

DOCKETED

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Bloomenergy

**IEPR Commissioner Workshop on Hydrogen to Support
California's Clean Energy Transition**

Bloom Energy's Vision in Decarbonization with Hydrogen



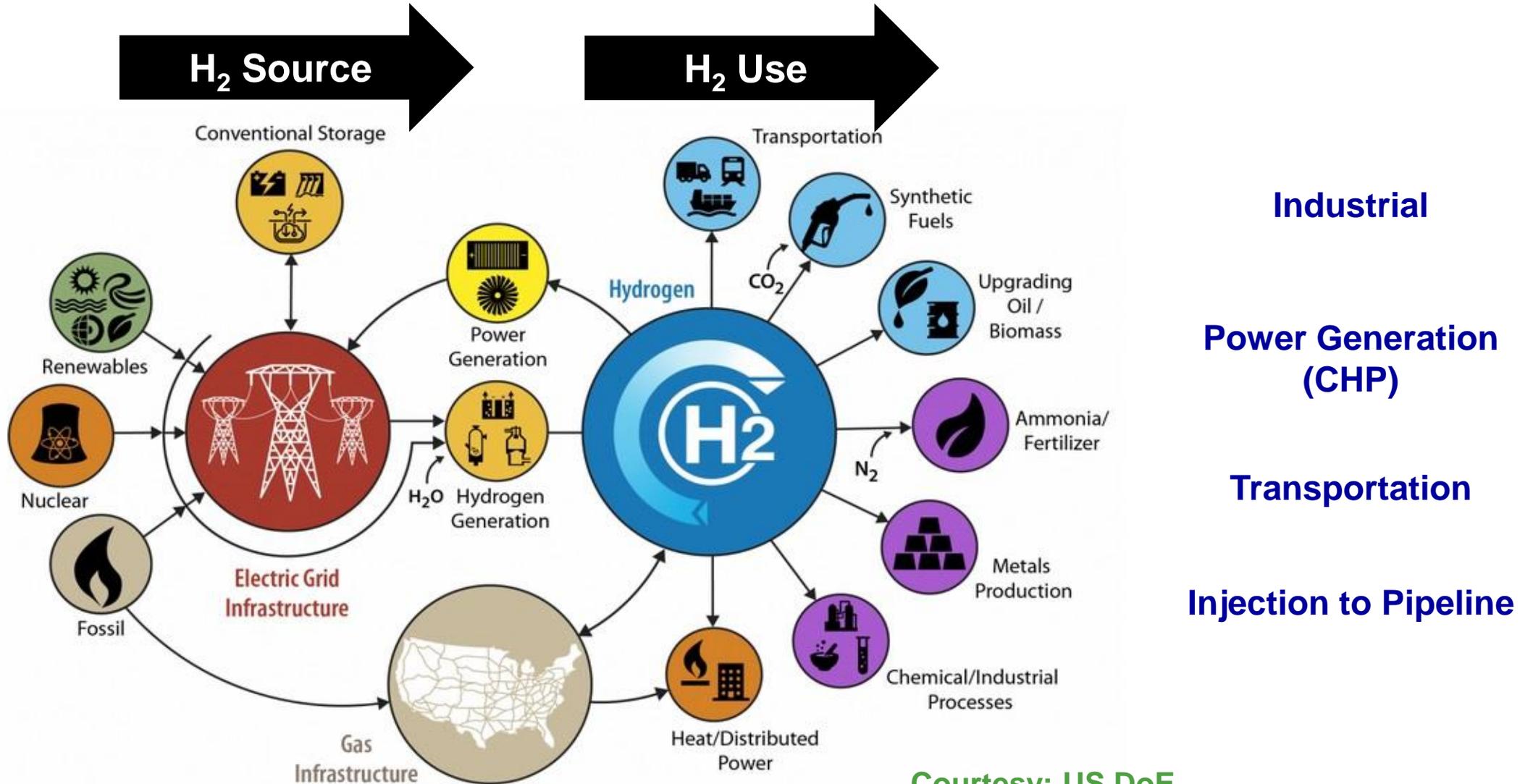
**VENKAT
VENKATARAMAN**

Executive Vice President of Engineering
Chief Technology Officer

July 28, 2021

DECARBONIZATION WITH H₂

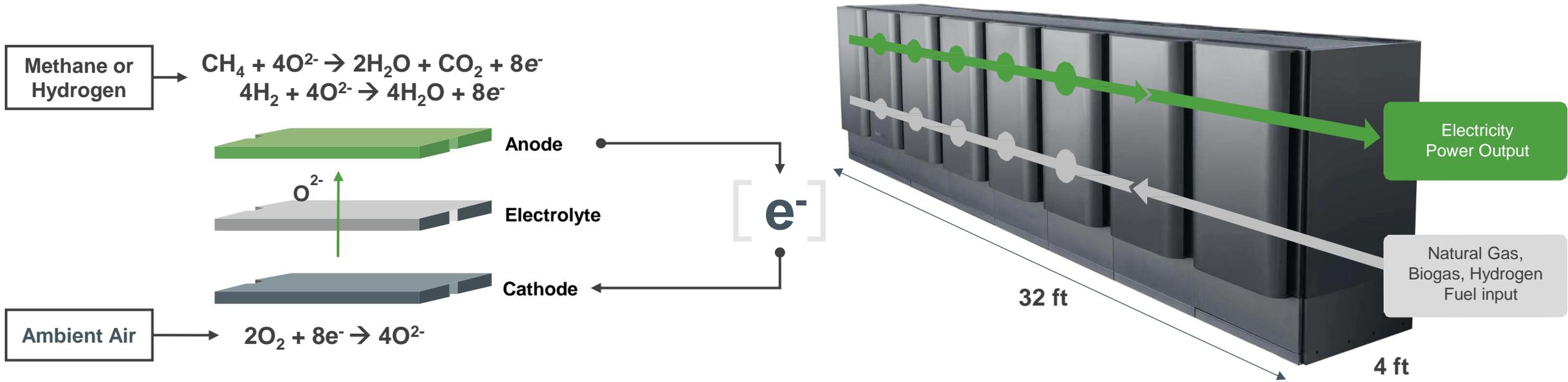
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Courtesy: US DoE

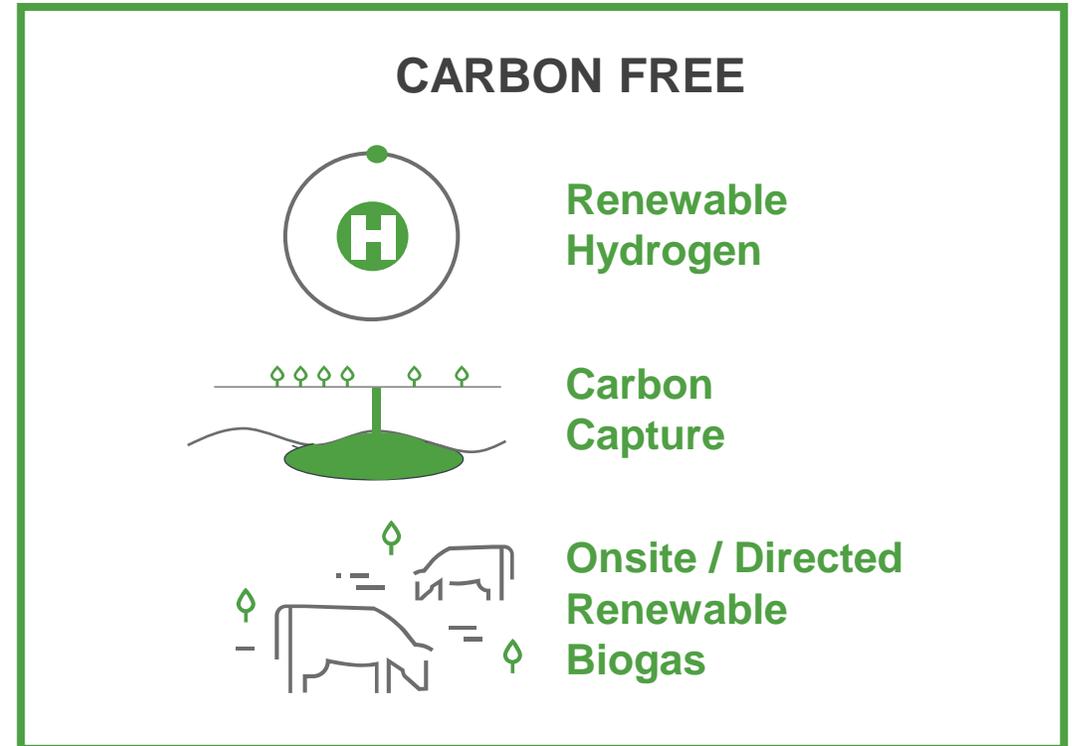
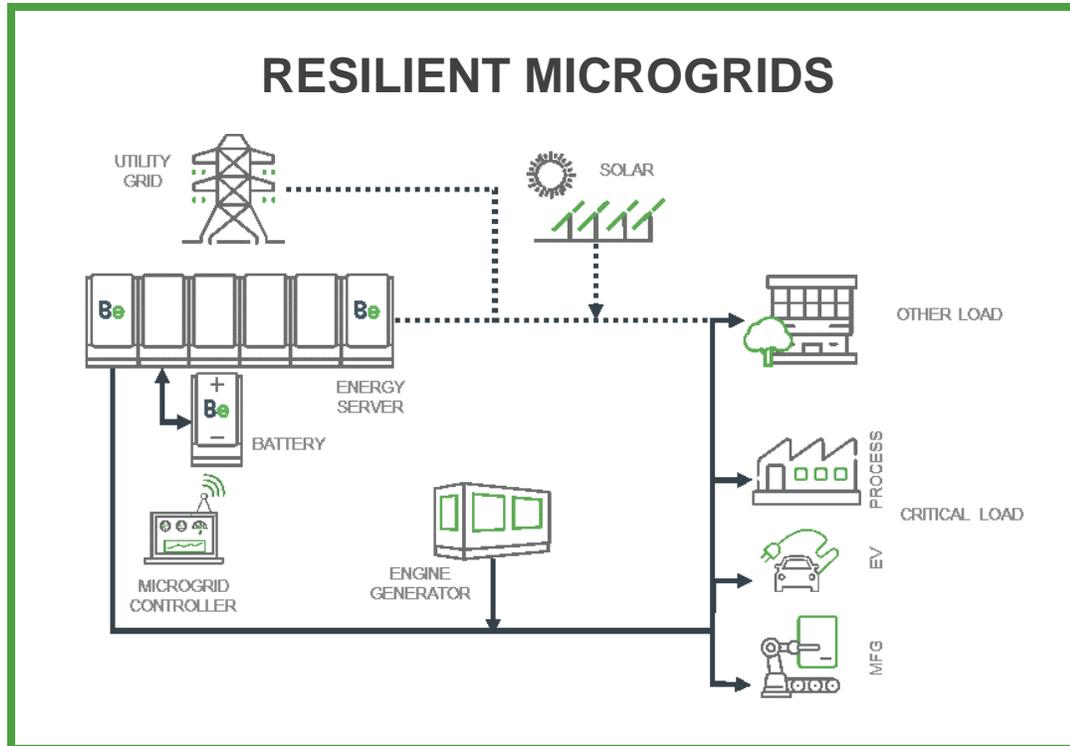
FUEL CELL OVERVIEW

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CARBON FREE TOTAL SOLUTION

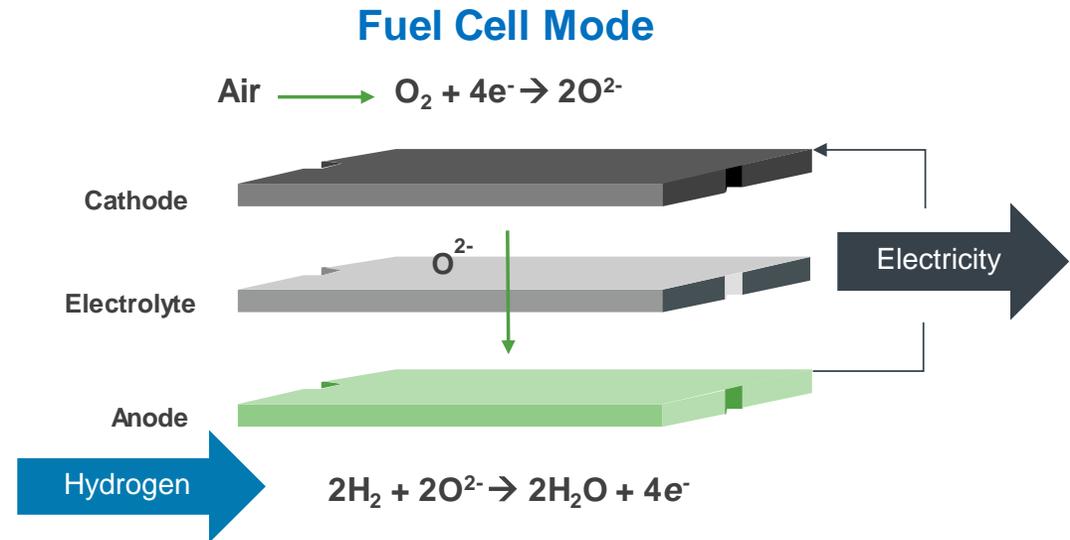
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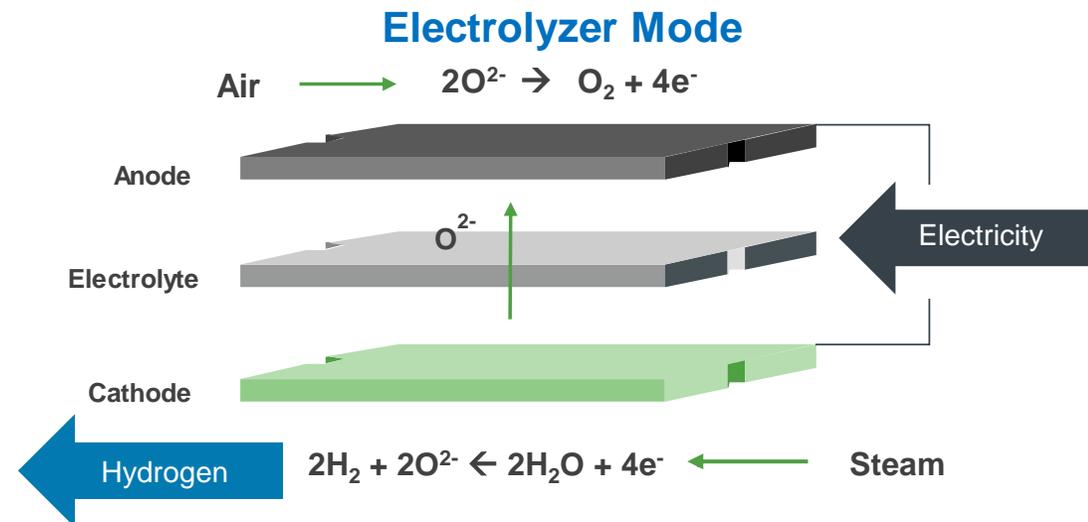
REVERSIBLE CELL

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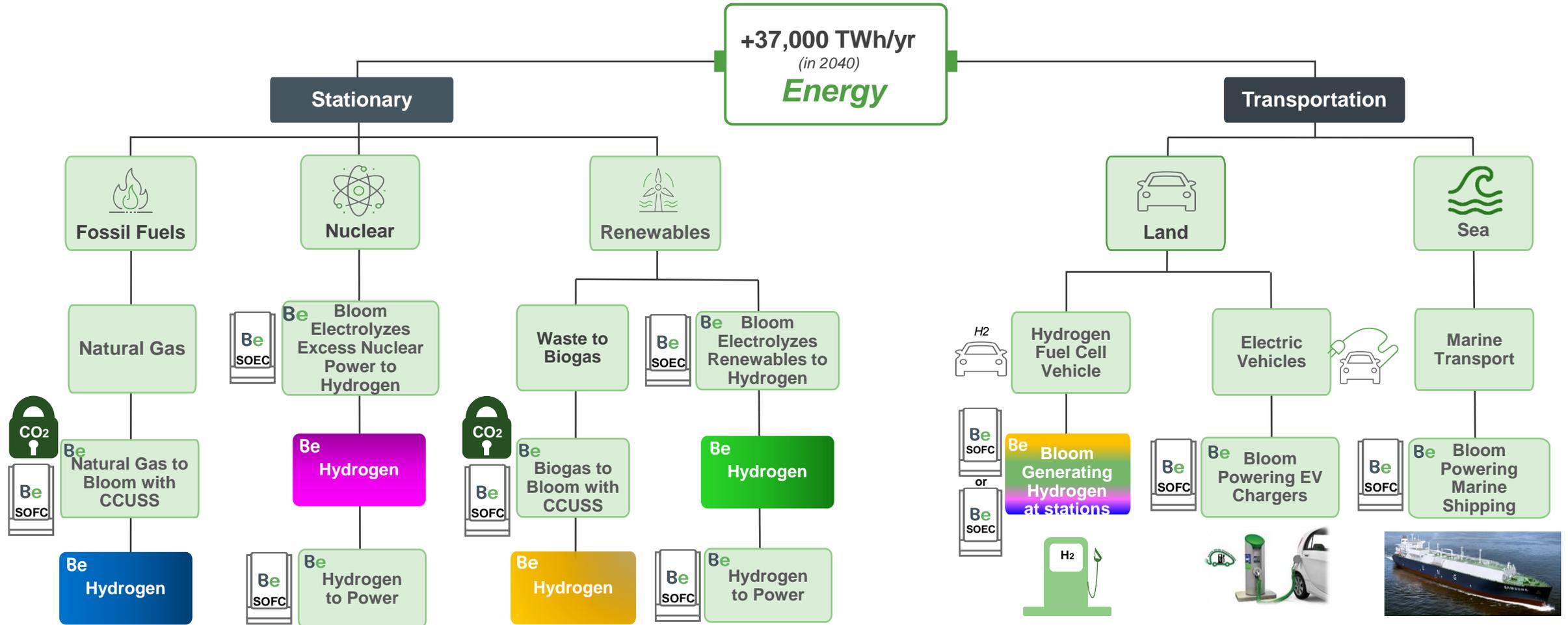
Fuel Cell Mode



Electrolyzer Mode



BLOOM'S VISION ON ENERGY TRANSFORMATION **Be**

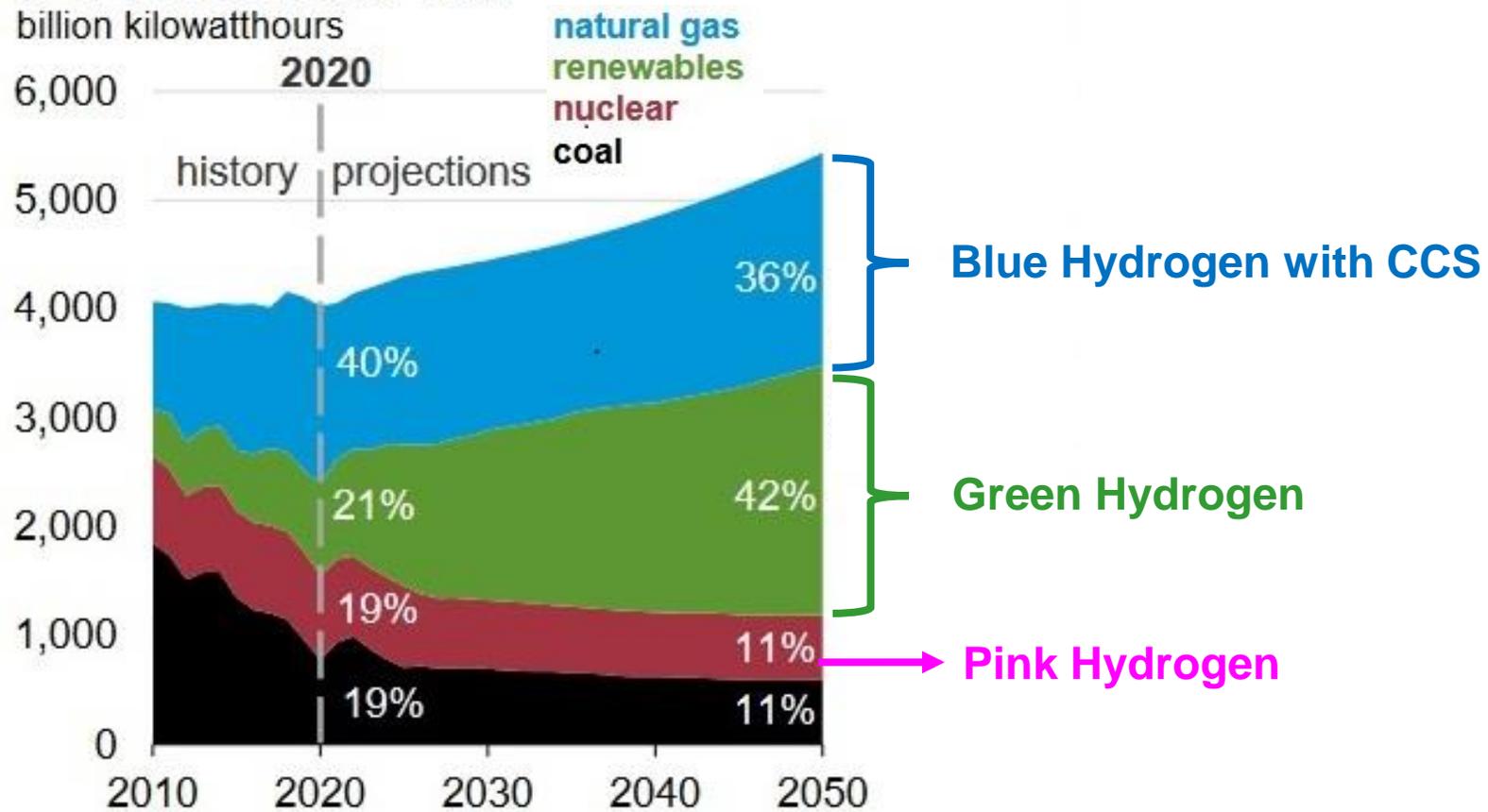


- H₂** “Blue Hydrogen”, Hydrogen generated during carbon capture of Natural Gas
- H₂** “Pink Hydrogen”, Hydrogen generated by electrolyzing excess Nuclear Power
- H₂** “Gold Hydrogen”, Hydrogen generated during carbon capture of Biogas Gas
- H₂** “Green Hydrogen”, Hydrogen generated by electrolyzing excess renewables
- H₂** Hydrogen generated by BE SOFC or SOEC from any of the above means

DECARBONIZATION STRATEGY WITH H₂

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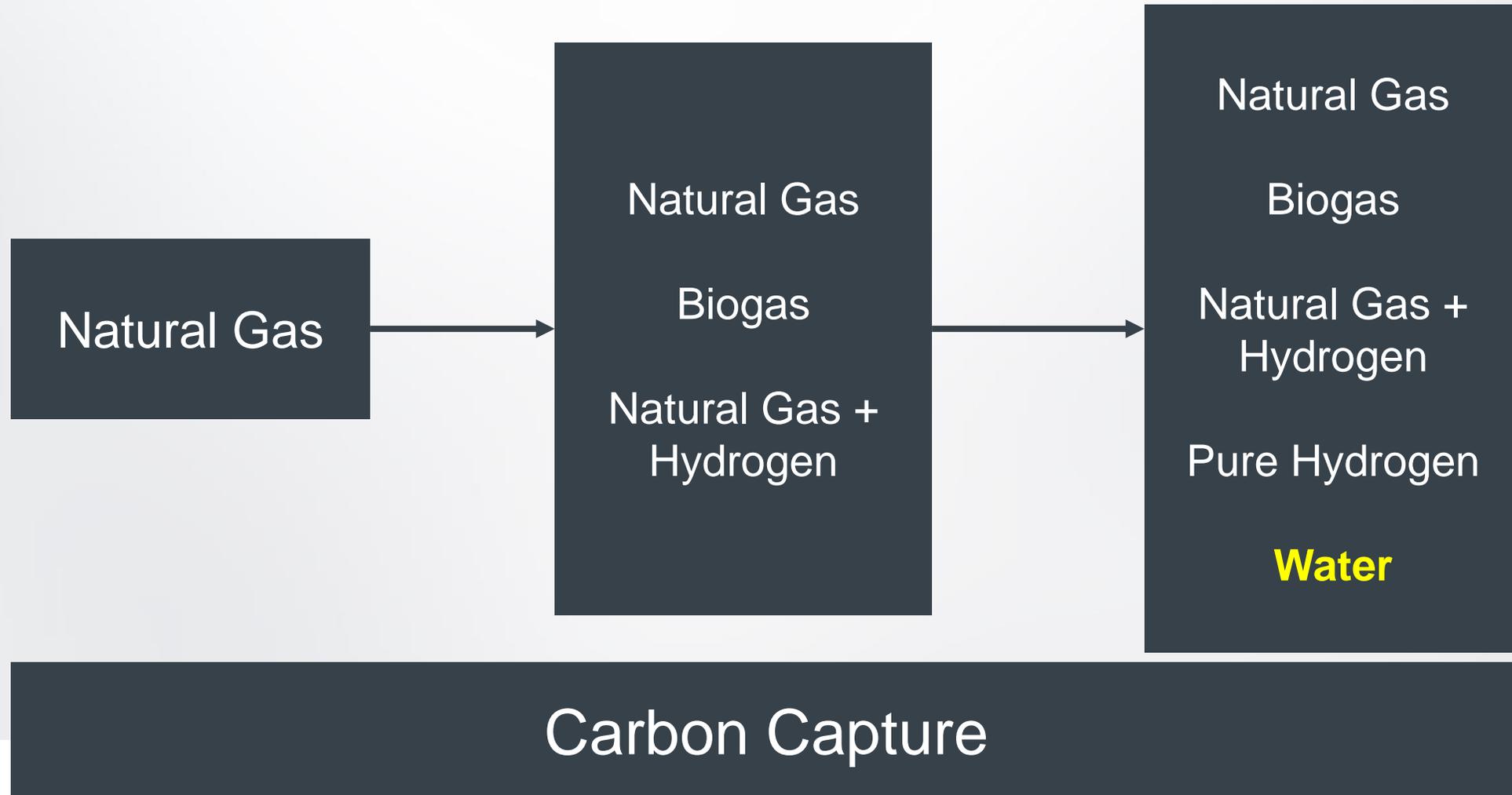
U.S. electricity generation from selected fuels
AEO2021 Reference case



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021* (AEO2021)

DECARBONIZATION BY FUEL SELECTION

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