

Green Hydrogen and Renewable Fuels

Washington policy updates and
opportunities

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Washington State
Department of
Commerce

Green Hydrogen in the State Energy Strategy

“The deep decarbonization modeling and the state energy strategy identify an important role for clean fuels in every sector of the energy economy. **Green hydrogen is of particular significance**, because it could serve both as a flexible use of electricity when generation exceeds demand and as a feedstock for production of synthetic fuels.” – 2021 State Energy Strategy

- **Flexible load** for the power system, functions as **storage**
- Replacement for **transportation fuels**: marine, aviation, and heavy-duty trucking
- **Industrial processes**: replace fossil-derived hydrogen, replace fossil fuels for high-temperature processes

Hydrogen policy updates 2022

- **SB 5910**
 - New Office of Renewable Fuels
 - “Green electrolytic hydrogen” definition
 - Authorities and incentives
 - H2Hub references, including engagement
 - Report and recommendations
- **HB 1812**
 - Siting for clean energy projects, including hydrogen
- **HB 1988**
 - Clean energy manufacturing incentives, including for hydrogen
 - Labor standards

Federal goals and funding

- **Department of Energy Hydrogen Shot – “1 1 1”**
 - Reduce the cost of clean hydrogen to \$1 per kilogram in one decade
- **Infrastructure Investment and Jobs Act**
 - \$8 billion Regional Clean Hydrogen Hubs
 - \$1.5 billion Clean Hydrogen Manufacturing, Recycling and Electrolysis



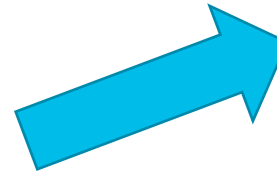
H2Hubs key information

- **\$8 billion to at least four hubs (likely 6-10)**
- **At least one each based on:**
 - Renewable hydrogen
 - Natural gas with carbon capture and storage
 - Nuclear
- **At least one each for different end uses:**
 - Electric power generation
 - Industrial sector
 - Residential and commercial heating
 - Transportation sector
- **10 year timeframe**
 - Notice of intent released, full phase 1 applications likely Q1/Q2 2023
 - For work done over 8-10 year timeframe



DOE H2Hub priorities

- **Hydrogen Shot:**
 - Contribute to 80% cost reduction
- **Support clean hydrogen**
 - <2kgCO2e per kg at site of production
 - With intent to evaluate life cycle emissions
- **Align production and use**
 - Avoid hydrogen “stranded assets”
- **Equity, Environmental and Energy Justice**
 - Justice40 program
 - Non-GHG air quality improvements
 - Consent-based siting
- **Employment and job creation**
 - Focus on U.S. jobs, existing workforce, domestic content



Justice40 and HEAL Act

40% of overall benefits of certain Federal investments must flow to disadvantaged communities

DOE: “Hub deployment will focus both on reducing harm and increasing benefits to disadvantaged communities”

WA context : Alignment with HEAL Act

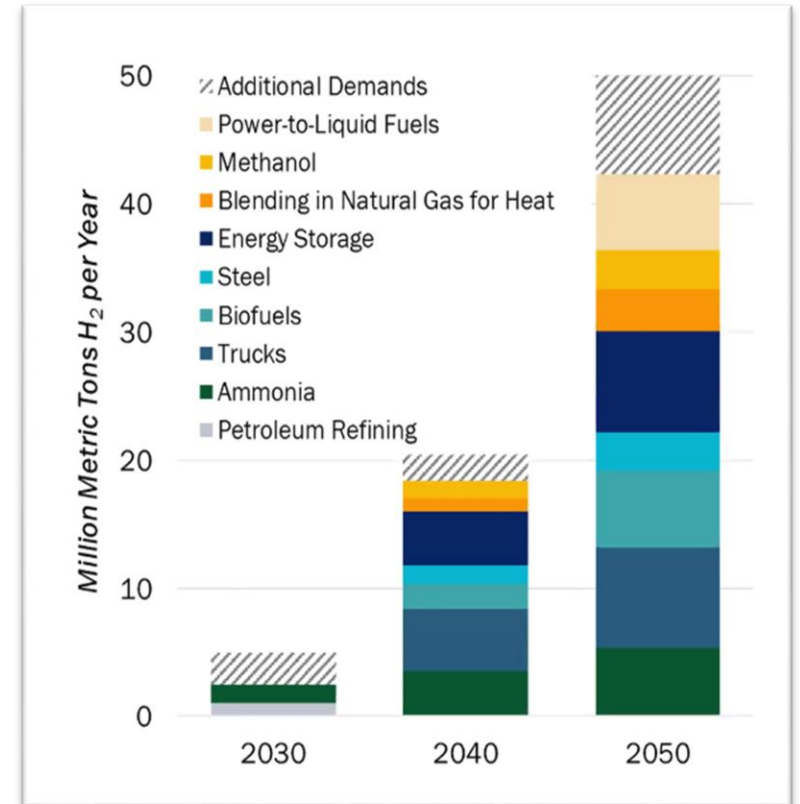
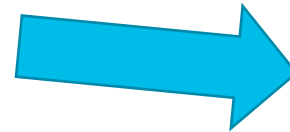
Pacific Northwest Hydrogen Association

- Pacific Northwest Hydrogen Association established spring 2022
- Project RFI July
- Board and advisory committees
- Review notice of intent, prepare to respond to NOFA in late 2022
- Equity, workforce, and other planning processes



Commerce next steps

- Office of Renewable Fuels
- Biennial Energy Report: Industry and Renewable Fuels
- Hydrogen and renewable fuels report and recommendations
 - Including safety, EJ, and end uses
- Continue engagement with Tribes, community organizations, unions, and others
- Engage with project planning and promote equity and best practices.



Source: US Department of Energy 2022 Annual Merit Review and Peer Evaluation Meeting

Thank you!



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