Advanced Manufacturing Office

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NASEO Energy Policy Outlook Conference and Energy Innovation Summit
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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.

Approach: Partner with industry, academia, states, and National Laboratories to catalyze R&D and the adoption of advanced manufacturing technologies.
AMO Approach

AMO Work
FY20: $395M

R&D Projects
Fund R&D projects that propose innovative manufacturing processes and next-generation materials. Projects selected through merit-based process in response to AMO identified technical challenges. FY20 = $151M

R&D Consortia
Create an innovation ecosystem by bringing together hundreds of partners focused on a specific technical challenge. FY20 = $199M

Technical Assistance
Increase the adoption of advanced energy efficiency technologies and practices by assisting the manufacturing sector in establishing and achieving energy management goals through access to resources. FY20 = $45M
AMO Success Indicators

➢ Reduce **energy intensity by 20%** in validated advanced materials, processes, and technologies

➢ Achieve **50% lifecycle energy reductions** for manufactured goods

➢ **Improve affordability and domestic availability** of key materials and resources

➢ Attain **10,000 U.S. manufacturing facilities** implementing AMO-recognized energy management products, practices, and measures by establishing partnerships

➢ **Double technical education and training activities** available for private entities, universities, community colleges, and high schools

Targets when compared to 2015 baseline
EERE Priority Areas

- STORAGE
- CRITICAL MATERIALS
- PLASTICS
- CYBER
- WATER
Energy Storage: U.S. manufacturing and supply chain leadership for next-generation energy storage technologies

- Technology Focus Areas
  - Develop innovative solutions and accelerate scale-up of emerging manufacturing processes to strengthen U.S. manufacturing of storage technology and components
  - Improve material supply chain resilience and recyclability to reduce dependence on foreign sources
- Energy Storage Grand Challenge launched in January 2020

Critical Materials: Enhance critical material resiliency for energy technologies

- Technology Focus Areas
  - Diversify the supply chain for materials at risk of disruption
  - Conduct R&D around material substitutes
  - Develop recycling and reuse technologies
- Supports Energy Storage Grand Challenge and Water Security Grand Challenge
- Critical Materials Institute (CMI) launched in 2013

DOE Grand Challenges: Framework to focus DOE resources; Coordinated suite of prizes, competitions, & R&D
AMO’s Role in EERE Priority Areas (continued)

**Plastics Innovation:** U.S. global leadership in advanced plastics recycling and new plastics manufacturing

- **Technology Focus Areas**
  - Develop upcycling technologies to break down existing plastics into their chemical building blocks for use in higher-value products
  - Develop future plastics that are recyclable- and biodegradable-by-design

- **Plastics Innovation Challenge announced in November 2019**
- **Jointly funded Bio-Optimized Technologies to Keep Thermoplastics out of Landfills and the Environment (BOTTLE) – FOA coming soon**

**Cybersecurity:** Cybersecurity R&D for technologies that enable energy-efficient manufacturing

- **Technology Focus Areas**
  - Address cyber vulnerabilities in automated processes
  - Improve security of supply chain network

- **Funding Opportunity for a Clean Energy Manufacturing Innovation Institute announced in March 2019 – selection announcement coming soon**
Water Security: Advance transformational technology and innovation through U.S. manufacturing leadership to meet the global need for safe, secure, and affordable water

- **Technology Focus Areas**
  - Improve resource recovery, including energy, nutrients and critical materials, from water and wastewater facilities
  - Develop cost-competitive, energy-efficient, water-efficient technologies for use in manufacturing, electricity generation, oil and gas production, mining, agriculture, and by municipalities
  - Develop energy efficient technologies to deliver clean water from non-traditional water sources at pipe parity

- **Water Security Grand Challenge launched November 2018**
- **National Alliance for Water Innovation Hub announced September 2019**
On the Horizon for 2020

Pending Announcements
- FY19 Multi-topic FOA selections
- Cybersecurity Institute selection

Open Funding Opportunities
- $3.25M Geothermal Prize
- $1M Water Resource Recovery Prize
- AMO Supported Funding for Sustainable Transportation
  - $15M for Polymer Composites for Vehicle Applications (Vehicle Technology Office Multi-topic FOA)
  - $15M for Electrolyzer Manufacturing R&D and $15M for Advanced Carbon Fiber for Compressed Gas Storage Tanks (H2@Scale New Markets FOA)

Opportunities to Provide Input and Learn more
- Spring: Series of Stakeholder Workshops on Specific Topics
- June 2-4: AMO Peer Review

Watch for Upcoming Announcements
- FY20 Multi-topic FOA
- Topic-specific opportunities
- BOTTLE FOA to support Plastics Innovation Challenge
Thank You

For additional information and to subscribe for updates:

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