

Appendix D. List of Projects Presented but Not Reviewed

Project ID	Project Title	Principal Investigator Name	Organization
ARPAE-001	Carbon-Dioxide-Free Hydrogen and Solid Carbon from Natural Gas via Metal Salt Intermediates	Jonah Erlebacher	Johns Hopkins University
ARPAE-002	Efficient Production of H ₂ /NH ₃ Fuel Blends for Zero-Carbon Combustion	Colin Wolden	Colorado School of Mines
ARPAE-003	A Hybrid Electrochemical and Catalytic Compression System for Direct Generation of High-Pressure Hydrogen at 700 Bar	Wei Wang	Pacific Northwest National Laboratory
ARPAE-004	Co-Synthesis of Hydrogen and High-Value Carbon Products from Methane Pyrolysis	Matteo Cargnello	Stanford University
ARPAE-005	Understanding the Potential for Geologic Hydrogen Resources	Geoffrey Ellis	U.S. Geological Survey
ARPAE-006	Overview of ARPA-E Methane Pyrolysis Program and Possible Future Directions	Jack Lewnard	U.S. Department of Energy, Advanced Research Projects Agency–Energy
BES-001	Underpinning Science for Hydrogen Technologies	Chris Fecko	U.S. Department of Energy, Office of Basic Energy Sciences
BES-002	A Programmable Non-Equilibrium Electrified Ammonia Synthesis for Efficient Hydrogen Storage	Qi Dong and Ji Yang	University of Maryland
BES-003	Enabling Reversible Hydrogen Storage and Transfer with Graphene-Based Carbon–Boron–Nitrogen Materials	Tom Autrey	Pacific Northwest National Laboratory
FC-000	Fuel Cell Technologies Subprogram Overview	Dimitrios Papageorgopoulos	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
FC-167	Fiscal Year 2022 Small Business Innovation Research (SBIR) IIC: Multi-Functional Catalyst Support	Minette Ocampo	pH Matter, LLC
FC-335	Additive Functionalized Polymers for Extended Heavy-Duty Polymer Electrolyte Membrane Lifetimes	Tom Corrigan	The Lubrizol Corporation
FC-341	Advanced Anion Exchange Membrane Fuel Cells through Material Innovation	Yu Seung Kim	Los Alamos National Laboratory
FC-342	Advanced Ionomers and Membrane Electrode Assemblies for Alkaline Membrane Fuel Cells	Bryan Pivovar	National Renewable Energy Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
FC-343	Fiscal Year 2020 Small Business Innovation Research (SBIR) II: Improved Ionomers and Membranes for Fuel Cells	Chris Topping	Tetramer Technologies, LLC
FC-354	L'Innovator Program	Emory De Castro	Advent Technologies
FC-355	Los Alamos National Laboratory Minority-Serving Institution Program	Tommy Rockward	Los Alamos National Laboratory
FC-356	Fiscal Year 2022 Small Business Innovation Research (SBIR) II: Durable High-Efficiency Membrane and Electrode Assemblies for Heavy-Duty Fuel Cell Vehicles	Natalia Macauley	Giner, Inc.
FC-361	Fiscal Year 2022 Small Business Innovation Research (SBIR) I: Durable Bulk Metallic Glass Catalysts for Medium- and Heavy-Duty Proton Exchange Membrane Fuel Cells	Evgenia Pekarskaya	Supercool Metals LLC
FC-362	Fiscal Year 2022 Small Business Technology Transfer (STTR) I: Mobile Fuel Cell Generator	Paul Scott	RockeTruck, Inc.
FE-000	Office of Fossil Energy and Carbon Management Hydrogen Activities Overview	Eva Rodezno and Evan Frye	U.S. Department of Energy, Office of Fossil Energy and Carbon Management
FE-001	Performance Testing of a Moving-Bed Gasifier using Coal, Biomass, and Waste Plastic Blends to Generate White Hydrogen	George Booras	Electric Power Research Institute
FE-002	Enabling Entrained-Flow Gasification of Blends of Coal, Biomass, and Plastics	Kevin Whitty	The University of Utah
FE-003	Experimental Research of Feedstock Gasification with Neutron Techniques	Jim Parks	Oak Ridge National Laboratory
FE-004	Coal Syngas Cleanup for Commercially Viable Solid Oxide Fuel Cell Performance	Zhien Liu	University of North Dakota, Energy and Environmental Center
FE-005	Performance Improvements for Reversible Solid Oxide Fuel Cell Systems	Hossein Ghezal-Ayagh	FuelCell Energy, Inc.
FE-006	Additively Manufactured High-Temperature Centrifugal Impellers for Low-Cost Solid Oxide Fuel Cell Anode Recycle Blowers	Jose Cordova	Mohawk Innovative
FE-007	Cummins Reversible Solid Oxide Fuel Cell System Development	Lars Henrichsen	Cummins Inc.
FE-008	Reversible Solid Oxide Cell Degradation: Characterization, Simulation, and Mitigation	Yinkai Lei	National Energy Technology Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
FE-009	Designing Internal Surfaces of Porous Electrodes in Solid Oxide Electrolysis Cells for Highly Efficient and Durable Hydrogen Production	Xueyan Song	West Virginia University
FE-010	Investigation of Flame Structure for Hydrogen Gas Turbine Combustion	Robert Lucht	Purdue University
FE-011	Characterizing U.S. Subsurface Hydrogen Storage Potential in Existing Natural Gas Storage Reservoirs	Gregory Lackey	National Energy Technology Laboratory
FE-017	Technoeconomic Evaluation of Solid-Oxide-Fuel-Cell/Solid-Oxide-Electrolyzer-Cell-Based Integrated Energy Systems for the Co-Production of Electricity and Hydrogen	Anthony Burgard	National Energy Technology Laboratory
FE-018	Raman Gas Analyzer for Real-Time Gas Composition Monitoring	Benjamin Chorpeneing	National Energy Technology Laboratory
FE-019	Hydrogen Safety Review for Office of Fossil Energy and Carbon Management Applications	Sam Bayham	National Energy Technology Laboratory
FE-020	Market-Based Technoeconomic Optimization of Integrated Energy Systems that Co-Produce Hydrogen and Electricity	Alexander Dowling	University of Notre Dame
H2-057	Electrolyzer/Bioreactor Integration (EBI)	Kevin Harrison	National Renewable Energy Laboratory
HFTO-001	Community Benefits Plans and You!	Julie Fornaciari and Michelle Fox	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
HFTO-002	Energy and Environmental Justice Policies and Programs	Anne Marie Esposito and Cassandra Osvatics	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
HFTO-003	Chesapeake First Robotics Team: The Titans		
IA-001	U.S. Department of Energy Hydrogen and Fuel Cell Technologies Office Overview	Sunita Satyapal	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
IA-002	DOE National Clean Hydrogen Strategy and Roadmap	Neha Rustagi	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
IA-004a	U.S. Department of Transportation Panel	Michael Carter	U.S. Department of Transportation

Project ID	Project Title	Principal Investigator Name	Organization
IA-004b	Federal Railroad Administration Hydrogen and Fuel Cell Research Program	Melissa Shurland	U.S. Department of Transportation
IA-004c	Federal Transit Administration Update	Mark Bathrick	U.S. Department of Transportation
IA-004d	Pipeline and Hazardous Materials Safety Administration Hydrogen Pipeline Safety Regulations	Mary McDaniel	U.S. Department of Transportation
IA-004e	Bipartisan Infrastructure Law Electric Vehicle and Alternative Fuel Provisions	Diane Turchetta	U.S. Department of Transportation
IA-005	Pathways to Commercial Liftoff and Future Analysis	Jason Munster	U.S. Department of Energy, Office of Clean Energy Demonstrations
IA-006	U.S. Environmental Protection Agency's Ports Initiative and the New Clean Ports Program in the Inflation Reduction Act	Sarah Froman	U.S. Environmental Protection Agency
IA-007	Perspective and Case Examples on Development of Hydrogen at Shore	David Cook	U.S. Navy
IA-008	U.S. Army Combat Capabilities Development Command Ground Vehicle Systems Center: Hydrogen Fuel Cell Update	Kevin Centeck	U.S. Army
IA-009	H2@Rescue DOE-DOD-FEMA Initiative	Nicholas Josefik	U.S. Army
IA-010	Fuel Cell Systems for the Dismounted Soldier	Shailesh Shah	U.S. Department of Defense
IA-011	Fuel Cell Rural Energy for America Program (REAP) Awards	Chris Cassidy	U.S. Department of Agriculture
IA-012	NASA Fuel Cell and Hydrogen Research Activities	Ian Jakupca	NASA
IA-013	Hydrogen Biogeochemical Cycle: Implications for Hydrogen Climate Impact	Fabien Paulot	National Oceanic and Atmospheric Administration
IA-014	International Partnership for Hydrogen and Fuel Cells in the Economy: Early Career Network	Tomas Green and Christine Watson	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
IEDO-001	Flexible Natural Gas/Hydrogen Combined Heat and Power System Development and Demonstration	Jaswinder Singh	Caterpillar, Inc.

Project ID	Project Title	Principal Investigator Name	Organization
IN-000	Hydrogen Infrastructure Technologies Subprogram Overview	Ned Stetson	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
IN-004	Magnetocaloric Hydrogen Liquefaction	John Barclay	Pacific Northwest National Laboratory
IN-014	Nondestructive Evaluation Techniques for Pressure Vessels (Small Business Innovation Research): Detection of Micron-Scale Flaws through Nonlinear Wave Mixing	Michael Desrosiers	Luna Innovations Inc.
IN-038	High-Pressure, Low-Temperature Composite Nozzles for Long-Term Hydrogen Dispensing	Jennifer Lalli	Nanosonic, Inc.
LPO-001	Building the World's First Clean Hydrogen Hub – Advanced Clean Energy Storage (ACES) Delta	Michael Ducker	Mitsubishi Power
NE-002	Light Water Reactor Integrated Energy Systems Interface Technology Development and Demonstration	Dylan Sylvester	Northern States Power Company/Xcel Energy
NE-003	Integrated Energy Systems: Supporting Transportation and Industry with Nuclear Power	Richard Boardman	Idaho National Laboratory
NE-004	Preconceptual Design of Thermal and Electrical Power Interfaces for Hydrogen Production	Alan Wilson	Sargent and Lundy
NE-005	Safety and Hazards Analysis of Hydrogen Production at Nuclear Power Plants	Kurt Vedros	Idaho National Laboratory
P-000	Hydrogen Production Technologies Subprogram Overview	David Peterson	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
P-148A	HydroGEN: Low-Temperature Electrolysis	Shaun Alia	National Renewable Energy Laboratory
P-148B	HydroGEN: High-Temperature Electrolysis	Dong Ding	Idaho National Laboratory
P-148C	HydroGEN: Photoelectrochemical Water Splitting	Joel Ager	Lawrence Berkeley National Laboratory
P-148D	HydroGEN: Solar Thermochemical Hydrogen Water Splitting	Anthony McDaniel	Sandia National Laboratories
P-148E	HydroGEN: Cross-Cut Modeling	Tadashi Ogitsu	Lawrence Livermore National Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
P-154	Thin-Film, Metal-Supported High-Performance and Durable Proton Solid Oxide Electrolyzer Cell	Tianli Zhu	Raytheon Technologies Research Center
P-175	Intermediate-Temperature Proton-Conducting Solid Oxide Electrolysis Cells with Improved Performance and Durability	Xingbo Liu	West Virginia University
P-176	Development of Durable Materials for Cost-Effective Advanced Water Splitting Utilizing All-Ceramic Solid Oxide Electrolyzer Stack Technology	John Pietras	Saint-Gobain
P-183	Extremely Durable Concrete Using Methane Decarbonization Nanofiber Co-Products with Hydrogen	Alan Weimer	University of Colorado, Boulder
P-185	High-Performance Anion Exchange Membrane Low-Temperature Electrolysis with Advanced Membranes, Ionomers, and Platinum-Group-Metal-Free Electrodes	Paul Kohl	Georgia Institute of Technology
P-186	Performance and Durability Investigation of Thin, Low-Crossover Proton Exchange Membranes for Water Electrolyzers	Andrew Park	The Chemours Company FC, LLC
P-187	Pure Hydrogen Production through Precious-Metal-Free Membrane Electrolysis of Dirty Water	Shannon Boettcher	University of Oregon
P-188	Advanced Coatings to Enhance the Durability of Solid Oxide Electrolyzer Cell Stacks	Sergio Ibanez	Nexceris, LLC
P-194	New High-Entropy Perovskite Oxides with Increased Reducibility and Stability for Thermochemical Hydrogen Generation	Jian Luo	University of California, San Diego
P-195	A New Paradigm for Materials Discovery and Development for Lower-Temperature and Isothermal Thermochemical Hydrogen Production	Jonathan Scheffe	University of Florida
P-196a	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) Low-Temperature Electrolysis: Durability and Accelerated Stress Test Development	Rangachary Mukundan	Lawrence Berkeley National Laboratory
P-196b	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) Low-Temperature Electrolysis: Benchmarking and Performance	Deborah Myers	Argonne National Laboratory
P-196c	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) Low-Temperature Electrolysis: Manufacturing, Scale-Up, and Integration	Scott Mauger	National Renewable Energy Laboratory
P-196d	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) Low-Temperature Electrolysis: System and Techno-Economic Analysis – Hydrogen from Next-Generation Electrolyzers	Alex Badgett	National Renewable Energy Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
P-196e	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) High-Temperature Electrolysis: Durability and Accelerated Stress Test Development	Olga Marina	Pacific Northwest National Laboratory
P-196f	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) High-Temperature Electrolysis: Cell Characterization	David Ginley	National Renewable Energy Laboratory
P-196g	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) High-Temperature Electrolysis: Multiscale Degradation Modeling	Brandon Wood	Lawrence Livermore National Laboratory
P-196h	Hydrogen from Next-generation Electrolyzers of Water (H2NEW) High-Temperature Electrolysis: Liquid Alkaline Water Electrolysis	Bryan Pivovar	National Renewable Energy Laboratory
P-205	Metal–Organic Framework-Based Heterostructure Electrocatalysts with Tailored Electron Density Distribution for Cost-Effective and Durable Fuel Cells and Electrolyzers	Sreeprasad Sreenivasan	University of Texas, El Paso
P-206	Single-Walled Carbon Nanotubes with Confined Chalcogens as the Catalysts and Electrodes for Oxygen Reduction Reaction in Fuel Cells	Juchen Guo	University of California, Riverside
P-207	Megawatt-Scale Low-Temperature Electrolyzer Research Capability	Daniel Leighton	National Renewable Energy Laboratory
PRA-001	Mitigation and Diagnosis of Pin-Hole Formation in Polymer Electrolyte Membrane Fuel Cells	Audrey Taylor	National Renewable Energy Laboratory
PRA-002	Advanced Porous-Transport-Layer Interface Design for Proton Exchange Membrane Electrolyzers	Jason Lee	Lawrence Berkeley National Laboratory
PRA-003	Thin-Film Catalyst Fuel Cell Electrodes with Improved Durability	Wipula Liyanage	Los Alamos National Laboratory
SA-180	Advanced neTwork analysis of hydrogen fuel cell Automated vehicles for goods delivery (ATLAS) – Total Cost of Ownership of Autonomous Fuel Cell Fleet Vehicles	Tim Lipman	Lawrence Berkeley National Laboratory
SA-187	Heavy-Duty Hydrogen Fueling Station Corridors	Mark Chung	National Renewable Energy Laboratory
SA-188	Sustainability Criteria for Hydrogen Deployments	Mark Chung	National Renewable Energy Laboratory
SA-189	Fiscal Year 2022 Small Business Innovation Research (SBIR) I: Siting Hydrogen for Equity and Energy Justice	Erin Middleton	Carbon Solutions LLC

Project ID	Project Title	Principal Investigator Name	Organization
SA-190	Patent and Technology Portfolios Resulting from Hydrogen and Fuel Cell Technologies Office Research and Development Funding	Lindsay Steele	Pacific Northwest National Laboratory
SA-SCS000	Analysis, Codes and Standards Subprogram Overview	Neha Rustagi	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
SCS-034	Large-Scale Hydrogen Storage – Risk Assessment – Seattle City Light and Port of Seattle	Arun Veeramany	Pacific Northwest National Laboratory
SCS-035	Modeling and Risk Assessment of Hydrogen/ Natural Gas Blends	Austin Glover	Sandia National Laboratories
SDI-000	Systems Development and Integration Subprogram Overview	Jesse Adams	U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
SDI-001a	Integrated Modeling, Techno-Economic Analysis, and Reference Design for Renewable Hydrogen to Green Steel and Ammonia	Jennifer King	National Renewable Energy Laboratory
SDI-005	HYdrogen systems for PERformance-based Value stacking (HYPER-V)	Rishabh Jain	National Renewable Energy Laboratory
SDI-006	Energy Technology Proving Ground	Richard Boardman	Idaho National Laboratory
SETO-001	Concentrating Solar–Thermal Power Program Overview	Matt Bauer	U.S. Department of Energy, Solar Energy Technologies Office
SETO-002	Technology for Electrically Enhanced Thermochemical Hydrogen (TEETH)	Jim Miller	Arizona State University
SETO-003	Solar Hydrogen from Water Splitting Using Liquid Metal Oxidation/Reduction Cycles Promoted by Electrochemistry	Anthony McDaniel	Sandia National Laboratories
ST-001	System-Level Analysis of Hydrogen Storage Options	Rajesh Ahluwalia	Argonne National Laboratory
ST-008	Hydrogen Storage System Modeling: Public Access, Maintenance, and Enhancements	Sam Sprik	National Renewable Energy Laboratory
ST-135	National Institute of Standards and Technology–National Renewable Energy Laboratory Overview	Ryan Klein	National Institute of Standards and Technology
ST-148	Novel Plasticized Melt Spinning Process of Polyacrylonitrile (PAN) Fibers Based on Task-Specific Ionic Liquids	Sheng Dai	Oak Ridge National Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
ST-201	Hydrogen Materials Advanced Research Consortium (HyMARC) – SLAC Activities	Nicholas Strange	SLAC National Accelerator Laboratory
ST-202	HyMARC – National Renewable Energy Laboratory Activities	Tom Gennett	National Renewable Energy Laboratory
ST-204	HyMARC – Pacific Northwest National Laboratory Activities	Tom Autrey	Pacific Northwest National Laboratory
ST-207	HyMARC – Lawrence Livermore National Laboratory Activities	Brandon Wood	Lawrence Livermore National Laboratory
ST-209	HyMARC Seedling: Theory-Guided Design and Discovery of Materials for Reversible Methane and Hydrogen Storage	Omar Farha	Northwestern University
ST-210	HyMARC Seedling: Metal–Organic Frameworks Containing Frustrated Lewis Pairs for Hydrogen Storage at Ambient Temperature	Shengqian Ma	University of North Texas
ST-211	HyMARC Seedling: Optimal Adsorbents for Low-Cost Storage of Natural Gas and Hydrogen: Computational Identification, Experimental Demonstration, and System-Level Projection	Adam Matzger	University of Michigan
ST-212	HyMARC Seedling: Methane and Hydrogen Storage with Porous-Cage-Based Composite Materials	Eric Bloch	University of Delaware
ST-213	HyMARC Seedling: Uniting Theory and Experiment to Deliver Flexible Metal–Organic Frameworks for Superior Methane (Natural Gas) Storage	Brian Space	North Carolina State University
ST-214	HyMARC Seedling: Heteroatom-Modified and Compacted Zeolite-Templated Carbons for Gas Storage	Nicholas Stadie	Montana State University
ST-216	HyMARC Seedling: Hydrogen Release from Concentrated Media with Reusable Catalysts	Travis Williams	University of Southern California
ST-217	HyMARC Seedling: A Reversible Liquid Hydrogen Carrier System Based on Ammonium Formate and Captured Carbon Dioxide	Hongfei Lin	Washington State University
ST-218	HyMARC Seedling: High-Capacity Step-Shaped Hydrogen Adsorption in Robust, Pore-Gating Zeolitic Imidazolate Frameworks	Michael McGuirk	Colorado School of Mines
ST-224	HyMARC – Lawrence Berkeley National Laboratory Activities	Jeffrey Long	Lawrence Berkeley National Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
ST-225	HyMARC – Lawrence Berkeley National Laboratory Advanced Light Source Activities	David Prendergast	Lawrence Berkeley National Laboratory
ST-233	HyMARC – Sandia National Laboratories Activities	Mark Allendorf	Sandia National Laboratories
ST-234	Development of Magnesium Borane Containing Solutions of Furans and Pyroles as Reversible Liquid Hydrogen Carriers	Craig Jensen	University of Hawaii
ST-235	Hydrogen Storage Cost and Performance Analysis	Cassidy Houchins	Strategic Analysis, Inc.
ST-242	Dimethyl Ether as a Renewable Hydrogen Carrier: Innovative Approach to Renewable Hydrogen Production	Michael Heidlage	Los Alamos National Laboratory
ST-243	FueL Additives for Solid Hydrogen (FLASH) Carriers for Electric Aviation	Noemi Leick	National Renewable Energy Laboratory
TA-009	Maritime (Pierside Power) Fuel Cell Generator Project	Lennie Klebanoff	Sandia National Laboratories
TA-013	Fuel Cell Bus Evaluations	Matthew Post	National Renewable Energy Laboratory
TA-030	Demonstration of Integrated Hydrogen Production and Consumption for Improved Utility Operations	Paul Brooker	Orlando Utilities Commission
TA-051	Low Total Cost of Hydrogen by Exploiting Offshore Wind and Proton Exchange Membrane Electrolysis Synergies	Judith Lattimer	Giner, Inc.
TA-054	Anion Exchange Membrane Water Electrolyzer for Hydrogen Production from Offshore Wind	Richard Masel	Alchemr, Inc.
TA-061	Optimal Wind Turbine Design for Hydrogen Production	Chris Bay	National Renewable Energy Laboratory
TA-063	High-Efficacy Validation of Hydride Mega Tanks at the ARIES [Advanced Research on Integrated Energy Systems] Lab (HEVHY METAL)	Katherine Hurst	National Renewable Energy Laboratory
TA-064	Hydrogen Production, Grid Integration, and Scaling for the Future	Sam Sprik	National Renewable Energy Laboratory

Project ID	Project Title	Principal Investigator Name	Organization
VTO-001	Accelerating the Development of Hydrogen Internal Combustion Engines – Vehicle Technologies Office/Decarbonization of Off-Road, Rail, Marine, and Aviation (DORMA) Projects	Gurpreet Singh	U.S. Department of Energy, Vehicle Technologies Office
WETO-001	Integrated Wind–Hydrogen Systems	Jian Fu	U.S. Department of Energy, Wind Energy Technologies Office
WPTO-001	Water Power Technologies Office: Potential Connections with Hydrogen Generation	Bill McShane	U.S. Department of Energy, Water Power Technologies Office