



International Partnership  
for Hydrogen and Fuel Cells  
in the Economy

## *United States* Update

Dr. Sunita Satyapal

36<sup>th</sup> IPHE Steering Committee Meeting

16 – 17 November 2021

Virtual Meeting

# Announcements / New Initiatives *United States*

## Investments/Initiatives

- BIB covering \$9.5B in H2
- Two new DOE Earthshots announced:
  - Carbon Negative
  - Long Duration Storage

## New RDD&D Activities

- >\$50M for 31 projects to advance Hydrogen Shot
- ~\$200M in 25 projects to advance trucks, includes H2

## Key Collaborations

- H2 Shot summit included diverse representation (e.g., technical, EJ and state/local leaders)
- Workshops and new announcements in collaboration with MI & CEM (e.g., off road workshop and H2 Twin Cities)


**First Ever DOE Hydrogen Shot Summit Held on Aug 31- Sep 1**

**3,200 + attendees from 48 states + DC 33 countries + USA**




**Bipartisan Infrastructure Bill (BIB) passed on Nov and to be signed by President Biden – covers \$9.5B for H2**

**\$8B - Regional clean hydrogen hubs \$1.5B - Electrolysis and clean hydrogen RDD&D**



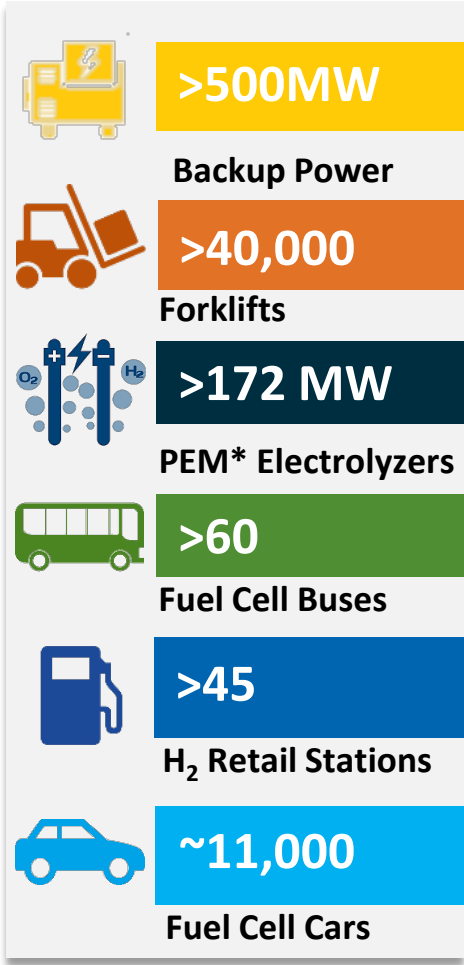
**COP 26 US Pavilion announcements included new global collaboration activities**

**Oct 8 campaign announcements (e.g., \$20M H2 to nuclear project)**

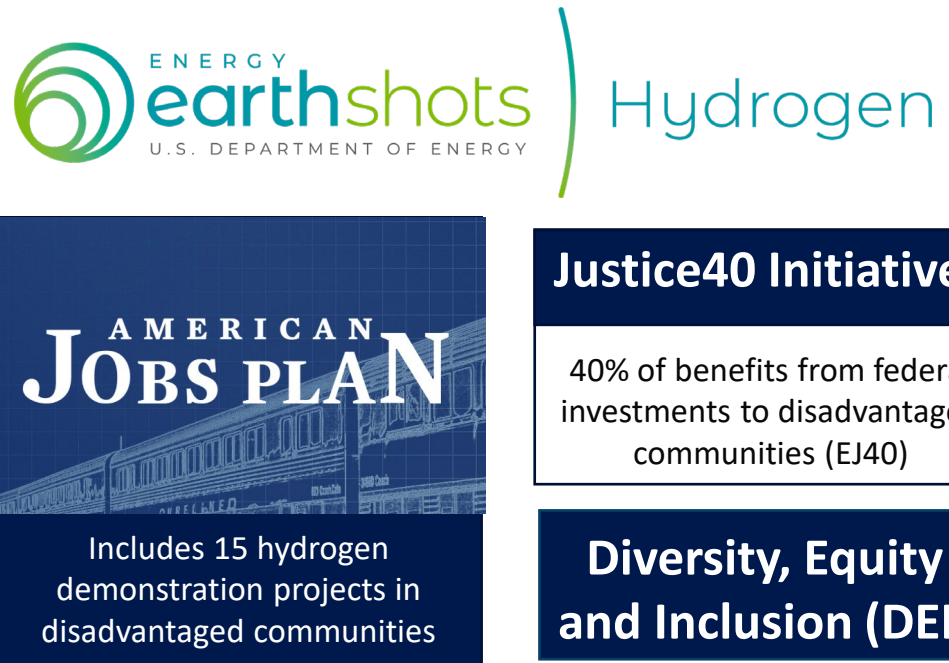


# United States— Profile November 2021

## Status of Deployments



## Leading Government Initiatives



## Goals or Focus Areas- Examples

<b>Clean Hydrogen</b> \$1/kg production \$2/kg delivery \$9/kWh storage	<b>Electrolyzers</b> \$150/kW 73% efficiency 80K hrs durability
<b>Fuel Cells (HD)</b> \$80/kW 25K hrs durability	<b>Enable EJ40 Priorities, DEI</b>

## Funding

- Bipartisan Infrastructure Bill includes **\$9.5B for H<sub>2</sub> for regional hubs and RD&D** (passed in Nov, to be signed)
- **\$400 million in the President's request (FY22)** for hydrogen activities across DOE

## Deployment Goals

- **100% clean electricity grid by 2035**
- **Net-zero emissions by 2050**



# Examples of Lessons Learned and Impact *United States*



Program initiative, policy, regulation or mandate	Lessons Learned/Outcomes
<p>The first ever <b>Hydrogen Shot Summit</b> convened more than 3,200 stakeholders covering diverse perspectives:</p> <ul style="list-style-type: none"><li>- <b>Technical areas (electrolysis, thermal, advanced pathways)</b></li><li>- <b>Deployment and tech to market</b></li><li>- <b>Environmental justice</b></li><li>- <b>Local and regional leaders (including Tribal Nations)</b></li><li>- <b>Federal branches (executive, legislative)</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Need more engagement by disadvantaged communities and environmental justice stakeholders</b></li><li>• <b>Lack of resources and education is a barrier to participation</b></li></ul>



# Thank you



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