



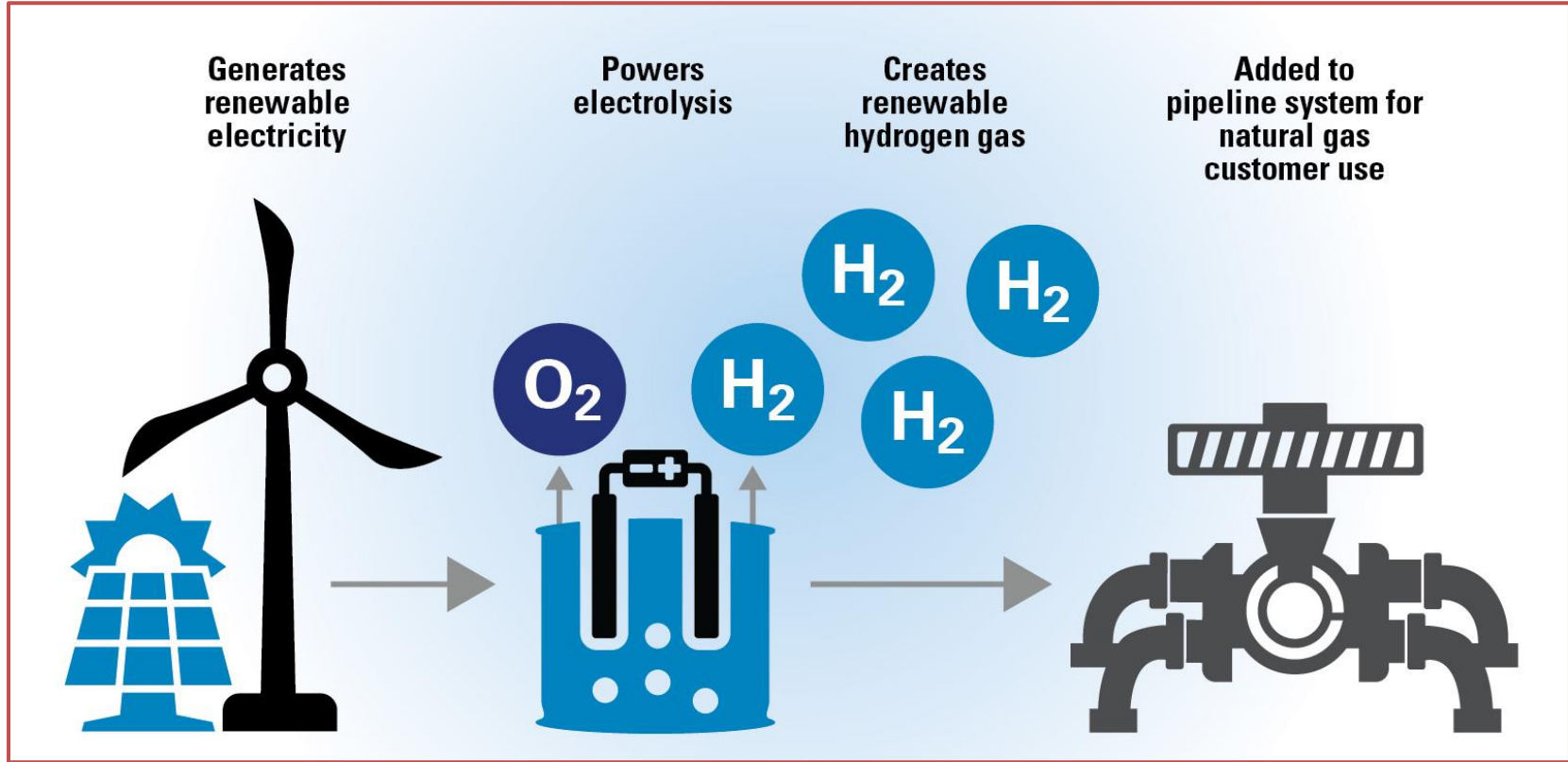
Presentation to Minnesota Senate Energy, Utilities, Environment, and Climate Committee

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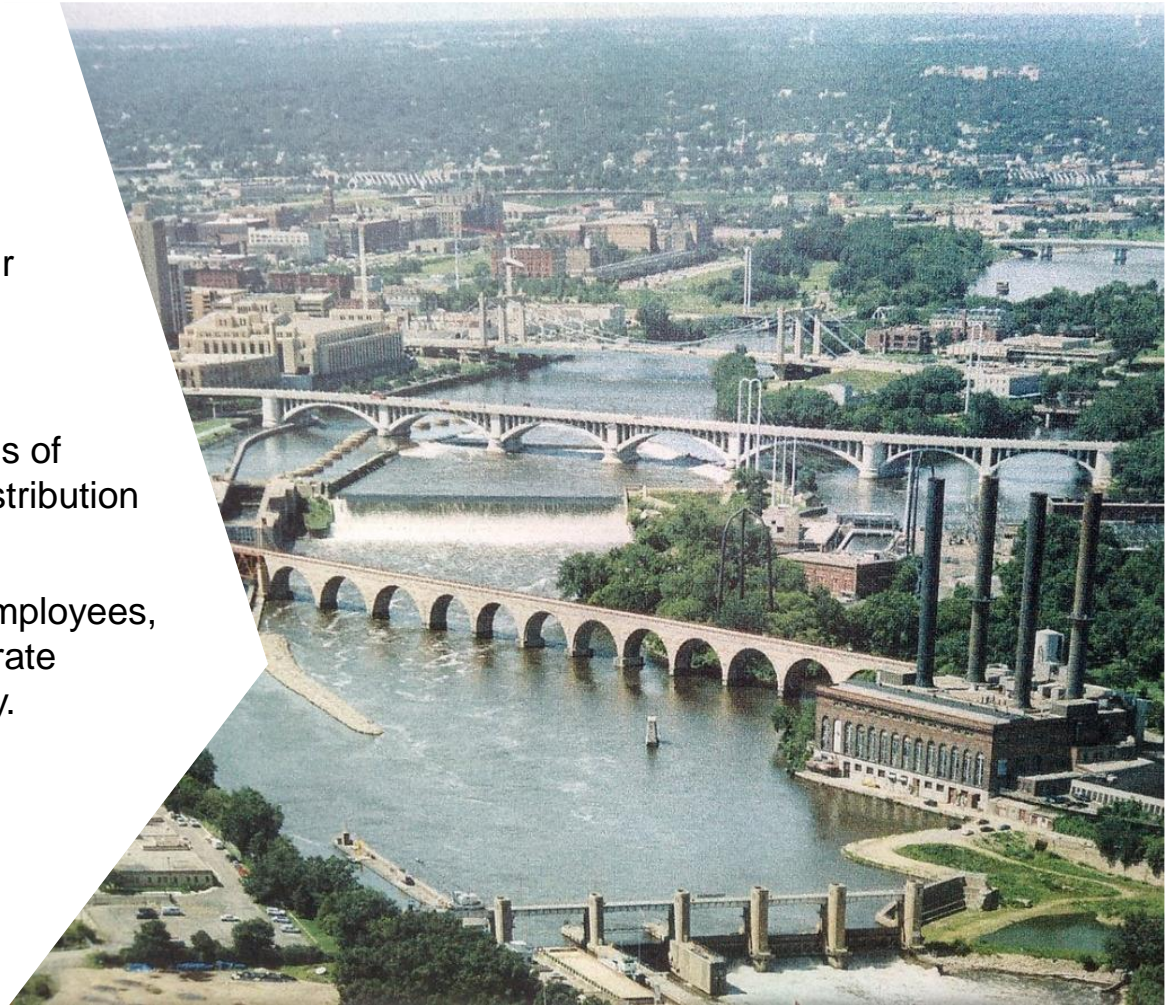
6 February 2023

Leading the way with a zero-carbon energy resource: “green hydrogen”



Project Goals

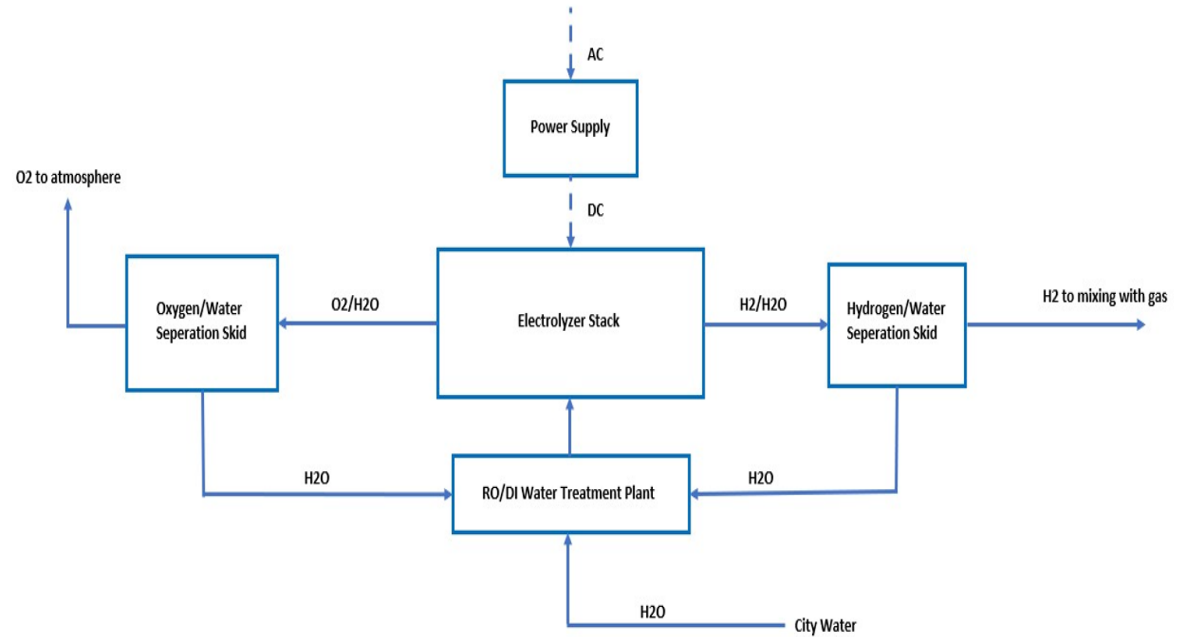
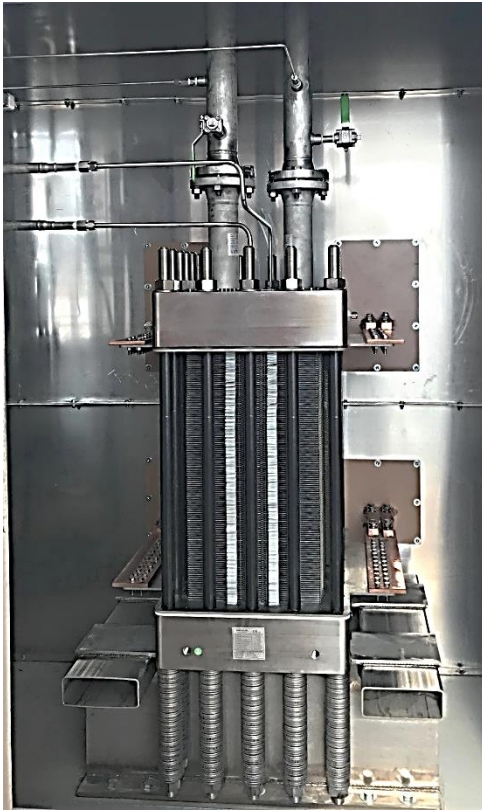
- Reduce the carbon content of our delivered energy.
- Learn from direct experience.
- Study effects of various low levels of hydrogen injection on the gas distribution system.
- Educate our stakeholders and employees, create excitement, and demonstrate innovation at CenterPoint Energy.



Project Site in Minneapolis (MN SD 59)



Hydrogen is Produced in the Electrolyzer



- ***Standby Systems, Inc., Minneapolis.***
 - System process engineering and design
 - Prefabricated equipment skids
- ***CenterPoint Energy, Minneapolis; H2 to distribution injection design***
- ***Smith Engineering, Chaska; Water Treatment System,***
- ***Corval Group, St. Paul; Piping installation***
- ***Muska Electric, Roseville; Electrical***
- ***Construction Results, Plymouth; Civil work***
- ***Kato Engineering, Mankato; Backup Generator***
- ***Xcel, Minneapolis; Renewable Electricity Supply.***

Water Treatment System by Smith Engineering in Chaska



Hydrogen Production System



Hydrogen Injection



NGIA creates a new regulatory framework for natural gas utilities to invest in renewable energy resources and innovative technologies that reduce the state's greenhouse gas emissions.

- **Innovation Plan**

- a set of "pilot projects" that directly deploy and/or encourage the deployment of "innovative resources"

- **Pilot Projects**

- can include a wide range of activities, including specific project development, programs and services offered to CenterPoint Energy customers, and research & development efforts

- **Innovative Resources**

- Renewable natural gas
- Biogas
- Power-to-hydrogen
- Power-to-ammonia
- Energy efficiency
- Strategic electrification
- District Energy
- Onsite carbon capture

- Minnesota-made Energy
 - Green hydrogen can be made in Minnesota by Minnesota companies.
- Currently reviewing sections of the Inflation Reduction Act (IRA), Infrastructure Investment and Jobs Act (IIJA), and collaborating with industry resources to identify opportunities to benefit our customers.
- CenterPoint Energy is involved in the Hydrogen Economy Collaborative hosted by Great Plains Institute.

Thank you!