Project Listings by State

Section Key

H2F	Hydrogen Fuel R&D
FC	Fuel Cell R&D
TAHI	Technology Acceleration and Hydrogen Infrastructure R&D
SCS	Safety, Codes and Standards
SA	Systems Analysis

Arizona

H2F Arizona State University: HydroGEN Seedling: Mixed Ionic Electronic Conducting Quaternary Perovskites: Materials by Design for Solar Thermochemical Hydrogen

California

H2F Stanford University: HydroGEN Seedling: Protective Catalyst Systems on III-V and Si-Based Semiconductors for Efficient, Durable Photoelectrochemical Water Splitting Devices

H2F California Institute of Technology: Design and Synthesis of Materials with High Capacities for Hydrogen Physisorption

H2F Sandia National Laboratories: HyMARC: A Consortium for Advancing Hydrogen Storage Materials

H2F Liox Power: HyMARC Seedling: Electrolyte-Assisted Hydrogen Storage Reactions

H2F University of California, Berkeley: HyMARC Seedling: Super Metalated Frameworks as Hydrogen Sponges

TAHI Sandia National Laboratories: Maritime Fuel Cell Generator Project

TAHI US Hybrid: Northeast Demonstration and Deployment of FCRx200

TAHI Lawrence Livermore National Laboratory: Performance and Durability Testing of Volumetrically Efficient Cryogenic Vessels and High-Pressure Liquid Hydrogen Pump

TAHI Electricore, Inc.: Innovative Advanced Hydrogen Mobile Fueler

TAHI Lawrence Berkeley National Laboratory: Integrated Systems Modeling of the Interactions between Stationary Hydrogen, Vehicles, and Grid Resources

TAHI Sandia National Laboratories: Fatigue Performance of High-Strength Pipeline Steels and Their Welds in Hydrogen Gas Service

TAHI Sandia National Laboratories: Metal Hydride Compression

TAHI General Engineering & Research: Low-Cost Magnetocaloric Materials Discovery

SCS Sandia National Laboratories: R&D for Safety, Codes and Standards: Materials and Components Compatibility

SCS Sandia National Laboratories: R&D for Safety, Codes and Standards: Hydrogen Behavior

SCS City and County of San Francisco: Advancing Fuel Cell Electric Vehicles in San Francisco and Beyond

Colorado

H2F National Renewable Energy Laboratory: Biomass to Hydrogen (B2H2)

H2F Huyen Dinh: HydroGEN Overview: A Consortium on Advanced Water-Splitting Materials

H2F Colorado School of Mines: HydroGEN Seedling: Accelerated Discovery of Solar Thermochemical Hydrogen Production Materials via High-Throughput Computational and Experimental Methods

H2F University of Colorado Boulder: HydroGEN Seedling: Computationally Accelerated Discovery and Experimental Demonstration of High-Performance Materials for Advanced Solar Thermochemical Hydrogen Production

H2F National Renewable Energy Laboratory: Hydrogen Storage System Modeling: Public Access, Maintenance, and Enhancements

H2F National Renewable Energy Laboratory: HySCORE: Hydrogen Storage Characterization and Optimization Research Effort

H2F National Renewable Energy Laboratory: HyMARC Seedling: Fluorinated Covalent Organic Frameworks: A Novel Pathway to Enhance Hydrogen Sorption and Control Isosteric Heats of Adsorption

H2F National Renewable Energy Laboratory: HyMARC Seedling: Atomic Layer Deposition Synthesis of Novel Nanostructured Metal Borohydrides

FC National Renewable Energy Laboratory: Extended Surface Electrocatalyst Development

FC National Renewable Energy Laboratory: Advanced Ionomers and Membrane Electrode Assemblies for Alkaline Membrane Fuel Cells

TAHI National Renewable Energy Laboratory: Fuel Cell Membrane Electrode Assembly Manufacturing R&D

TAHI National Renewable Energy Laboratory: Manufacturing Competitiveness Analysis for Hydrogen Refueling Stations

TAHI National Renewable Energy Laboratory: Technology Validation: Fuel Cell Bus Evaluations

TAHI National Renewable Energy Laboratory: Hydrogen Station Data Collection and Analysis

TAHI National Renewable Energy Laboratory: Optimal Stationary Fuel Cell Integration and Control (Energy Dispatch Controller)

TAHI National Renewable Energy Laboratory: H2@Scale: Experimental Characterization of Durability of Advanced Electrolyzer Concepts in Dynamic Loading

TAHI National Renewable Energy Laboratory: 700-bar Hydrogen Dispenser Hose Reliability Improvement

TAHI National Renewable Energy Laboratory: Dispenser Reliability

SCS National Renewable Energy Laboratory: National Codes and Standards Development and Outreach

SCS National Renewable Energy Laboratory: NREL Hydrogen Sensor Testing Laboratory

SA National Renewable Energy Laboratory: Sustainability Analysis: Hydrogen Regional Sustainability (HyReS)

SA National Renewable Energy Laboratory: Regional Supply of Hydrogen

SA National Renewable Energy Laboratory: Market Segmentation Analysis of Medium- and Heavy-Duty Trucks with a Fuel Cell Emphasis

SA National Renewable Energy Laboratory: H2@Scale Analysis

Connecticut

H2F Proton OnSite: Benchmarking Advanced Water Splitting Technologies: Best Practices in Materials Characterization

H2F University of Connecticut: HydroGEN Seedling: Proton-Conducting Solid Oxide Electrolysis Cells for Large-Scale Hydrogen Production at Intermediate Temperatures

H2F United Technologies Research Center: HydroGEN Seedling: Thin-Film, Metal-Supported, High-Performance, and Durable Proton-Solid Oxide Electrolyzer Cell

H2F Proton OnSite: HydroGEN Seedling: High-Efficiency Proton Exchange Membrane Water Electrolysis Enabled by Advanced Catalysts, Membranes, and Processes

FC United Technologies Research Center: High-Performance Polymer Electrolyte Membrane Fuel Cell Electrode Structures

TAHI FuelCell Energy, Inc.: Modular Solid Oxide Electrolysis Cell System for Efficient Hydrogen Production at High Current Density

Delaware

TAHI Xergy Inc.: Novel Membranes for Electrochemical Hydrogen Compression Enabling Increased Pressure Capability and Higher Pumping Efficiency

Florida

TAHI Mainstream Engineering: In-Line Quality Control of Polymer Electrolyte Membrane Materials

Georgia

TAHI Center for Transportation and the Environment: Fuel Cell Hybrid Electric Delivery Van

Hawaii

H2F University of Hawaii: HydroGEN Seedling: Novel Chalcopyrites For Advanced Photoelectrochemical Water Splitting

H2F University of Hawaii: HyMARC Seedling: Development of Magnesium Boride Etherates as Hydrogen Storage Materials

TAHI Hawaii Natural Energy Institute: Hydrogen Energy Systems as a Grid Management Tool

Idaho

TAHI Idaho National Laboratory: Grid Integration and Hydrogen Energy Generation: Modeling and Validation of Electrolyzers in Real-Time Grid Simulation

TAHI Idaho National Laboratory: High-Temperature Electrolysis Test Stand

Illinois

H2F Northwestern University: HydroGEN Seedling: Degradation Characterization and Modeling of a New Solid Oxide Electrolysis Cell Utilizing Accelerated Life Testing

H2F Argonne National Laboratory: HydroGEN Seedling: Platinum-Group-Metal-Free Oxygen Evolution Reaction Catalysts for Proton Exchange Membrane Electrolyzers

H2F Argonne National Laboratory: HydroGEN Seedling: Transformative Materials for High-Efficiency Thermochemical Production of Solar Fuels

H2F Argonne National Laboratory: Systems Analysis of Physical and Materials-Based Hydrogen Storage

H2F Argonne National Laboratory: HyMARC Seedling: “Graphene-Wrapped” Complex Hydrides as High-Capacity, Regenerable Hydrogen Storage Materials

FC Argonne National Laboratory: Tailored High-Performance Low-Platinum-Group-Metal Alloy Cathode Catalysts

FC Argonne National Laboratory: ElectroCat (Electrocatalysis Consortium)

FC Argonne National Laboratory: Highly Efficient and Durable Cathode Catalyst with Ultralow Platinum Loading Through Synergetic Platinum/Platinum-Group-Metal-Free Catalytic Interaction

FC Argonne National Laboratory: Performance of Advanced Automotive Fuel Cell Stacks and Systems with State-of-the-Art d-PtCo/C Cathode Catalyst in Membrane Electrode Assemblies

TAHI Argonne National Laboratory: Toyota Mirai Testing

SA Argonne National Laboratory: Regional Water Stress Analysis with Hydrogen Production at Scale

SA Argonne National Laboratory: Analysis of Technology Improvement in Fuel Cell Vehicles

SA Argonne National Laboratory: Analysis of Cost Impacts of Integrating Advanced Onboard Storage Systems with Hydrogen Delivery

Kentucky

H2F University of Kentucky: Precursor Processing Development for Low-Cost, High-Strength Carbon Fiber for Composite Overwrapped Pressure Vessel Applications

Massachusetts

H2F Giner, Inc.: High-Temperature Alkaline Water Electrolysis

H2F Northeastern University: HydroGEN Seedling: Enabling Efficient Water Splitting with Advanced Materials Designed for High-pH Membrane Interface

FC Giner, Inc.: ElectroCat: Durable Mn-Based Platinum-Group-Metal-Free Catalysts for Polymer Electrolyte Membrane Fuel Cells

FC Giner, Inc.: FY15 SBIR II Release 2: Ionomer Dispersion Impact on Fuel Cell and Electrolyzer Performance and Durability

FC Advent Technologies, Inc.: Facilitated Direct Liquid Fuel Cells with High-Temperature Membrane Electrode Assemblies

FC Giner, Inc.: Advanced Catalysts and Membrane Electrode Assemblies for Reversible Alkaline Membrane Fuel Cells

TAHI Giner ELX, Inc.: Electrochemical Compression

TAHI Ivys Energy Solutions: Advancing Hydrogen Dispenser Technology by Using Innovative Intelligent Networks

TAHI GVD Corporation: Advanced Barrier Coatings for Harsh Environments

Michigan

H2F University of Michigan: HydroGEN Seedling: Monolithically Integrated Thin-Film/Silicon Tandem Photoelectrodes for High-Efficiency and Stable Photoelectrochemical Water Splitting

H2F University of Michigan: Hydrogen Adsorbents with High Volumetric Density: New Materials and System Projections

H2F University of Michigan: HyMARC Seedling: Optimized Hydrogen Adsorbents via Machine Learning and Crystal Engineering

FC General Motors: Highly Accessible Catalysts for Durable High-Power Performance

FC Ford Motor Company: Vapor Deposition Process for Engineering of Dispersed Polymer Electrolyte Membrane Fuel Cell Oxygen Reduction Reaction Pt/NbOx/C Catalysts

FC General Motors: Durable High-Power Membrane Electrode Assemblies with Low Platinum Loading

Minnesota

FC 3M Company: Highly Active, Durable, and Ultra-Low-Platinum-Group-Metal Nanostructured Thin Film Oxygen Reduction Reaction Catalysts and Supports

FC 3M Company: Novel Ionomers and Electrode Structures for Improved Polymer Electrolyte Membrane Fuel Cell Electrode Performance at Low Platinum-Group-Metal Loadings

Missouri

FC Washington University in St. Louis: Corrosion-Resistant Non-Carbon Electrocatalyst Supports for Proton Exchange Fuel Cells

New Jersey

H2F Rutgers University: HydroGEN Seedling: Best-in-Class Platinum-Group-Metal-Free Catalyst Integrated Tandem Junction Photoelectrochemical Water Splitting Devices

New Mexico

H2F Los Alamos National Laboratory: HydroGEN Seedling: High-Performance Ultralow-Cost Non-Precious-Metal Catalyst System for Anion Exchange Membrane Electrolyzer

H2F Los Alamos National Laboratory: HydroGEN Seedling: Scalable Elastomeric Membranes for Alkaline Water Electrolysis

FC Los Alamos National Laboratory: Advanced Electrocatalysts Through Crystallographic Enhancement

FC Los Alamos National Laboratory: Advanced Materials for Fully Integrated Membrane Electrode Assemblies in Anion Exchange Membrane Fuel Cells

FC Los Alamos National Laboratory: Polymer-Based Fuel Cells that Operate from 80°C to 220°C

FC Los Alamos National Laboratory: FC-PAD: Fuel Cell Performance and Durability Consortium

TAHI Sandia National Laboratories: Hydrogen Stations for Urban Sites

SCS Los Alamos National Laboratory: Fuel Quality Assurance Research and Development and Impurity Testing in Support of Codes and Standards

SCS Sandia National Laboratories: Hydrogen Quantitative Risk Assessment

New York

FC Brookhaven National Laboratory: Platinum Monolayer Electrocatalysts

TAHI Automated Dynamics: Continuous Fiber Composite Electrofusion Coupler

Ohio

FC pH Matter, LLC: FY16 SBIR II Release 1: Regenerative Fuel Cell System

TAHI Ohio Fuel Cell Coalition: Clean Energy Supply Chain and Manufacturing Competitiveness Analysis for Hydrogen and Fuel Cell Technologies

Oregon

H2F Oregon State University: Novel Hybrid Microbial Electrochemical System for Efficient Hydrogen Generation from Biomass

Pennsylvania

H2F Pennsylvania State University: Developing a New Polyolefin Precursor for Low-Cost, High-Strength Carbon Fiber

FC Carnegie Mellon University: ElectroCat: Advanced Platinum-Group-Metal-Free Cathode Engineering for High Power Density and Durability

South Carolina

H2F Tetramer Technologies, LLC: New Approaches to Improved Proton Exchange Membrane Electrolyzer Ion Exchange Membranes

H2F Greenway Energy, LLC: HydroGEN Seedling: High-Temperature Reactor Catalyst Material Development for Low-Cost and Efficient Solar-Driven Sulfur-Based Processes

H2F Savannah River National Laboratory: Investigation of Solid-State Hydrides for Autonomous Fuel Cell Vehicles

FC Greenway Energy, LLC: ElectroCat: Platinum-Group-Metal-Free Engineered Framework Nano-Structure Catalyst

TAHI Greenway Energy, LLC: Hybrid Electrochemical Hydrogen/Metal Hydride Compressor

Tennessee

H2F Oak Ridge National Laboratory: Novel Plasticized Melt-Spinning Process of Polyacrylonitrile Fibers Based on Task-Specific Ionic Liquids

FC Vanderbilt University: Fuel Cell Membrane Electrode Assemblies with Ultra-Low-Platinum Nanofiber Electrodes

TAHI Oak Ridge National Laboratory: Roll-to-Roll Advanced Materials Manufacturing Lab Consortium

TAHI Federal Express Corporation: FedEx Express Hydrogen Fuel Cell Extended-Range Battery Electric Vehicles

Texas

TAHI Southwest Research Institute: Hydrogen Compression Application of the Linear Motor Reciprocating Compressor

Virginia

H2F Strategic Analysis, Inc.: Analysis of Advanced Hydrogen Production Pathways

H2F Strategic Analysis, Inc.: Hydrogen Storage Cost Analysis

FC NanoSonic, Inc.: FY17 SBIR II Release 1: Novel Hydrocarbon Ionomers for Durable Polymer Electrolyte Membranes

FC Strategic Analysis, Inc.: Fuel Cell Systems Analysis

TAHI Virginia Clean Cities at James Madison University: Hydrogen Fuel Cell Nexus Business-to-Business Website

TAHI NanoSonic, Inc.: Cryogenically Flexible, Low-Permeability Hydrogen Delivery Hose

Washington

H2F Pacific Northwest National Laboratory: Material Challenges for Cryogenic Hydrogen Storage Technologies

FC Pacific Northwest National Laboratory: ElectroCat: Highly Active and Durable Platinum-Group-Metal-Free Oxygen Reduction Reaction Electrocatalysts Through the Synergy of Active Sites

TAHI Plug Power, Inc.: Fuel-Cell-Powered Airport Ground Support Equipment Deployment

TAHI Pacific Northwest National Laboratory: Demonstration of Fuel Cell Auxiliary Power Unit to Power Truck Refrigeration Units in Refrigerated Trucks

TAHI Pacific Northwest National Laboratory: Magnetocaloric Hydrogen Liquefaction

SCS Pacific Northwest National Laboratory: Hydrogen Safety Panel, Safety Knowledge Tools, and First Responder Training Resources

SCS Pacific Northwest National Laboratory: Compatibility of Polymeric Materials Used in the Hydrogen Infrastructure