



**OCEd**  
Office of Clean Energy Demonstrations

# THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



## Midwest Hydrogen Hub Community Briefing

Office of Clean Energy Demonstrations

U.S. Department of Energy

December 9, 2024



# Welcome!



## Meeting Background & Objectives

- The Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED) announced the selection of seven Regional Clean Hydrogen Hubs (H2Hubs) in October 2023
- On November 20th, OCED announced that it had awarded the Midwest Hydrogen Hub—led by the Midwest Alliance for Clean Hydrogen, LLC (MachH2)—with \$22.2 million to begin Phase 1 activities
- DOE and MachH2 are here to provide an update on the Midwest Hydrogen Hub and opportunities to help shape your community's energy future
- Engage with DOE and the partners involved in these H2Hubs



# Introductions



**Emmanuel Taylor**  
Facilitator



**Garrett Schwier,**  
Project Manager,  
H2Hubs, OCED



**James Winters,**  
Community  
Engagement  
Specialist,  
H2Hubs, OCED



**Dorothy Davidson,**  
CEO/President,  
MachH2



**Neil Banwart,**  
Chief Integration  
Officer, MachH2



**Elizabeth Kocs,**  
Equity Justice  
Officer, MachH2

# Agenda

- OCED Project Management Oversight Overview
- Next Steps & Resources
- MachH2 Overview
- Q&A Session
- Closing



# **OCED Project Management Oversight Overview**

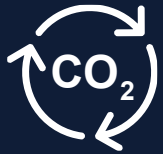
# OCED's Mission

“Deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.”

# OCED's Portfolio



**Advanced Nuclear**  
(\$3.3 billion)



**Carbon Capture**  
(\$3.5 billion)



**Clean Energy Demonstrations on Mine Land** (\$500 million)



**Distributed Energy Systems Demonstrations** (\$50 million)



**Energy Improvements in Rural or Remote Areas** (\$1 billion)



**Industrial Demonstrations**  
(\$6.3 billion)



**Long-Duration Energy Storage Demonstrations** (\$505 million)



**Regional Clean Hydrogen Hubs**  
(\$8 billion)



**Regional Direct Air Capture Hubs**  
(\$3.5 billion)



**Liftoff Enabling Programs**  
(\$133 million)

# Selected Regional Clean Hydrogen Hubs



# Midwest Hydrogen Hub Overview

## Unprecedented investment in America's hydrogen infrastructure

- Federal investment of up to \$1 billion

## To accelerate adoption of hydrogen technologies

- 1,000+ metric tons per day of clean hydrogen production from diverse feedstocks
- End-use in manufacturing, steel & glass production, power, refining, heavy transportation
- Transportation and storage infrastructure

## Providing tangible benefits for communities

- Dedicated dollars for community benefits
- Thousands of new, quality jobs
- Greenhouse gas reduction of 3.9 million metric tons per year
- Improved air quality

# OCED Project Management Oversight Overview



*\*CBPs are considered alongside assessments of engineering, procurement, and construction; business development and management; permitting and safety; and technical data and analysis.*



# Prioritizing Community Benefits in OCED Projects

OCED **requires** its awards to include community benefits to help ensure broadly shared prosperity in the clean energy transition.

By **prioritizing community benefits**, we can ensure the next chapter in America's energy story is marked by greater justice, equity, security, and resilience.

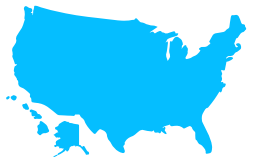
Community & Labor Engagement



Diversity, Equity, Inclusion, & Accessibility



Investing in the American Workforce

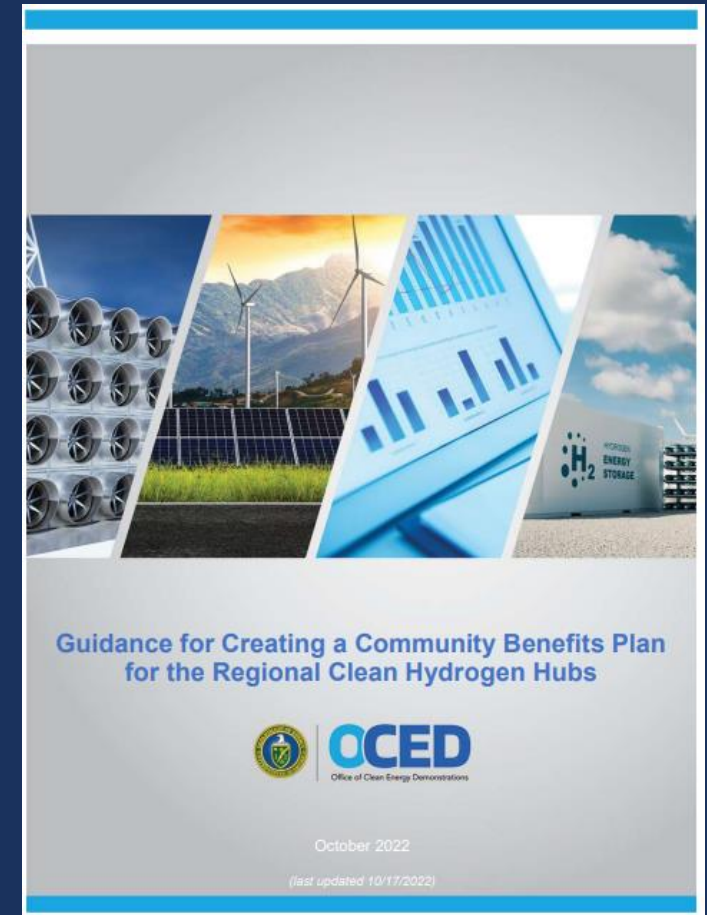


Justice40 Initiative



# Strong Community Benefits Commitments

- Demonstrate moving beyond a vision or assessment into **actionable goals, outcomes, and implementation steps** supported by adequate money, people, and time resources
- Include mechanisms for **accountability to and transparency with** impacted communities
- Propose clear **metrics** to measure success
- Match proposed actions to the **needs and priorities** of impacted communities
- **Robustly address** all four topic areas discussed on the previous slide
- **Minimize and mitigate negative impacts** and harm, especially to already overburdened communities
- **Create quality jobs**, equitable access, and invest in workforce development
- **Evolve** to incorporate community and worker feedback
- **Build** toward lasting and enforceable Community and Labor Agreements



**OCED FOA CBP Guidance docs available with each FOA at:**  
<https://oced-exchange.energy.gov/>



# Next Steps & Resources

# Next Steps – Phase 1

## Phase 1: 12-18 months

- Includes planning, design, and **community and labor engagement activities**
- Each technology provider will be responsible for the planning and development of their respective facilities, while all Hub collaborators will contribute to community benefits activities
- Negotiations over the Phase 2 award will consider the status and quality of implementation during Phase 1, including community benefits commitments, which will be updated to reflect key learnings and developments as community feedback is collected and incorporated
- OCED will work with recipients to ensure compliance with the National Environmental Policy Act (NEPA)



# Get Involved

How could this Hub impact me?

Learn more about OCED's Community Benefits Plan Framework →

Is there an H2Hub near me?

View the OCED selected & awarded projects map here →

Project selected



**Announcement and Negotiations**  
Projects have been selected, but awards have not been made



What is an H2Hub?

Learn more →



Project awarded



WE ARE HERE

What H2Hubs meetings are planned or have happened?

Learn more →

1

~12-18 months

2

~2-3 years

3

~2-4 years

4

~2-4 years

Phase 1: Detailed Plan  
Community Benefit Commitments Public

Phase 2: Project Development  
Community Benefit Commitments Public

Phase 3: Install, Integrate, Construct  
Community Benefit Commitments Public

Phase 4: Ramp-Up & Operate  
Community Benefit Commitments Public

Ongoing community engagement throughout each phase

Learn more about project phases →

How do I stay informed?

Sign up for updates →

## Next Steps – Virtual H2Hubs Community Briefings

OCED has announced Phase 1 awards for five H2Hubs to date.

Information and to register: <https://www.energy.gov/oced/h2hubs-local-engagement-opportunities>

**California Hydrogen Hub**  
**Monday, August 5, 2024**

**Pacific Northwest Hydrogen Hub**  
**Thursday, August 8, 2024**

**Appalachian Hydrogen Hub**  
**Friday, August 16, 2024**

**Midwest Hydrogen Hub**  
**Monday, December 9, 2024**

**Gulf Coast Hydrogen Hub**  
**Thursday, December 12, 2024**



# Selectee Webpages

**Appalachian Hydrogen Hub**

<https://www.arch2hub.com/>

**California Hydrogen Hub**

<http://www.arches.org/>

**Heartland Hydrogen Hub**

<http://www.heartlandh2hub.com/>

**Gulf Coast Hydrogen Hub**

<https://www.hyvelocityhub.com>

**Mid-Atlantic Hydrogen Hub**

<https://mach-2.com/>

**Midwest Hydrogen Hub**

<https://machh2.com/>

**Pacific Northwest Hydrogen Hub**

<https://pnwh2.com/>



# H2Hubs Resources (1)

## Regional Clean Hydrogen Hubs

- [Program Page](#)
- [Press Release](#)
- [Overview of Selected Projects](#)
- [Local Engagement Opportunities](#)
- [Fact Sheet: OCED CBP Overview](#)
- [Fact Sheet: Incorporating Public Input into OCED's H2Hubs Negotiations](#)

## Demand-Side Support Initiative for Clean Hydrogen

- [Selection of Consortium](#)
- [Video: OCED Update on Demand-Side Support Initiative](#)

# H2Hubs Resources (2)

## Additional Clean Hydrogen Resources

- [U.S. National Clean Hydrogen Strategy and Roadmap](#)
- [Hydrogen Interagency Task Force](#)
- [Clean Hydrogen Pathways to Commercial Liftoff Report](#)
- [Hydrogen Shot](#)
- [DOE Hydrogen and Fuel Cell Technologies Office](#)

## Additional DOE Resources

- [Office of Energy Jobs technical assistance to advance CBP components on jobs, labor, and skilled workforce](#)





# MachH2 Overview

# MachH2 Award Announcement Overview

## MIDWEST HYDROGEN HUB (MachH2)

**\$1B**  
federal investment

**~3.9M**  
metric tons CO<sub>2</sub>  
avoided annually



Note: Anticipated based on information provided to the Department of Energy as of Fall 2024.

### Challenges



Industrial CO<sub>2</sub> emissions  
from steel and glass production

### Demonstrations



Use clean H<sub>2</sub> to decarbonize steel  
and glass production

### Real World Impact



Sustainable products and reduced  
CO<sub>2</sub> emissions



Heavy-duty transportation emissions



Clean fuel for heavy-duty  
transportation



Clean H<sub>2</sub> fuel reduces CO<sub>2</sub> emissions



Limited clean H<sub>2</sub> infrastructure



### Clean H<sub>2</sub>

Increase regional supply of H<sub>2</sub>



Improve air quality across  
the Midwest

# Midwestern High-Impact Demand Sectors

**INDUSTRIAL  
FACILITIES**



**HEAVY DUTY  
TRUCKING**



**AGRICULTURE**



**AVIATION**



**MARINE**



**RAIL**



# MachH2 Projects

## Projects to Establish and Integrate the Regional H2 Hub

1. Nuclear-Powered Electrolysis – Constellation Energy
2. Liquid H2 to Decarbonize Midwestern Logistics – Invenergy and Air Liquide
3. Northern Indiana Clean H2 Node – bp
4. SWITCH – Solutions Working to Transform Industry and Transportation to Clean H2 – GTI Energy

## Projects to Decarbonize Midwestern Transportation Corridors

5. H2 Electrolysis Facility - Michigan Dept of Environment, Great Lakes and Energy (EGLE)/American Center for Mobility (ACM)
6. H2 Truck Stop of the Future– Michigan Dept of Environment, Great Lakes and Energy (EGLE)
7. H2 Fueling Station Expansion – Mass Transportation Authority (MTA)
8. Midwest Mobility Project – Midwest Hydrogen Corridor Coalition, LLC (MHCC)

## Projects to Decarbonize Industrial Processes and Products

9. H2 Pipeline Distribution and End Use – Nicor Gas





# MachH2 Overview

# Community Engagement Opportunities

During Phase 1, our CBP Team will work towards the commencement of engagement activities, including:

1. **Community Benefits Working Group** – Part of the MachH2 Advisory Committee; Advises MachH2 management team and the Board to help the Hub meet CBP goals, including robust workforce development and employment opportunities
2. **Community Advisory Councils** – Community forums established for each MachH2 project to ensure local perspectives and priorities are the basis of MachH2 project goals and activities
3. **Community Benefits Town Halls, Forums, and Focus Groups** - In-person and virtual two-way engagement opportunities between the hub (projects) and communities
4. **Web-based Platforms and Social Media** - Public platform that displays progress against metrics, and includes feedback mechanisms



# Q&A Session



# Ground Rules for Discussion

- Submit questions using the Q&A feature
  - You can also see and upvote other questions that have been asked
- Be respectful
- One idea at a time
- It is okay to build on the ideas of others
- Clarifying questions are okay





## Stay Connected

- Reach MachH2  
[machh2.com/contact-us/](https://machh2.com/contact-us/)
- Reach OCED about the Hub  
[MidwestH2Hub@hq.doe.gov](mailto:MidwestH2Hub@hq.doe.gov)
- Reach OCED about general H2Hubs engagement  
[Engage\\_H2Hubs@hq.doe.gov](mailto:Engage_H2Hubs@hq.doe.gov)
- OCED Website & Newsletter Sign-Up  
[energy.gov/oced/contact-us](https://energy.gov/oced/contact-us)
- OCED Exchange (RFIs, NOIs, and FOAs)  
[oced-exchange.energy.gov](https://oced-exchange.energy.gov)
- Follow us on LinkedIn  
[linkedin.com/company/doe-oced/](https://linkedin.com/company/doe-oced/)

# Thank you!



**OCED**  
Office of Clean Energy Demonstrations

For more information, please visit: [energy.gov/OCED](https://energy.gov/OCED)