



Office of
**ENERGY EFFICIENCY &
RENEWABLE ENERGY**

U.S. Department of Energy H2@Scale Meeting Agenda

November 7, 2017
Long Beach Convention Center, Room 103
Long Beach, CA



Objectives:

- Provide an overview of early-stage R&D activities and collaborations under the U.S. DOE H2@Scale initiative, including selections from 2017 H2@Scale CRADA Call and the H2@Scale National Laboratory Consortium.
- Identify opportunities to align hydrogen technologies with evolution in power generation, transmission, and transportation sectors.
- Assess hydrogen infrastructure needs to align and enable growth of diverse industries.

1:00-2:00 Plenary Talks

Moderator: Neha Rustagi (FCTO)

- **Overview of Federal Hydrogen and Fuel Cell H2@Scale Activities**
Sunita Satyapal, U.S. Department of Energy's Fuel Cell Technologies Office (FCTO)
- **Overview of H2@Scale Concept**
Bryan Pivovar, National Renewable Energy Laboratory (NREL)
- **Evolution in California Energy Generation and Transmission**
Angelina Galiteva, California Independent System Operator
- **Expansion of Hydrogen Infrastructure in California**
Andrew Martinez, California Air Resources Board

Fireside Chats on Impacts of H2@Scale

Moderator: Neha Rustagi (FCTO)

2:00-3:00 Alignment of H2@Scale with Energy Storage and Resiliency

Panelists will discuss the relevance of hydrogen to current and future needs of energy systems, including grid stability and energy storage. The panel will include [Noah Meeks \(Southern Company\)](#), [Ron Kent \(SoCal Gas\)](#), [Daniel Dedrick \(NRG\)](#), and [Matthew Pellow \(Electric Power Research Institute\)](#). The panel will be moderated by [Frank Novachek \(Xcel Energy\)](#).

3:00-3:20 **Break**

3:20-3:40 **Innovation Example: Consolidation Strategy for Fueling Station Cost Reductions**
Amgad Elgowainy (**Argonne National Laboratory**)

3:40-4:40 **Alignment of H2@Scale with National Scale Hydrogen Infrastructure Growth**

Panelists will discuss expected evolutions of hydrogen infrastructure, including liquefaction plants and terminals, pipelines, and diversity of hydrogen feedstock. Panelists will be **Al Burgunder (Praxair)**, **David Edwards (Air Liquide)**, and **Michael Beckman (Linde)**. The panel will be moderated by **Steve Ellis (Honda)**.

4:40-5:40 **Alignment of H2@Scale with Hydrogen Infrastructure needs for FCEVs**

Panelists will discuss cross-cutting R&D needs to enable growth of hydrogen fueling stations. Panelists will be **Bill Elrick (California Fuel Cell Partnership)**, **Ghassan Sleiman (FirstElement Fuel)**, and **Steve Szymanski (Proton Onsite)**. The panel will be moderated by **Danny Terlip (National Renewable Energy Laboratory)**.

5:40-5:50 **Closing Remarks**

Mark Ruth **National Renewable Energy Laboratory (NREL)** and Neha Rustagi (**FCTO**)