

# Advanced Manufacturing Office Peer Review

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*[manufacturing.energy.gov](http://manufacturing.energy.gov)*

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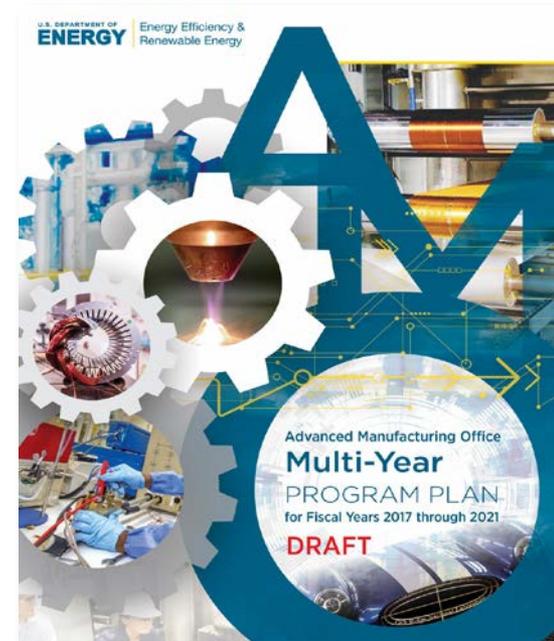


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# AMO Vision and Mission

**VISION:** U.S. global leadership in sustainable and efficient manufacturing for a growing and competitive economy.

**MISSION:** Catalyze research, development and adoption of energy-related advanced manufacturing technologies and practices to drive U.S. economic competitiveness and energy productivity.



## MULTI-YEAR PROGRAM PLAN:

- Describes the Office mission, vision, and goals
- Identifies the technology, outreach, and crosscutting activities the Office plans to focus on over the next five years.

# AMO Success Indicators

- Validate selected advanced manufacturing technologies and deploy practices that increase the rate of **energy intensity** improvement from business as usual (~1 % per year) to 2.5% per year.
- Advance materials and manufacturing technologies with the potential to reduce **lifecycle energy** by 50% by 2025 compared to the 2015 state-of-the-art.
- Develop and validate at least 3 advanced materials and technologies that reduce modeled industrial **energy costs** for the manufacturing sector by 30% or more by 2022 compared to a 2015 baseline.
- Establish partnerships resulting in 30,000 U.S. manufacturing facilities implementing AMO-recognized **energy management** products, practices and measures by 2025.
- Double supported **technical education** and training activities in advanced manufacturing made available for private entities, universities, community colleges, and high schools by 2025.

# AMO Multi-Year Program Plan (MYPP) Framework:

## Alignment to FY17 Execution



# Plans for the RD&D Areas include the following:

- Overview of Technical Area
- Targeted Impacts
- AMO Approach
- Technical Targets with Examples
- Related Resources

## Technical Targets for RD&D Areas

	Target	Fiscal Year	Current AMO Activity*	Current Status (2016)		Success Indicator**
				2015 Baseline	Progress to Date	
#						

\*Key: CST = Funded Institute or Hub    R&D = Funded R&D Project    SBIR = Funded SBIR Project  
 PRA = Practices    NCA = No Current Activity

\*\*Key: EI = Energy Intensity    LC = Life Cycle Energy    EC = Energy Cost  
 EM = Energy Management Practices    TE = Technical Education and Training

# Topic Criteria

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- Impact (high priority problem in a broad technology area)
- Additionality (will federal funds make a difference?)
- Openness (open to new ideas, approached and performers)
- Enduring economic impact
- Proper role of government vs private investment

# AMO Execution Strategy

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- Strategic Analysis
- Workshops
- Requests for Information
- Notice of Intent
- Funding Opportunity Announcements/Lab Calls

# AMO: Three complementary strategies

## R&D Projects: Bridging the innovation gap

Research and Development Projects to support innovative manufacturing processes and next-generation materials

## R&D Consortia: Public-Private consortia model

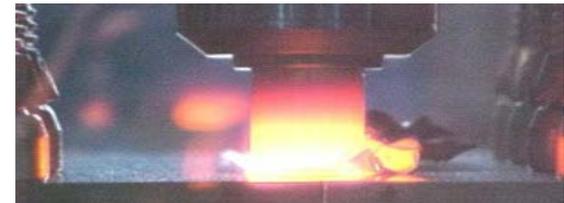
R&D Consortia offer affordable access to physical and virtual tools, and expertise, to foster innovation and adoption of promising technologies

## Technical Assistance: Direct engagement with Industry

Driving a culture of continuous improvement and wide scale adoption of proven technologies, such as CHP, to reduce energy use in the manufacturing sector

# Emerging Research Exploration (ERE) Projects

- FOA released mid-2017
- Broad topical areas spanning advanced materials, processes, and modeling/analysis tools
- Focus on filling portfolio gaps that would be “on ramped” into future Multi-Year Program Plans
- 24 projects announced Feb 2018 with up to \$35 million in total funding
  - 16 projects in materials
  - 7 projects in processes
  - 1 projects in modeling
- Project partners include industry, university, and national lab recipients



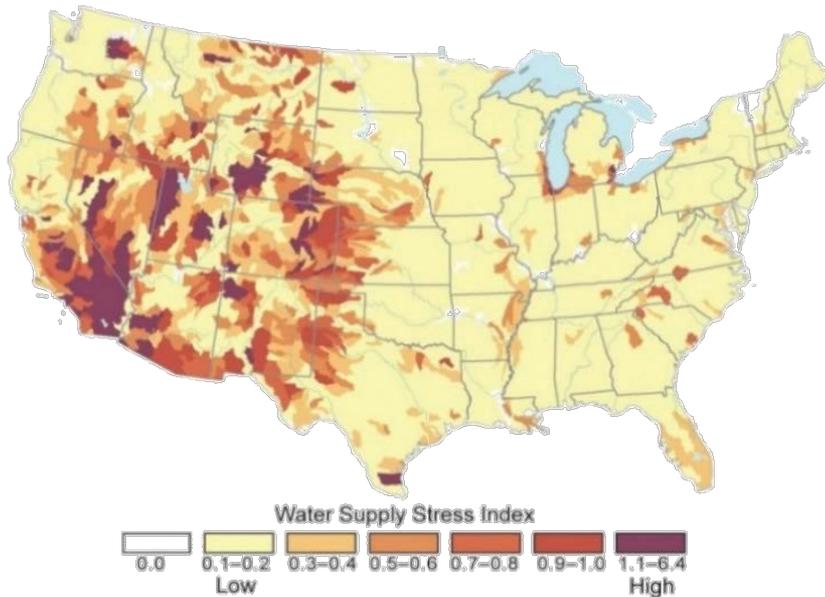
# AMO Lab Call – FY18

- Lab call released in May 8
- Topical areas align with Multi-Year Program Plan:
  - Materials for Harsh Service Conditions
  - Advanced Materials Manufacturing
  - Roll-to-Roll Processing
  - Process Intensification
  - Waste Heat Recovery Systems
  - Combined Heat and Power Systems
  - Wide Bandgap Semiconductors for Power Electronics
  - Additive Manufacturing
- Approximately \$45 million federal funding
- Proposals submitted June 21 and under review
- Selections to be announced in August



# Desalination Hub to be announced

Water Stress in the U.S.

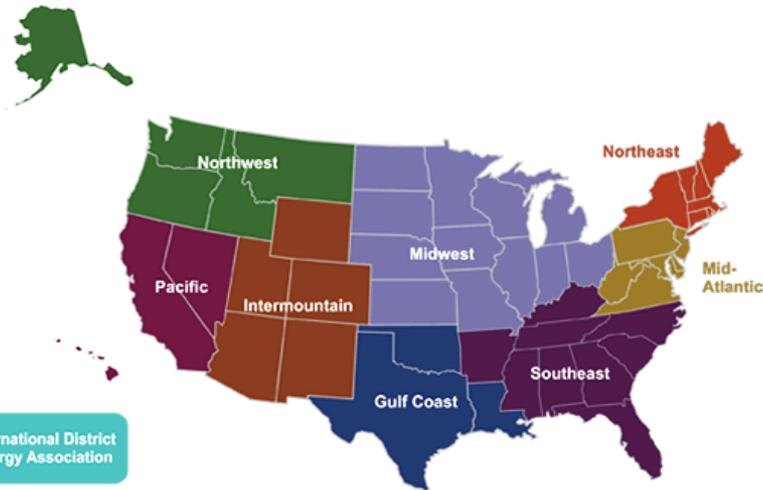
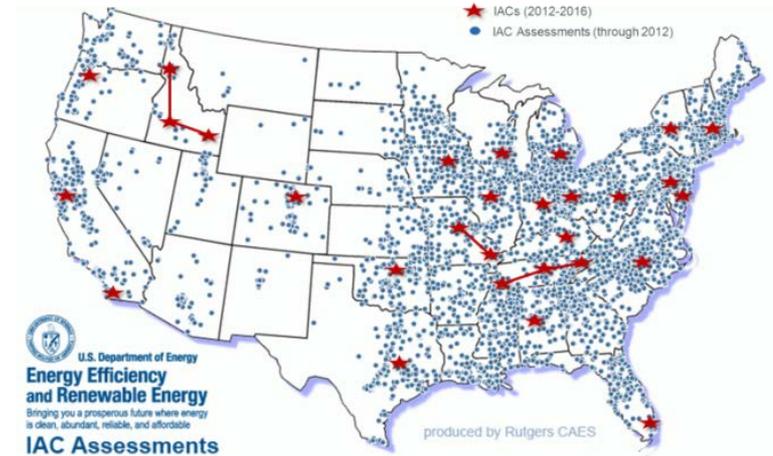


<https://nca2014.globalchange.gov/highlights/report-findings/water-supply/graphics/water-stress-u-s>

- A new Energy Innovation Hub, AMO's second Hub along with the Critical Materials Institute
- Will provide a coordinate, large-scale effort to achieve pipe-parity water production by solving critical desalination technology challenges
- Industry, national labs, universities partner together
- **Notice of intent announced on June 22<sup>nd</sup>**

# Technical Assistance

- **Industrial Assessment Centers** renewed for 5-year term
- Expanded to include waste water treatment and basic cyber hygiene
- Student-led teams at 28 universities around the country



- **CHP Technical Assistance Partnerships** renewed for 5-year term
- Provide end-user and stakeholder engagement, as well as technical services around combined heat and power.



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# Thank You

For additional information:

[energy.gov/eere/amo/advanced-manufacturing-office](https://energy.gov/eere/amo/advanced-manufacturing-office)

