VGS Hydrogen/Power to Gas Strategy

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VGS' Climate Plan: Big vision + bold action plan

- Cut GHG emissions 30% by 2030
- Net Zero GHG emissions by 2050
- Three-part plan:

VGS will be at ~4% Renewable Natural Gas (RNG) in 2022. Working on several other RNG projects that will bring us to ~10% by 2025. Renewable/Green Hydrogen could be a great decarbonization tool.

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What is the Hydrogen Opportunity?

- Green Hydrogen is created by converting renewable electricity to Hydrogen (i.e.: “Power to Gas” or “P2G”) through the process of electrolysis
- Green Hydrogen is another form of Renewable Gas that can be blended into our system
- VGS’ system can become a large battery/storage system for the State’s excess renewable electricity
- Hydrogen blended with natural gas at small amounts (5-10%) should be safe for our pipes and customer equipment

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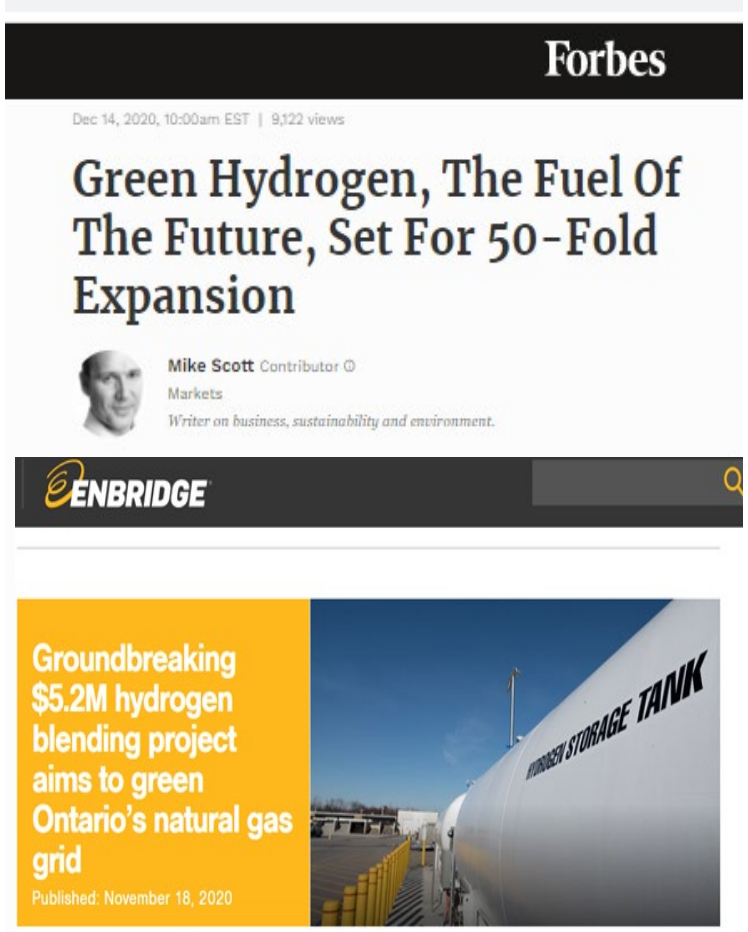
Green Energy Will Need More Storage Space

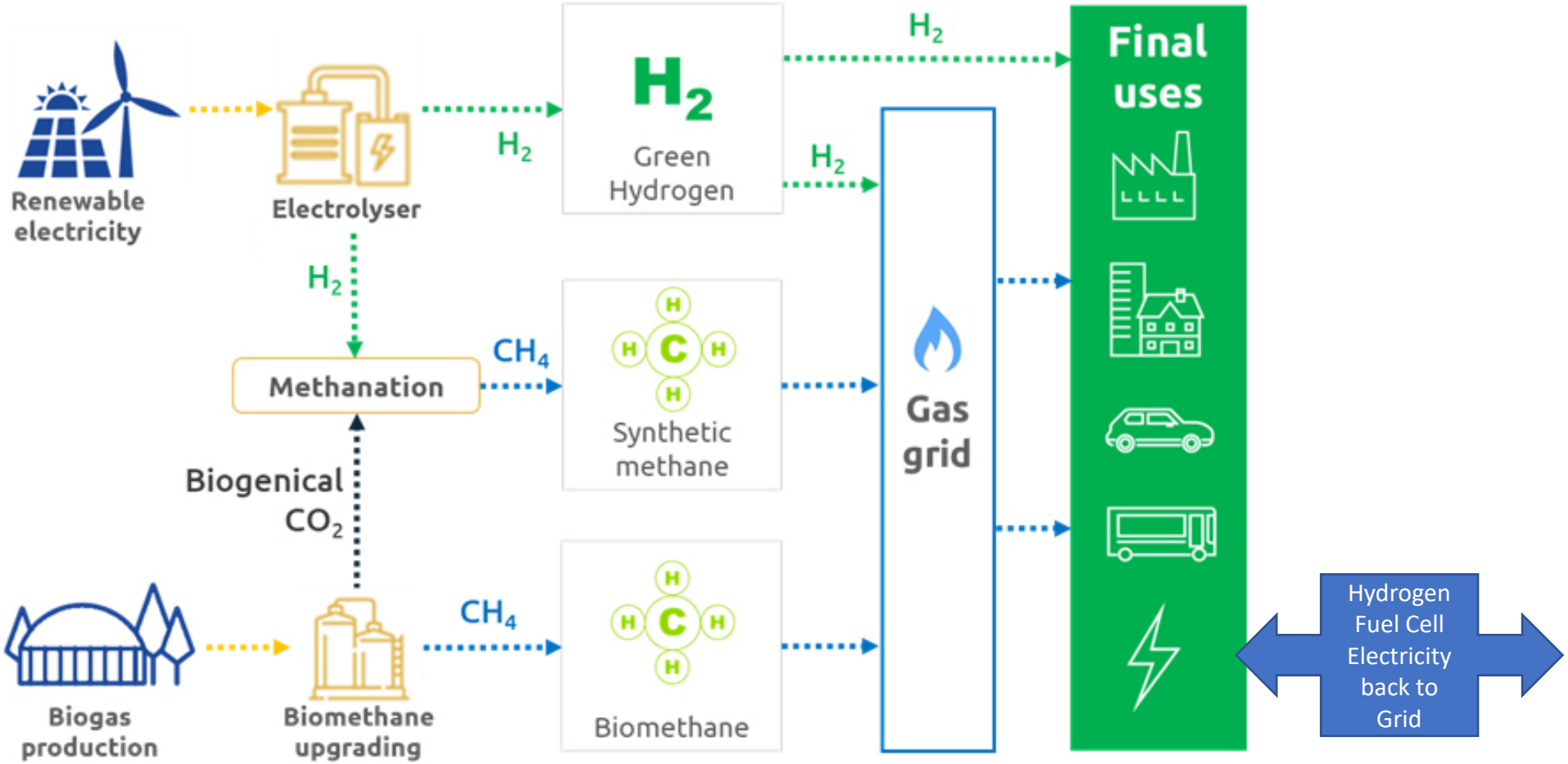
As the rollout of wind and solar picks up speed, solutions to bridge their intermittency are likely to take off too

What is the industry trend on Hydrogen?



- Hydrogen blending and complete conversion are key strategies in Germany, England, France and throughout the EU
- In this country; NY, California, Colorado, Maine, Texas and Vermont are advancing Green Hydrogen
- In Canada, Enbridge and Energir are developing projects

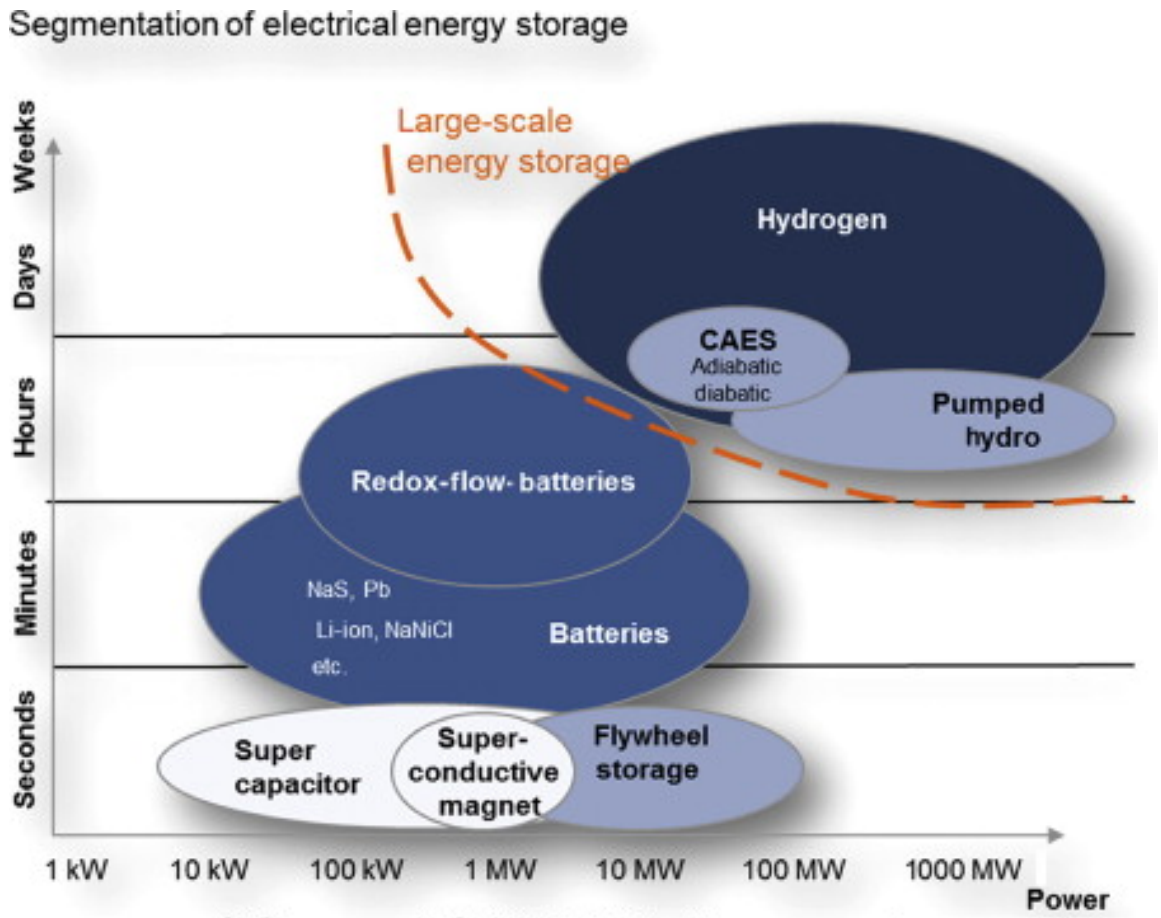
How do we create Green Hydrogen?



What is VGS's Hydrogen Strategy?

Develop the Green Hydrogen concept as key solution for the state's energy future.

- Providing storage for renewables
- Adding another clean renewable gas to VGS' system
- Connecting VGS' system to the electrification future vision



H.431 Proposed Amendment

Objective: To ensure that hydrogen storage is considered in future state regulation of energy storage.

Proposed Amendment (highlighted):

"Energy storage facility" means a stationary device or system that captures energy produced at one time, stores that energy for a period of time, and delivers or may deliver that energy as electricity to the grid for use at a future time ~~uses mechanical, chemical, or thermal processes to store energy for export to the grid.~~ This includes hydrogen storage facilities that may deliver the energy for use at a future time in a form other than electricity.

Note: This amendment would be reflected in 2 sections that define "Energy storage facility".

Questions?

Vanguard/Middlebury College/VGS RNG Project in Salisbury VT