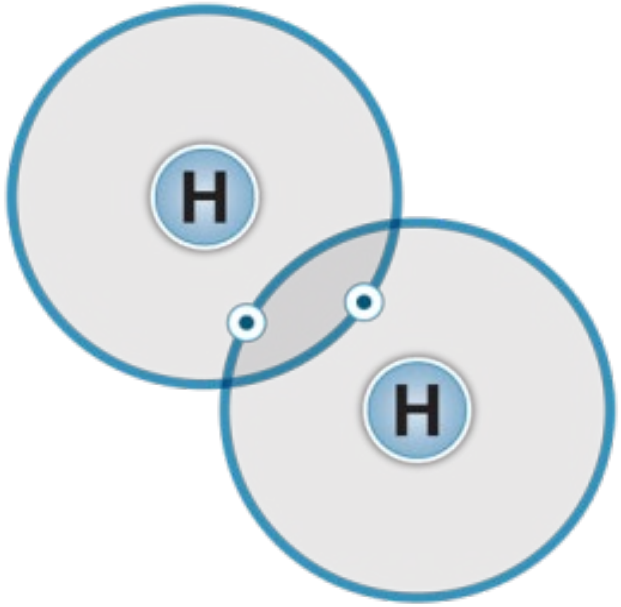
BayoTech
ON-SITE HYDROGEN

USEA CONSENSUS WEBINAR – Tribal Opportunities in New Energy

June 24, 2021

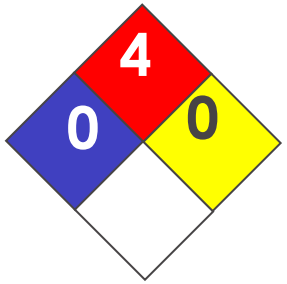
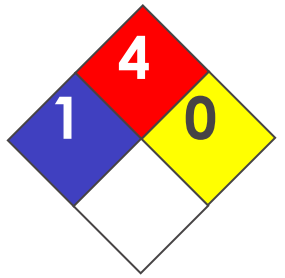
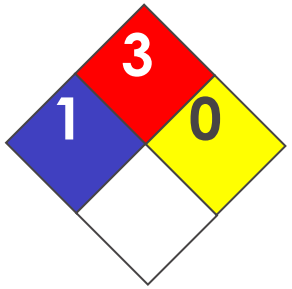
Hydrogen – A Mixed Bag of Properties

- Hydrogen is the most abundant element in the universe,
  - On Earth just 0.14%.
- 71% of earth is covered by water – H2O
- Natural gas from underground rock formations
- Hydrogen is14 times lighter than air
- Hydrogen has the highest energy content by weight of all known fuels—3X higher than gasoline
- It has a very wide flammable range (4-75%)
- At 29% hydrogen in air, it is most easily ignitable
- To store hydrogen in large quantities it is compressed to high pressures



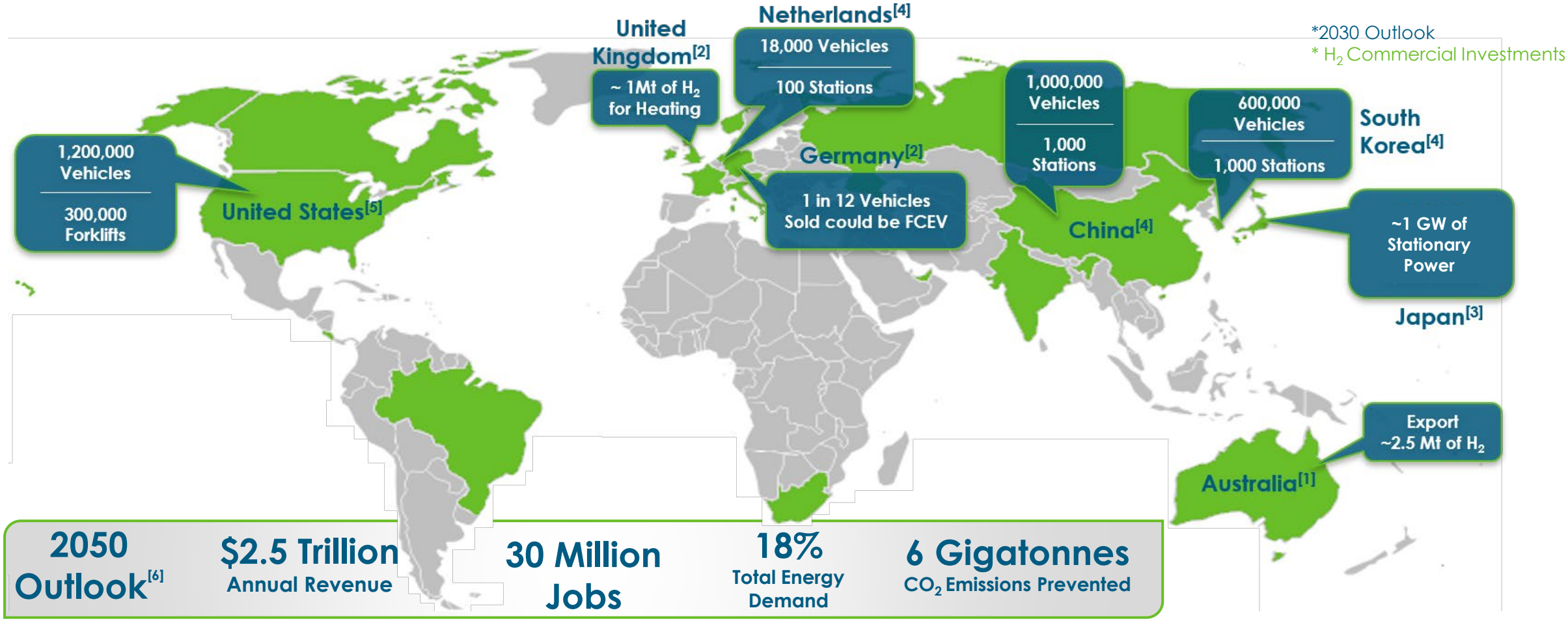
Molecular Hydrogen

Hydrogen – Comparison with NG and Gasoline

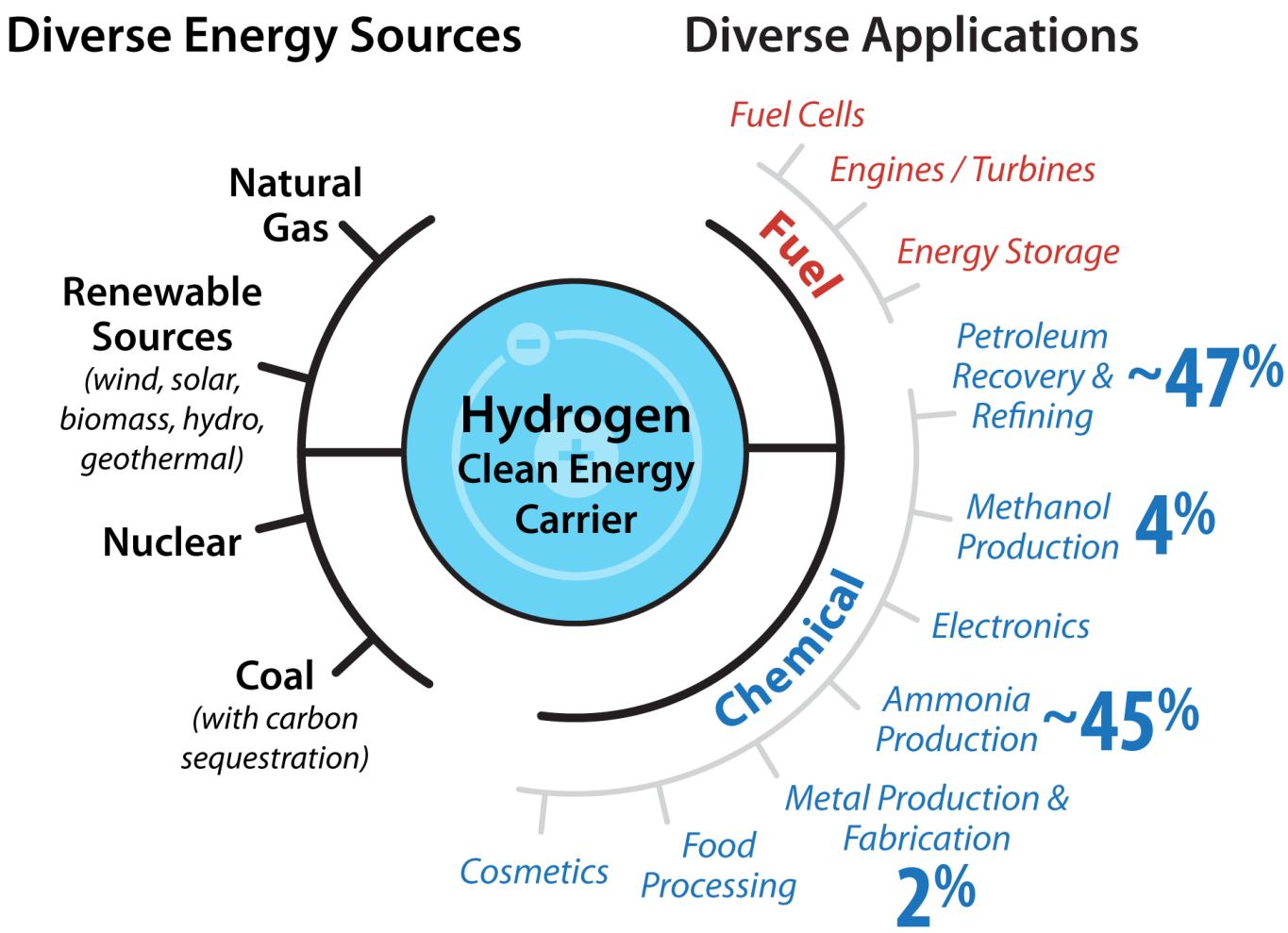
	Hydrogen	Natural Gas	Gasoline
			
Flammability in air (LFL – UFL)	4.1% - 74%	5.3% - 15%	1.4% - 7.6%
Most easily ignited mixture in air	29%	9%	2%
Flame temperature (°F)	4010	3562	3591

Outlook: Hydrogen and Specifically Fuel Cell Vehicles

[1] Australia's National Hydrogen Strategy. (2019). CSIRO *[2] The Future of Hydrogen* (2019), IEA
[3] *Fueling the Future of Mobility* (2020), Deloitte and Ballard [4] The International Partnership for Hydrogen and Fuel Cells in the Economy
[5] Roadmap to a US Hydrogen Economy, FCHEA [6] Hydrogen Scaling Up. Hydrogen Council. (2017)



Hydrogen – A Clean, Flexible Energy Carrier

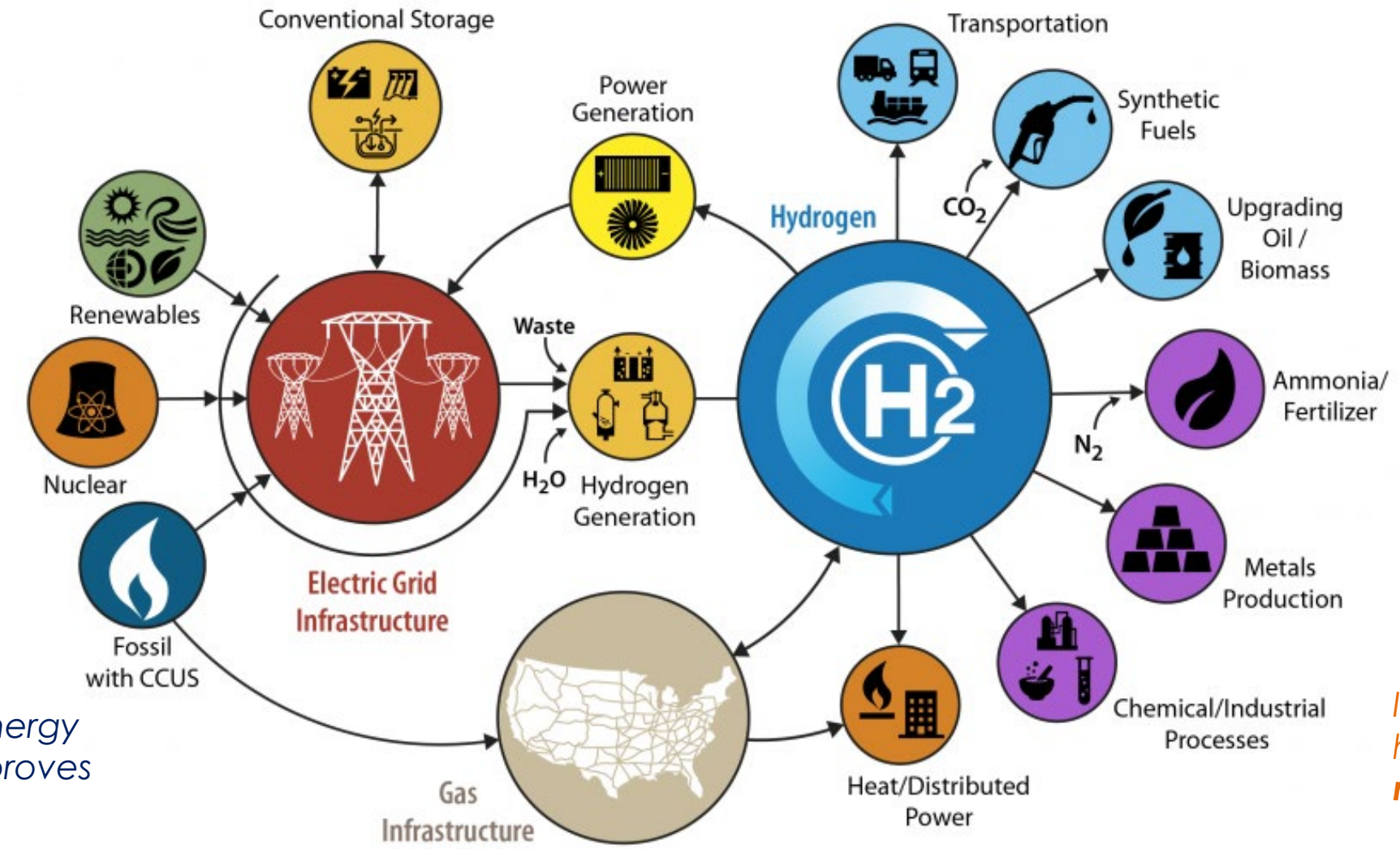


H_2 services all energy sectors AND improves ***Energy Security***

Industry has used hydrogen ***safely*** *for* ***nearly a century***

Source: US DOE, NREL, Hydrogen and Fuel Cell Program

Renewable Hydrogen Focus



CCUS: Carbon Capture, Utilization, and Storage

H_2 services all energy sectors AND improves ***Energy Security***

Industry has used hydrogen ***safely*** *for* ***nearly a century***

Source: Office of EERE

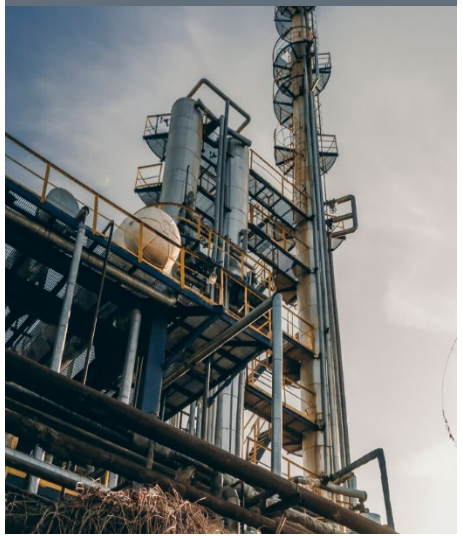
Hydrogen Applications – Develop'ed' and "ing"

Fuel Cells

Agriculture

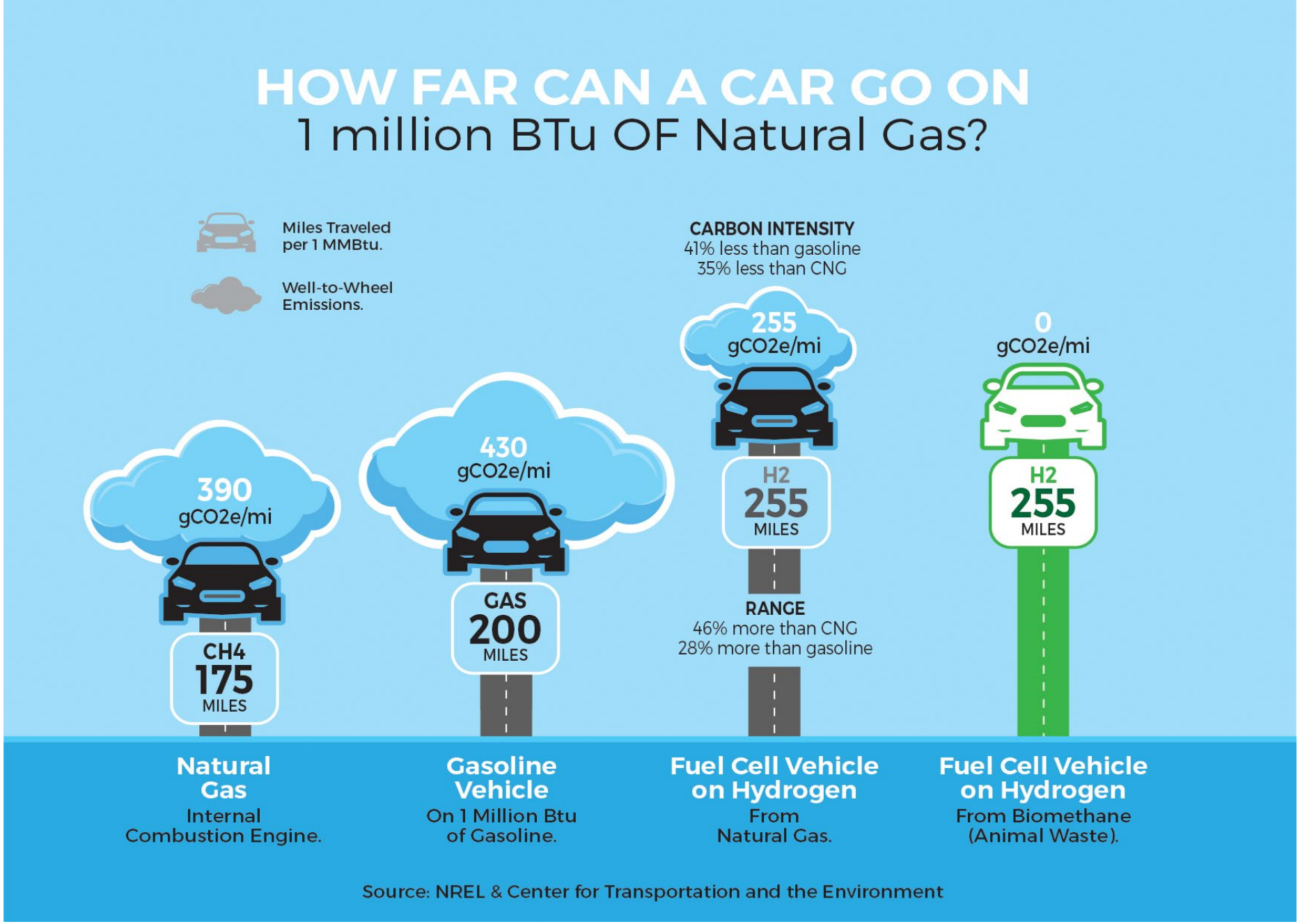
Industrial

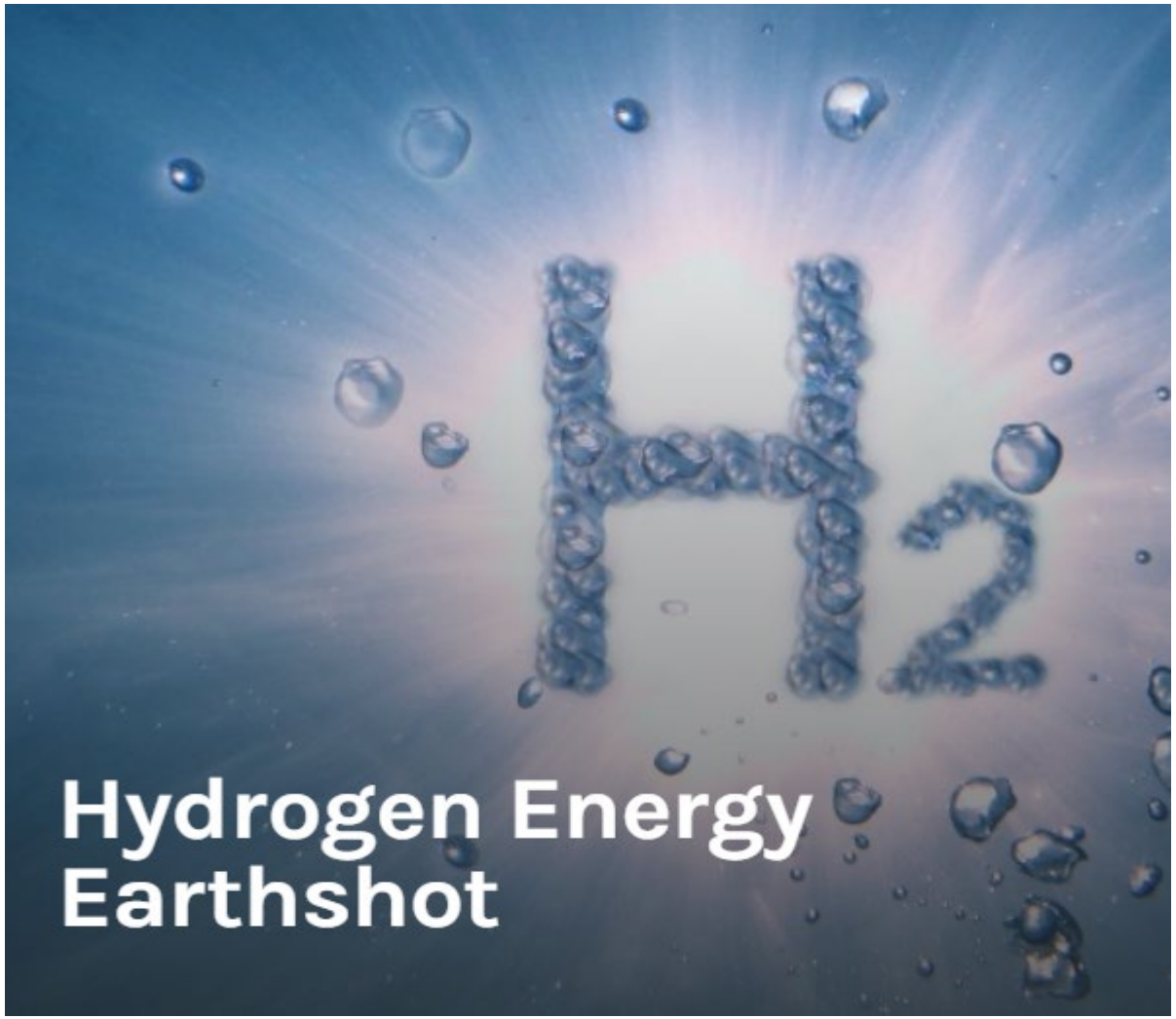
Energy



Aircraft

H2 as a fuel in mobility



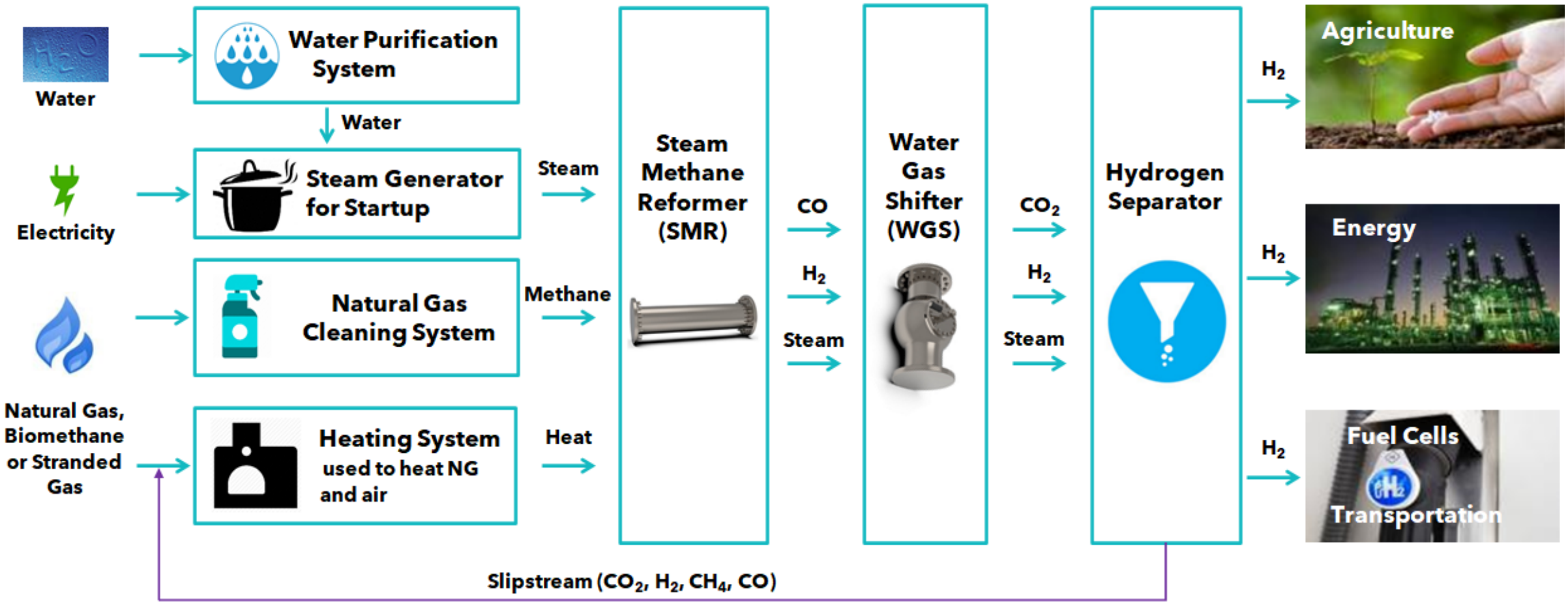


- "The Energy Earthshots are an all-hands-on-deck call for innovation, collaboration and acceleration of our clean energy economy …," said **Secretary Granholm**.
- "First up: Hydrogen Shot, which sets an ambitious yet achievable cost target to accelerate innovations and spur demand of clean hydrogen. Clean hydrogen is a game changer. It will help decarbonize high-polluting heavy-duty and industrial sectors, while delivering good-paying clean energy jobs and realizing a net-zero economy by 2050."

Currently, hydrogen from renewable energy costs about $5 per kilogram. By achieving Hydrogen Shot's 80% cost reduction goal…..$1/Kg

- BayoTech provides on-site production of low-cost, low-carbon hydrogen.
- Our reformers tap into the existing network of natural gas pipelines, avoiding the cost and challenge of long-haul transport.
- BayoTech partnering with Carbon Clean to Develop Onsite Hydrogen with Carbon Capture Solutions

Steam Methane Reforming - BayoTech



BayoTech- Innovation in New Mexico

- BayoTech is based in Albuquerque, New Mexico
- Center of Excellence (COE) is where the innovative technology was developed.
- BayoTech holds the exclusive license for the core design from Sandia National Laboratories
- Sandia spent >$50MM developing the technology
- BayoTech has additional patents for key design elements
- BayoTech is in the process of rolling out 1000 kg/day Hydrogen generation units.
- Cooperative work with San Juan Community College and PESCO in Farmington, NM

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Manufacturing Partner

- BayoTech's manufacturing partner, PESCO, has been creating custom solutions to meet the demands of the oil and gas industry for over 50 years.
- PESCO's proven experience in the engineering, design, manufacture and field service of production equipment plays a critical role in the success of their customers.
- Their 180,000 sq. ft facility and over 200 employees located in Farmington, New Mexico provide the scalability required to meet BayoTech's current and future production needs.
- Recognized leader in quality and performance by Chevron (Noble Energy) and Conoco Phillips

pesco
Process Equipment & Service Company, Inc.
- A Rhodes family company since 1970 -

Hydrogen - Value to Indian Tribes in New Mexico - Close and Summary

- Hydrogen is a viable clean energy fuel
- There are many paths to producing hydrogen – SMR, Electrolysis, etc.
- Natural gas availability presents a huge opportunity in hydrogen economy
- Future growth will provide jobs in the clean energy Hydrogen sector
- Education initiative through SJ Community College - Farmington
- Manufacturing in New Mexico for the hydrogen economy
- DOE's Earthshot's Hydrogen Shot promoting innovation
- Leverage and develop a skilled labor force for clean energy hydrogen