Opportunity Title: Post Graduate Opportunity - Federal Energy Management Program
Opportunity Reference Code: DOE-EERE-STP-FEMP-2020-2700

Organization U.S. Department of Energy (DOE)

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Description With more than 350,000 energy utilizing buildings and 600,000 vehicles, the federal government is the nation's largest energy consumer. To support the resiliency and cybersecurity mission of the federal government, which relies heavily on energy and water infrastructure, Federal Energy Management Program (FEMP) supports federal agencies (including Park Service, NASA, US Air Force, etc.) in establishing energy, water and resiliency management programs, promoting advanced technologies and practices, meeting agency-related goals and requirements, facilitating innovative financing and partnerships, and providing energy, water and resiliency leadership to the country through federal best practices. Through this work, FEMP is on the leading edge of helping our federal partners to manage energy and water usage and ensure more resilient infrastructure through implementation of energy and water efficient technologies and cost savings.

The mission of FEMP is to promote energy and water management programs and enhanced resiliency, cybersecurity, and cost savings to all federal agencies. The FEMP Fellows will be able to engage directly in this important mission in one of three topics (with the ability to participate in cross-cutting efforts as well):

Enhanced Water and Energy Resiliency and Security in Federal Facilities. Develop innovative approaches to help organizations achieve their critical missions through resilient energy and water systems. Energy and water resilience includes the ability for optimized operations to withstand, adapt, and recover from natural, accidental or terrorist disruptions as required. Focuses in energy and water resilience and security include:

1. Creating a systematic approach to agency and site resilience planning that helps organizations assess current infrastructure against mission priorities and risk, identify solutions, and prioritize solutions and projects for implementation.
2. Optimizing organizational operations to reduce energy and water use and peak demand as the "first line of defense" that enables the site to meet energy and water requirements.
3. Ensuring organizations have trained personnel and capabilities to anticipate, prepare for, adapt, withstand, respond to, and recover rapidly from energy and water disruption due to planned and unplanned events.
4. Establishing sufficient resources, sound infrastructure, and identified interdependencies that supply the required energy and water to essential functions during normal and disrupted operations.
5. Helping organizations assess their cybersecurity posture related to facility related controls systems and distributed energy systems and address vulnerabilities.

Facility & Fleet Energy Savings through Energy Management. To

support the mission of all of the US agencies, FEMP develops and promotes programs, policies and tools that promote a strong culture of energy and water stewardship leading to energy savings, enhanced resilience, and greater sustainability. To achieve this, FEMP coordinates across federal agencies and sites on identifying and promoting best practices, providing the training to develop energy champions, and developing and piloting approaches to save energy through energy management and fleet management. FEMP helps build the bridges that support energy and water savings, energy planning and reporting, and integrating energy into resiliency and mission continuity. Some specific activities include:

1. Developing pilot programs, protocols and policies that integrate energy management, water management, retro-commissioning, procurement, resilience and energy planning.
2. Research and analysis of the energy and non-energy impacts (including resiliency, health, operations, air quality, etc.) of energy management systems with follow-on publication case studies, white papers, etc.
3. Analysis of techniques to speed adoption of advanced energy efficiency and renewable energy technology through standardized energy management system adoption.
4. Economic and market research on current best practices and advanced techniques to manage energy and water, including smart controls, artificial intelligence, advanced auditing techniques and other cutting edge technologies and tools.
5. Support the agency fleet operations, including promoting the best practices around fleet electrification, including the procurement of electric vehicles and the integration of grid to fleet policies and technologies

Expand Financing and Partnership Options to Promote Federal Efficiency. Given budget concerns across federal agencies, most agencies are reliant on external financing mechanisms to fulfill their missions and to support energy, water and resiliency improvements on their sites. Traditionally these financing options are based on established technologies that save money, which in turn pays for the financing instruments rather than considering emerging technologies. This topic will research how to expand financing from new financers and also strategies to promote emerging technology solutions through the following areas:

1. Explore and assess options for financing performance contracts and innovative financing at federal sites through an expanded competitive landscape to include small business financiers, green energy banks, and other Federal financing sources (like the FFB, and power marketing authorities).
2. Expand the use of financing options to support the deployment of underutilized and emerging technologies and to underserved market sectors including efforts in data centers, mobility assets, industrial processes, commissioning/retro-commissioning, energy management improvement and other areas.

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3. Enhance Departmental Contract Management and Review: Create an inventory of and process for tracking all DOE/NNSA utility service contracts that includes a means for notification when a contract is going to expire; identify audit risks to the program and identify strategies to minimize risk and/or increase documentation in accordance with FEMP's role under DOE Order 436.1; and other tasks to help ensure the Department maintains an low cost of energy to support its energy intensive mission.
4. Expand Federal use of distributed generation and energy storage to enhance mission assurance. Contribute to efforts to achieve optimum levels of power utilization and efficiency in Federal Data Centers and to achieve increased efficiency and resilience in our National Laboratories and beyond.

For all 3 Topics, the Fellow will have the opportunity to participate and learn to:

1. Interface with high-level federal agency officials on technology, program, policy and validation issues.
2. Coordinate with FEMP staff (and support personnel) on high priority policy, program and technology development to support FEMP's mission as relates to the Topic of interest.
3. Connect and develop a network with leadership and subject matter experts across the Department of Energy (and its supporting National Lab support) on concepts and strategies.
4. Develop and validate resources in collaboration with DOE National Laboratory experts to evaluate risk, prioritize solutions, and value energy and resilience in investment decisions.
5. Participate in and coordinate interagency coordination and document resilient approaches and best practices, including potential to develop published white papers or articles.

Qualifications This opportunity is offered through the EERE Science, Technology and Policy (STP) Program. For program information and eligibility requirements visit https://www.energy.gov/eere/education/energy-efficiency-and-renewable-energy-science-technology-and-policy-program

Applicants must meet the following requirements:

- Have received or expect to complete all requirements for a Bachelor, Master's or Doctoral degree by the anticipated start date. Applicants currently pursuing a Bachelor, Master's or Doctoral degree must provide proof of completion of all degree requirements before the fellowship start date.
- Be a U.S. citizen or Lawful Permanent Resident. (LPR).

Preferred qualifications by topic include:

Enhanced Water and Energy Resilience in Federal Facilities
Background, education or experience in risk management, resilience or emergency planning, or operational technology cybersecurity.

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Background, education or experience in building science, facility audits, healthy buildings, vehicle fleet management or ISO 50001.

Expand Financing and Partnership Options to Promote Federal Efficiency
Background, education or experience in project financing including performance contracts, utility service contracts, or distributed energy resources.

Participant Benefits

You will receive a stipend as support for your living and other expenses during this appointment. Stipend rates are determined by EERE officials and are based on the candidate's academic and professional background. Relocation expenses, not to exceed $5,000, incurred in relocating from your current address to Washington, D.C. (if more than 50 miles from the address shown on the application), may be reimbursed. You will receive a travel allowance of $10,000 per appointment year to cover travel related expenses to scientific and professional development activities.

Nature of Appointment

You will not enter into an employee/employer relationship with ORISE, ORAU, DOE, or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE letter of appointment and Terms of Appointment.

How to Apply

A complete application consists of:

- Profile Information
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume/CV (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
- One Recommendation: You are required to provide contact information for the one recommendation(s) in order to submit the application. You are encouraged to request recommendations before submission as this may help reviewers have a better understanding of the your qualifications and interests. Recommendations must be submitted on your behalf through Zintellect before an offer is made.

The resume/CV must include the following:

- Basic applicant Information: Name, address, phone, email, and other contact information.
- Work & Research Experience: List all work and research experiences beginning with current or most recent. Include the name of the

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employer, location, position held, and time period involved.
- Leadership Experience: List experiences (e.g., work, civic, volunteer, research) that demonstrate your leadership skills. Detail your role, type of experience, organization, location, and duration.
- Educational History: List all institutions from which you received or expect to receive a degree, beginning with current or most recent institution. Include the name of the academic institution, degree awarded or expected, date of awarded or expected degree, and academic discipline.
- Honors & Awards: List in chronological order (most recent first) any awards or public recognitions. Include the name of awarding institution, title of the award or honor, and date of award or honor.

If you have questions, please send an email to DOE-RPP@orise.orau.gov. Please list the reference code for this opportunity in the subject line of your email.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Discipline(s):**
  - **Business** (3)
  - **Communications and Graphics Design** (1)
  - **Computer, Information, and Data Sciences** (2)
  - **Earth and Geosciences** (6)
  - **Engineering** (11)
  - **Environmental and Marine Sciences** (4)
  - **Mathematics and Statistics** (2)
  - **Other Non-Science & Engineering** (3)
  - **Social and Behavioral Sciences** (2)
- **Age:** Must be 18 years of age