0   RESPONSIBILITIES

An impact evaluation should be conducted independently by a third party. However, multiple parties have roles in the process of planning, designing, conducting and using an impact evaluation. The involvement of multiple parties helps to neutralize the possibility of individual biases among participants and brings a balance to the overall process, while ensuring the program's information needs are met.

3.1   **The Office Undertaking an Impact Evaluation Study**:

3.1.1   Assign a staff point-of-contact for the evaluation who will handle the administrative management of the study.

3.1.2   To ensure the evaluation is conducted independently by a third party, use a competitive solicitation process to hire a qualified evaluation contractor.

3.1.3   Assemble a standing or ad hoc Evaluation Review Panel of 3 to 6 independent third party evaluation peers who are not part of the Evaluator's Team. Use an objective process for selecting qualified evaluation peer review experts. The review panel may include a few non-evaluator experts who have expertise in the program-specific subject matter (e.g., building technology, vehicle technology experts, etc.) Have each reviewer sign a Non-disclosure agreement and Conflict of interest (COI) form designating they have no COI.

3.1.4   Provide the Review Panel with all appropriate information in a timely manner for review of the Draft Evaluation Plan (prior to the study beginning) and Draft Study Report to facilitate their ability to undertake the most thorough review possible.

- The Draft Evaluation Plan concludes the planning stage of the evaluation and should be reviewed before the study is implemented (such as before fieldwork to collect data is started).

- The Draft Study Report should be completed after data collection and analysis is completed based on implementation of the Final Evaluation Plan. The Draft Study Report would be completed many months after the Plan is finalized.

3.1.5   Task the Review Panel with ensuring that the overall study is well-designed, sufficiently rigorous, and free of professional bias, through an independent review.

3.1.6 Review the revised Draft Evaluation Plan and Draft Report to ensure the final plan and report adequately addresses reviewer comments.

3.1.7 Review the final report and make it publicly available. Prior to the office publishing the Final Study Report, the Final Study Report should be reviewed by the office's staff responsible for managing the study. Transparency is a core principle of evaluation.[11] This means This means that after an evaluation is completed, the evaluation report should be made public, disclosed consistent with applicable laws, regulations, and policies to ensure the proper protection of interests such as the security, privacy, and integrity of the data and participants. If possible, the data collected during an evaluation should be made available.

3.2 **Evaluation Experts Available in the EERE Integrated Strategies Office:**

The Integrated Strategies (I.S.) Office has an Evaluation Team to assist Technology Offices with peer review of evaluation studies. The I.S. evaluation team is considered independent of the Technology Offices. The team is available to advise office staff on the best practices in managing impact evaluation studies and help set up the expert review process for the evaluation study, and or to assist in soliciting for and contracting with independent, external evaluators.

3.3 **Evaluator**:

The evaluator is expected to be an objective, independent third party with no conflict of interest. An evaluator who has a longstanding relationship with an EERE program (particularly where the relationship includes involvement in routine program implementation and analysis activities) may not qualify as being sufficiently independent to evaluate that program. An evaluator contractor who has a longstanding relationship could be perceived by Congress and other stakeholders as having a conflict of interest.

3.3.1 Sign a Conflict-of-Interest form and Non-disclosure form.[12]

3.3.2 Prepare a detailed Draft Evaluation Plan describing an evaluation's proposed design, methods, and reporting, along with timelines for implementation.

3.3.3 Participate in a review of the Draft Evaluation Plan and Draft Study Report that will include written feedback from the Review Panel. In most cases the Evaluator will meet face-to-face with the Review Panel for a discussion of the review comments and proposed responses.

3.3.4 Respond to reviewer comments and modify the Draft Evaluation Plan and Draft Study Report, as appropriate.

3.3.5 Submit a Final Evaluation Plan and a Final Study Report that responds to internal client office and external expert reviewer comments.

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[11] OMB Memo M-20-12, March 2020. https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf
[12] Both forms are available in the Appendix F and G, respectively, of the EERE Peer Review Guide.

3.4   <u>**Review Chairperson:**</u>

The review process could include a Review Chairperson. This person should be an experienced evaluator who is objective, unbiased, and independent from both the office sponsoring the study and the entity conducting the evaluation. A member of the Integrated Strategies could serve as a Review Chairperson or an external expert could be assigned to that role. The Review Chairperson serves a unique and important role that can begin early in the review process once he/she is selected. Areas where the chairperson provides direction, oversight, and final decisions may include the following:

3.4.1   Selecting the members of the Review Panel.

3.4.2   Establishing review criteria and questions.

3.4.3   Ensuring independence of the panel members during the review and the independence of the review more generally.

3.4.4   Facilitating the review process including a meeting between study Principal Investigator(s)and the review panel.

3.4.5   Ensuring that the review is focused on substance.

3.4.6   Overseeing the production of the review summary report.

4.0   **RECORDS**

4.1   The EERE Project Manager of the study should keep a hard copy record of the external review for a period of at least 2 years. The record should contain the names of all reviewers, all individual reviewer comments, and the program's response to the review comments.

Example of Review Criteria and Questions

The Draft Evaluation Plan and Draft Study Report should be examined and reviewed on the basis of their technical quality. Inasmuch as credible evaluation findings reflect a soundness of design across the entire evaluation spectrum – from the design of the research through the data collection and analysis protocol to reporting – the external Review Panel is asked to provide written comments for the reviewed documents. Some aspects of technical quality (expressed as guiding questions) are provided below. Final review criteria and questions are to be prepared by the Review Chairperson and provided to the panel, using this appendix as a guide.

Research Design

- The research questions are well formulated and relevant to the objectives of the evaluation.

- The indicators are credible as measures of the outputs and outcomes being evaluated.

- The research design has validity. Are internal and external validity threats addressed and if they exist are their resolutions well documented.

- For statistical methods, the degree of relationship between indicators, tests of significance, and confidence intervals (statistical precision) for sample estimates, were built into the analysis and applied wherever possible.

- The research demonstrates understanding of previous related studies.

- The data collection and analysis methods are credible.

Data Collection

- The data and assumptions about the research design are sound.

- All planned data were collected, or if some values are missing, how they were treated was appropriate.

- If missing data values were inferred, the inference method was appropriate.

- If a survey was conducted, non-response is accounted for.

- The data collection methods were actually implemented as planned, or if revisions were required by circumstances, they were appropriate and the reasons for the revisions are documented.

- Collected data are provided and their layout documented.

Analysis

- Analysis design and methods are sound.

- The analysis methods were actually implemented as planned, or if revisions were required by circumstances, they were appropriate and the reasons for the revisions are documented.

- The documentation of the methodology is accurate, understandable, and reasonable.

Reporting

- The report outline draft is appropriate and likely to present the study findings and recommendations well, and to provide documentation of methods used.

- The draft findings and recommendations in the Study Report follow logically from the research results and are explained thoroughly.

- Study limitations are described in the final report.

- The final report presents answers to all of the questions asked or explains why this was not possible.