



CHELAN COUNTY



Dec 13th 2023
Clean Energy Expo

Dispatchable Reliable Power from Renewables

Agenda

1) Introduction to Obsidian:

David Brown

Founder and Senior Principal, Obsidian Renewables

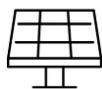
Shannon Souza

Government and Community Liaison



Introduction to Obsidian

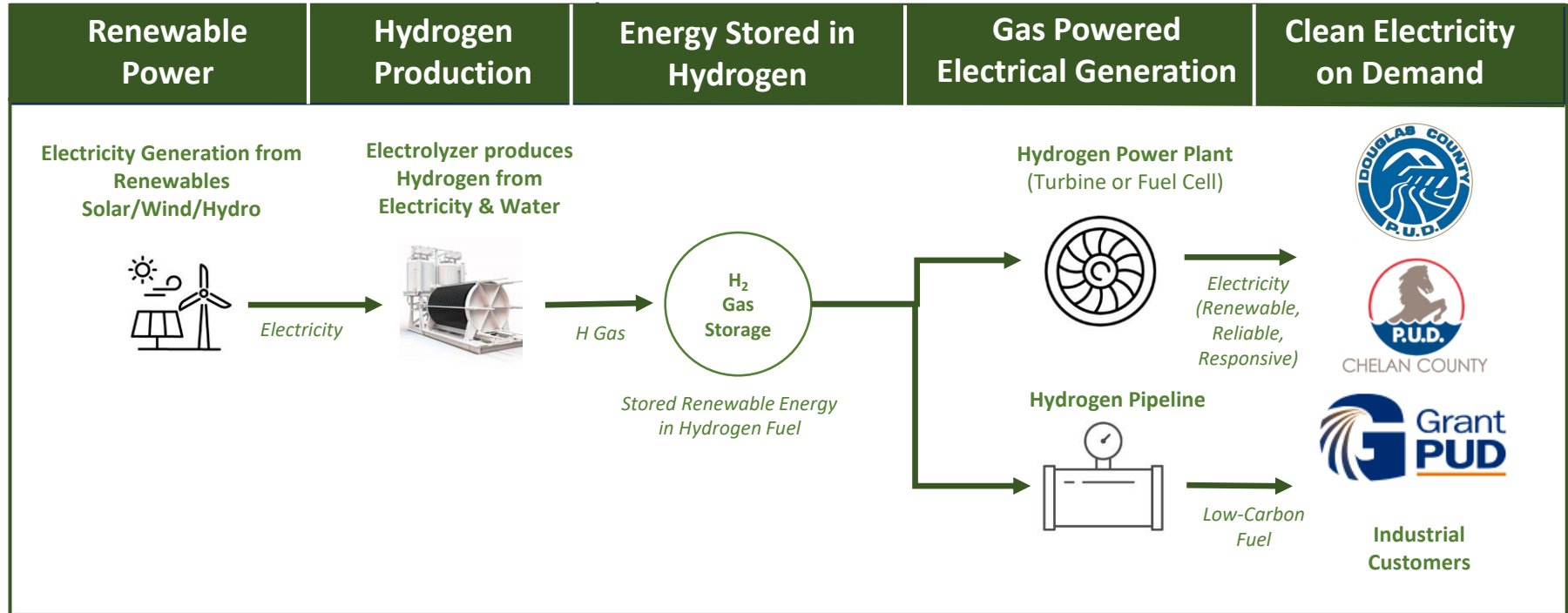
- ❖ A Pacific Northwest pioneer in utility scale renewable energy since 2008
 - ✓ We live here, we work here
 - ✓ Developed the first utility-scale solar energy facility in Bonneville Power Administration's service territory
 - ✓ First solar facilities in PGE's and PacifiCorp's generating portfolios
 - ✓ ~500 MW of solar generation operating and in late-stage development across Oregon & Washington
- ❖ A Pacific Northwest pioneer in hydrogen and low-carbon fuels since 2018
- ❖ A focus on projects serving electric utilities, public utility districts and independent power producers in Oregon and Washington



The Solution: Clean fuels to run a new dispatchable power plants supported by storage

The Solution:

- 1) A reliable, dispatchable turbine generator for capacity benefits and value.
- 2) New renewable generation (solar and wind) is coupled with an electrolyzer to produce hydrogen.
- 3) Energy is stored in the form of hydrogen and connected to the power plant
- 4) The generator produces electricity for PUDs as needed.



Hydrogen will create demand for billions of dollars of new solar and wind projects in Pacific NW

End Use Application	GHG Expected Reductions (MT/yr)	H2 Used (MT/yr)	Equivalent size of electrolyzer (MW)	Solar size (MW)	Wind size (MW)
Long duration energy storage	465,375	232,688	2,087	2,713	2,713
Refineries	419,750	34,979	314	408	408
HD trucking - GH2	189,425	11,143	100	130	130
HD trucking - LH2	120,085	7,064	63	82	82
HD trucking - mining	5,110	301	3	4	4
MD transportation (transit buses)	58,400	7,300	65	85	85
Regional aviation	3,285	263	2	3	3
Ferries and meritime	10,220	818	7	10	10
Light industrial	72,635	6,053	54	71	71
Fertilizer production	404,785	33,732	303	393	393
Total	1,749,070	334,339	2,999	3,898	3,898

[energy.gov/sites/default/files/2023-11/H2Hub Pacific Northwest Community Briefing.pdf](https://energy.gov/sites/default/files/2023-11/H2Hub_Pacific_Northwest_Community_Briefing.pdf)



Proposed regulations on hydrogen seem likely to restrict producing hydrogen from Pacific NW hydroelectricity

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Green

Hydrogen Industry Signals Alarm Over Proposed US Tax Credits

- Advocates warn energy requirements could stifle development
- Leaked draft includes rules sought by environmentalists

By [Ari Natter](#)
December 4, 2023 at 5:05 PM PST
Updated on December 6, 2023 at 4:03 AM PST

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<https://www.bloomberg.com/news/articles/2023-12-05/hydrogen-industry-raises-alarm-over-leaked-us-tax-credit-rules>





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THANK YOU