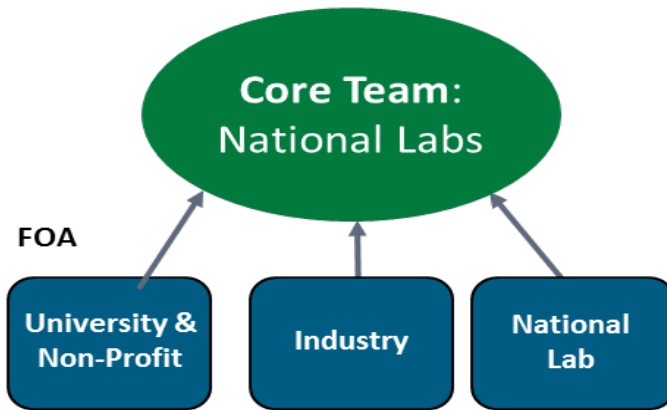


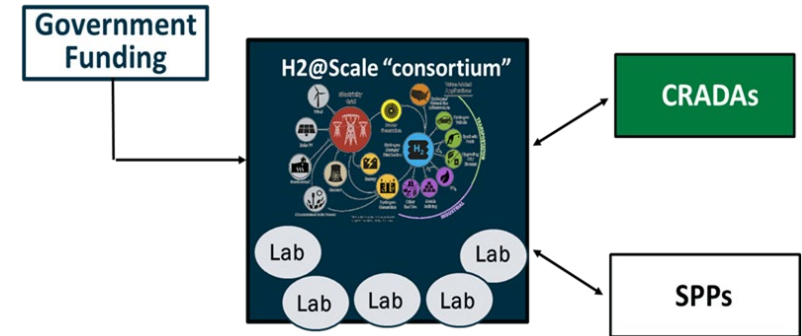
Key Programmatic Areas

Includes early stage R&D: Funding Opportunity Announcements (FOAs) for industry, universities and national labs, including consortia

And includes later stage RD&D: Leverages private sector for large-scale demonstrations and cost-shared RD&D. Demos in TX, FL, Midwest, CA and more



2 New Lab Consortia Just Announced: H2NEW and Million Mile Fuel Cell Truck Consortium



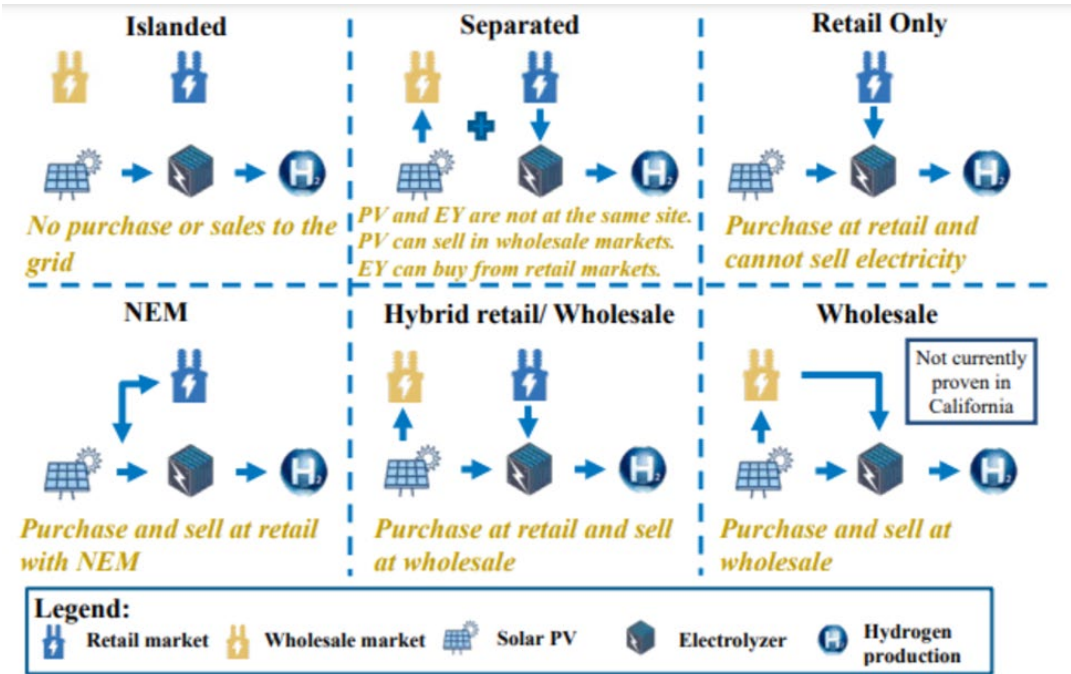
CRADA = Cooperative Research and Development Agreement
SPP- Strategic Partnership Project ('Work for Others')

Over 25 CRADA projects with private sector

Just Announced: \$64M for 18 projects including R&D and demonstrations at ports and datacenters, and a workforce development program . Includes collaboration with Advanced Manufacturing Office and Vehicles Office in EERE

Example H2@Scale CRADA Accomplishments

Technoeconomic Analysis of Grid-Integrated Electrolysis
Six integration scenarios assessed.

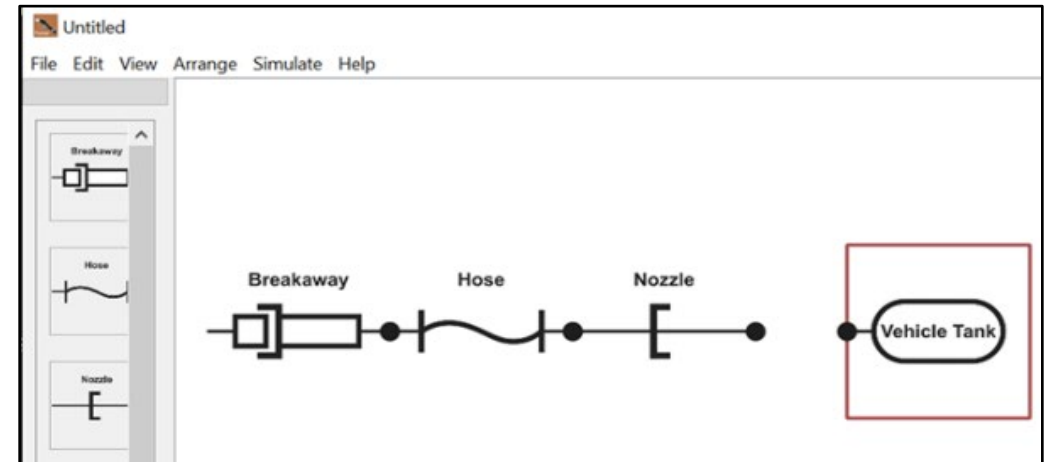


Available at:

<https://www.nrel.gov/docs/fy20osti/75635.pdf>

Funded by HFTO and Pacific Gas & Electric

Development of H2FILLS Model
1-D Thermodynamic Model of Hydrogen Filling Process
Being Expanded to Depict Heavy-Duty Fueling



Available at:

<https://www.nrel.gov/hydrogen/h2fills.html>

Funded by HFTO, Ford Motor Company, General Motors LLC, Honda R&D Americas, Hyundai-Kia America Technical Center, Ivys Energy Solutions Inc., Shell, and Toyota. Additional project partners, collaborators and technical advisors included staff from Kyushu University, Saga University, Zero Carbon Energy Solutions, Sandia National Laboratories, and Argonne National Laboratory. Expansion to heavy-duty fueling is being funded by HFTO, Shell, Air Liquide, Toyota, and Honda.