

Notice of Intent No. DE-FOA-0002464

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002450

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Vehicle Technologies Office (VTO) and the Hydrogen and Fuel Cell Technologies Office (HFTO), a Funding Opportunity Announcement (FOA) titled "SuperTruck 3."

Building a clean energy economy and addressing the climate crisis is a top priority of the Biden Administration. The Administration has laid out a bold plan to lead the world in building a clean energy economy, address climate change, and achieve net-zero emissions no later than 2050 to the benefit of all Americans. The Department of Energy is committed to pushing the frontiers of science and engineering and catalyzing clean energy jobs through research, development, demonstration, and deployment (RDD&D), and ensuring environmental justice and inclusion of disadvantaged communities.

How freight moves is changing dramatically due to a number of factors, including new technologies, business models, and consumer demand. Although Class 7-8 trucks are still the most significant consumer of fuel in the commercial vehicle segment, medium duty Class 4-6 vehicles also offer significant opportunities for higher efficiency and electrification (battery, fuel cell plug-in hybrid, and fuel cell range extenders). Efficiency, lower GHG emissions and improved service can also be achieved by optimizing the overall system of moving goods, utilizing new mobility technologies.

VTO funds a broad portfolio of RDD&D projects to develop affordable, efficient and clean transportation options to tackle the climate crisis and accelerate the development and widespread use of a variety of innovative transportation technologies. VTO-funded research has greatly reduced the cost of electric vehicle batteries, and nearly every plug-in electric vehicle (PEV) on the road today uses VTO-developed battery technology. There are also efficiency opportunities beyond vehicle components and systems. Advances in connectivity and automation have the potential to dramatically improve transportation system-level energy efficiency, energy productivity, and affordability. VTO has developed robust modeling, simulation, and big data analytics capabilities, while research of advanced sensing and perception technologies, system controls, and other connected and automated technologies has advanced rapidly.

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HFTO is focused on enabling large scale hydrogen production, delivery, storage, and use across applications and sectors, including medium and heavy-duty transportation. Interest in hydrogen powered medium/heavy-duty fuel cell electric vehicles is growing rapidly due to the benefits of zero tailpipe emissions and low life-cycle greenhouse gas emissions, along with extended driving range, fast fueling times, high fuel efficiency, high power operation, and zero noise pollution.

In partnership with industry, EERE's VTO and HFTO have established aggressive targets to focus research, development and demonstration on cost-reduction, efficiency, and performance.

If released, the FOA will seek innovative R&D concepts to enable medium- and heavy-duty vehicle original equipment manufacturers (OEMs), suppliers, fleet operators, companies operating large captive fleets, universities and National Laboratories to develop higher efficiency, low-emissions trucks and freight systems to use energy more efficiently and reduce CO₂ emissions standards. Of specific interest are technologies to improve the vehicle system-level efficiency of Class 4-8 Medium and Class 7-8 Heavy-Duty trucks in the areas of:

- powertrain electrification (including hydrogen and fuel cell, batteries, and electric drive systems),
- refueling or charging alternatives,
- bio-derived/synthetic fuels & related engine technology,
- vehicle light-weighting, and
- systems optimization (including vehicle-to-vehicle and vehicle-to-infrastructure connectivity, onboard energy management systems, route optimization, geofencing, dynamic in-route load dispatching, electrical grid and vehicle charging load management).

Unlike previous SuperTruck work that focused only on the vehicle and only on long-haul routes, EERE is also interested in innovative ideas that can connect the different parts of freight and goods movement to reduce the total emissions of moving goods from factory to destination, and optimize the total cost of operation (e.g., by leveraging onboard and real-time connectivity solutions such as optimized energy and dynamic route management). It is anticipated that a broad range of approaches which can achieve that goal would be considered. These approaches could combine vehicle and operations, different classes of trucks used along the delivery path, and/or the fueling cycle needed to support operations of electrified vehicles.

Projects should enable technology progression from R&D through full demonstration and include any necessary associated fueling / charging infrastructure, as appropriate, to allow for on-road vehicle demonstrations.

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This FOA will restrict foreign entities from applying as prime recipients unless they have a U.S. incorporated subsidiary or affiliate with a physical location for business operations in the United States. No waivers will be offered for this restriction. EERE envisions awarding multiple financial assistance awards in the form of Cooperative Agreements. The estimated period of performance for each award will be approximately 24 - 48 Month(s).

This Notice of Intent (NOI) is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All the information contained in this NOI is subject to change. It should be noted that the NOI number (DE-FOA-0002464) and FOA number (DE-FOA-0002450) are different, as outlined in the heading on the cover page of this NOI. EERE will not respond to questions concerning this NOI. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA in March 2021 via the EERE Exchange website <https://eere-exchange.energy.gov/>. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

In anticipation of the FOA being released, Applicants are advised to complete the following steps, which are required for application submission:

- Register and create an account in EERE Exchange at <https://eere-exchange.energy.gov/>. This account will allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.
- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>
- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf

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- Register in Grants.gov to receive automatic updates when Amendments to a FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE Exchange.

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