FY 19 Commercial Trucks and Off-road Applications FOA: Natural Gas, Hydrogen, Biopower, and Electrification Technologies

FOA # DE-FOA-0002044

Applicant	Location (city, state)	Project Title	Federal Share
1a – Advanced Storage for Gaseous Fuels			
University of Michigan	Ann Arbor, MI	Optimal Adsorbents for Low-Cost Storage of Natural Gas: Computational Identification, Experimental Demonstration, and System-Level Projection	$1,000,000
Northwestern University	Evanston, IL	Theory-Guided Design and Discovery of Materials for Reversible Methane and Hydrogen Storage	$1,000,000
University of Delaware	Newark, DE	Methane Storage with Porous Cage-Based Composite Materials	$918,500
Montana State University	Bozeman, MT	Heteroatom-Modified and Compacted Zeolite-Templated Carbons for Gas Storage	$874,781
University of South Florida	Tampa, FL	Metal-Organic Frameworks Containing Frustrated Lewis Pairs for H2 Storage at Ambient Temperature	$800,000
Pennsylvania State University	University Park, PA	Developing New NG Super-Absorbent Polymer (NG-SAP) for a Practical NG Storage System with Low Pressure, Ambient Temperature, and High Energy Density	$895,065
University of South Florida	Tampa, FL	Uniting Theory and Experiment to Deliver Flexible MOFs for Superior Methane (NG) Storage	$800,000
1b - Waste to Energy			
North Carolina State University	Raleigh, NC	Renewable Natural Gas from Carbonaceous Wastes via Phase Transition CO_2/O_2 Sorbent Enhanced Chemical Looping Gasification	$2,499,461
Washington State University	Pullman, WA	Develop an Efficient and Cost-effective Novel Anaerobic Digestion System Producing High Purity Methane from Diverse Waste Biomass	$2,234,051
1c - Natural Gas Vehicle Maintenance Cost Study			
Clean Fuels Ohio	Columbus, OH	NGV U.P.-T.I.M.E. Analysis: Updated Performance Tracking Integrating Maintenance Expenses	$500,000
1e - Smart Compressed Natural Gas Infrastructure Projects			
Gas Technology Institute	Des Plaines, IL	Smart CNG Station Deployment	$1,999,789
1f - Next Generation CNG Driver Information Systems			
Gas Technology Institute	Des Plaines, IL	Next-Generation NGV Driver Information System	$1,000,000
2 - Battery Electric Heavy-duty Freight Vehicles			
Kenworth Truck Company, a PACCAR Company	Renton, WA	Long-Range Class 8 Battery-Electric Vehicle with Megawatt Wireless Charging	$4,989,288
Daimler Trucks North America LLC	Portland, OR	DTNA EMG Innovation eCascadia 2.0	$4,605,778

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Volvo Technology of America, Inc.	Greensboro, NC	Improving the Freight Productivity of a Heavy-Duty, Battery Electric Truck by Intelligent Energy Management	$3,799,536
Ricardo Inc.	Van Buren Township, MI	High Efficiency Powertrain for Heavy-Duty Trucks using SiC Inverter/Rectifier	$4,605,398
3 - High Throughput Hydrogen Fueling Technologies for Medium- and Heavy-duty Transportation			
Air Products and Chemicals, Inc.	Allentown, PA	Ultra-Cryopump for High-Demand Transportation Fueling	$1,674,100
NEL Hydrogen Inc.	San Leandro, CA	High-Speed and Dynamic Diaphragm Compressor for High-Capacity Fueling	$2,000,000
Electricore, Inc.	Valencia, CA	High-Pressure, High-Flow Rate Dispenser and Nozzle Assembly for Heavy-Duty Vehicles	$2,999,037
4 - High-durability, Low Platinum Group Metal Membrane Electrode Assemblies (MEAs) for Medium- and Heavy-duty Truck Applications			
General Motors LLC	Pontiac, MI	Durable Fuel Cell MEA through Immobilization of Catalyst Particle and Membrane Chemical Stabilizer	$1,998,518
Nikola Motor Company	Phoenix, AZ	Durable MEAs for Heavy-Duty Fuel Cell Electric Trucks	$1,700,000
Carnegie Mellon University	Pittsburgh, PA	Durable High Power Density Fuel Cell Cathodes for Heavy-Duty Vehicles	$2,000,000
5 - Energy Efficient Commercial Off-road Vehicles			
University of Wisconsin-Madison	Madison, WI	Improving Efficiency of Off-Road Vehicles by Novel Integration of Electric Machines and Advanced Combustion Engines	$2,695,296
Michigan Technological University	Houghton, MI	Improved Efficiency of Off-Road Material Handling Equipment through Electrification	$2,304,704

Note: No projects were selected under Topic 1d – Existing Natural Gas Vehicle Tank Affordability.