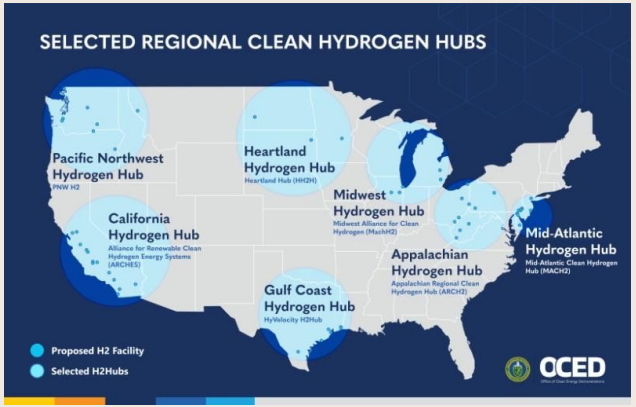
NOVO HYDROGEN

Oregon Senate Energy and Environment Committee

Now is the time for green hydrogen

- History of hydrogen
  - **150+ years since discovery**
  - 1920s used in internal combustion engines
  - 1950s NASA used as rocket fuel/propulsion
- **Broad ability to decarbonize** the economy to address climate change
  - Transportation, industrial, power
- Globally, green hydrogen production is **scaling,** as **costs continue to decline**, resulting in **wider scope of deployment** across industries

Infrastructure Investment and Jobs Act 2021



The Inflation Reduction Act 2022

Carbon Intensity	Hydrogen Production Tax Credit
0 – 0.45 kg CO2e/kg H2	**$3.00 /kg H2**
0.45-1.5 kg CO2e/kg H2	$1.00
1.5-2.5 kg CO2e/kg H2	$0.75
2.5 – 4 kg CO2e/kg H2	$0.60

OREGON HAS A SUPPORTIVE POLICY LANDSCAPE

Oregon is a **leader** on the development of a hydrogen ecosystem as evidenced by the **passing of policies and incentives** for hydrogen in the transportation, industry, and power sectors.

Industry

- **Climate Protection Program** – Sets an annual declining GHG emissions threshold offering incentives for decarbonization and penalties for compliance failure

Transportation

- **Clean Fuels Program** – Low-carbon fuel standard for
- **Advanced Clean Cars II** – Requires 100% zero-emission light-duty vehicle sales by 2035
- **Zero-Emission Vehicle Grants** – Diesel Emission Reduction Grant, Zero-Emission Medium and Heavy-Duty Vehicle Incentive Fund, etc.

Power

- **Clean Energy Standard (HB 2021)** – Requires electric utilities to reduce 100% of GHG emissions associated with electricity serving consumers by 2040
- **Renewable Portfolio Standard (SB 1547)** – Requires 50% of electricity needs be met with renewable energy sources by 2040

Other Policies

- **SB 333** – Mandates ODOE to conduct a study on hydrogen applications
- **HB 2530** – Establishes definition for “renewable” and “green electrolytic” hydrogen

Oregon presents an attractive market opportunity

Attractive aspects of Oregon market include **lack of in state natural gas production**, **steer away** from **blue hydrogen**, and **demand** around Hillsboro / Portland / Salem **with top tier customer targets** within industry and transport.

Chip manufacturers

Steel producers

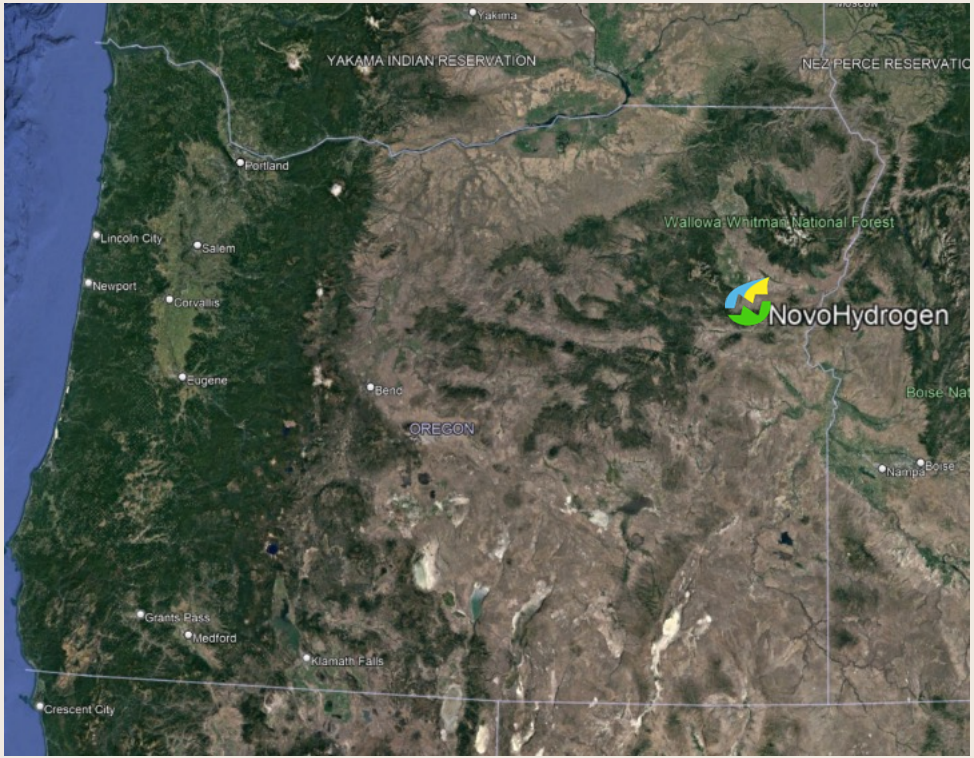
Transportation

Cement facilities

Glass manufacturers

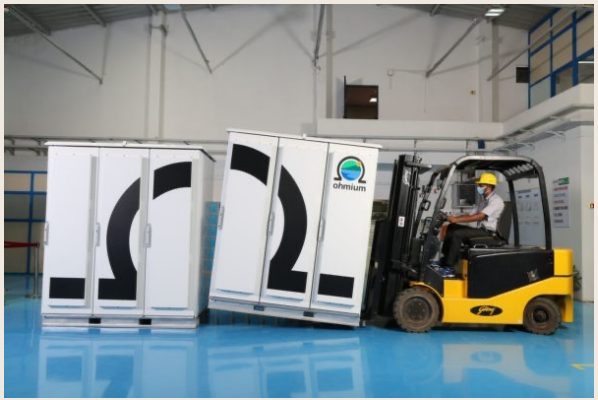
Baker City Project

- Located in Eastern Oregon, Idaho border near Baker City
- **Selected by PNW Hub**, which was chosen by DOE, as recipient of Hydrogen Hub program award money – **negotiations underway**
- Project focuses on **transportation** and reducing emissions from **heavy trucking**
- Green hydrogen to be generated via **electrolysis** to supply **hydrogen fuel cell heavy fleet vehicles**



Project Status and Next Steps

- **Q1 2024** PNW and DOE negotiations complete
- **Q1-Q2 2024** finalize commercial contracts with customer
- **Q2 2024** initiate environmental surveys/begin NEPA review process
- **Q2-Q3 2024** advance Community Benefit discussions
- **Q2-Q4 2024** project financing
- **Q4 2024** procure long-lead equipment
- **Q4 2025/Q1 2026** receive NEPA findings
- **Q2 2026** issue notice to proceed to begin site prep/construction
- **Q1 2027 project operational**



Thank you!
NovoHydrogen welcomes the opportunity to continue discussions with the committee or on an individual basis as a developer and industry representative. We look forward to staying in contact!

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