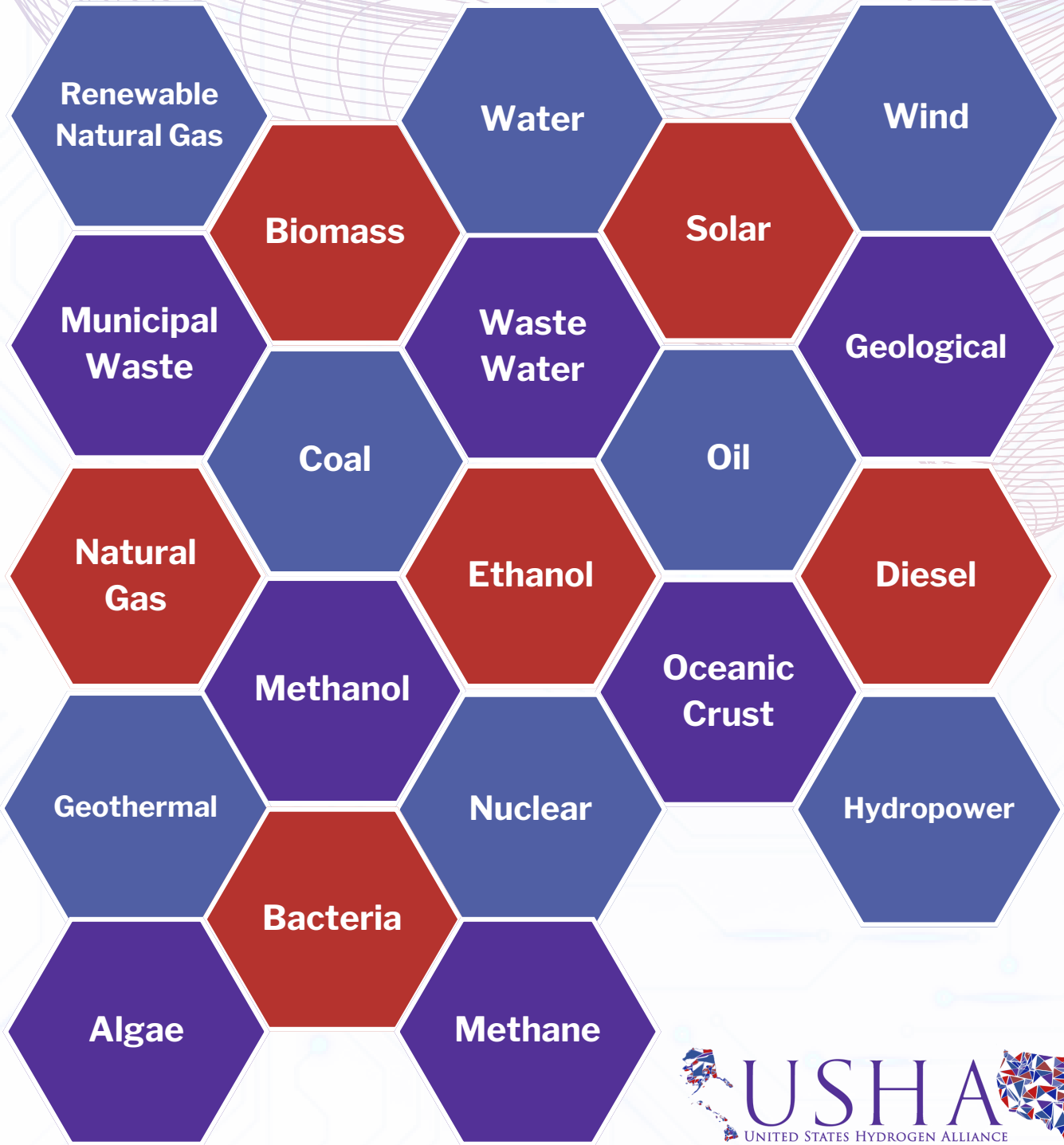
DO YOU HAVE ANY OF THESE 21 SOURCES IN YOUR STATE?

IF SO, WE CAN CREATE HYDROGEN FROM IT!



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PRODUCTION PROCESSES

STEAM METHANE REFORMING:
The most common method for producing hydrogen due to its low cost and high efficiency. By reacting natural gas with high-temperature steam, hydrogen is separated from the carbon atoms in methane. It is typically referred to as "SMR."
Hydrogen Sources: Renewable Natural Gas, Natural Gas, Municipal Waste, Methane

GASIFICATION:
A synthesis gas can also be created by reacting coal or biomass with high-temperature steam and oxygen in a pressurized gasifier. This converts the coal or biomass into gaseous components. The resulting synthesis gas contains hydrogen and carbon monoxide, which is reacted with steam to separate the hydrogen.
Hydrogen Sources: Biomass, Municipal Waste, Coal

ELECTROLYSIS:
An electric current splits water into hydrogen and oxygen. If the electricity is produced by renewable sources, such as solar or wind, the resulting hydrogen will be considered renewable as well and has numerous emissions benefits. Power-to-hydrogen projects are taking off, using renewable electricity to make hydrogen through electrolysis.
Hydrogen Sources: Solar, Wind, Geothermal, Hydropower, or Nuclear combined with Water, Methane

BIOMASS-DERIVED LIQUID REFORMING:
Renewable liquid fuels are reacted with high-temperature steam to produce hydrogen near the point of end use.
Hydrogen Sources: Ethanol, Methanol

MICROBIAL BIOMASS CONVERSION:
Biomass is converted into sugar-rich feedstocks that can be fermented to produce hydrogen.
Hydrogen Sources: Biomass

PHOTOBIOLOGICAL WATER SPLITTING:
Microbes, such as green algae, consume water in the presence of sunlight and produce hydrogen as a byproduct.
Hydrogen Sources: Bacteria, Algae

PHOTOELECTROCHEMICAL WATER SPLITTING:
Photoelectrochemical systems produce hydrogen from water using special semiconductors and energy from sunlight.
Hydrogen Sources: Solar + Water

GEOLOGICAL:
Hydrogen that is naturally occurring within the earth's crust.
Hydrogen Sources: Water, Oceanic crust

PARTIAL OXIDATION:
The fuel-air mixture undergoes partial combustion in a reformer, it produces a gas rich in hydrogen, known as syngas. The syngas can be utilized in various applications, such as powering a fuel cell.
Hydrogen Sources: Oil

METHANE PYROLYSIS:
The thermal breakdown of methane into hydrogen gas and solid carbon.
Hydrogen Sources: Methane

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