

# Why hydrogen?



**Our energy system  
needs deep  
decarbonization**

# Decreasing all U.S. carbon emissions by about half (2050)



# Energy System Challenge - Sustainability

- **Multi-sector requirements**

- Transportation
- Industrial
- Grid

**Over half of U.S. CO<sub>2</sub> emissions come from the industrial and transportation sectors**

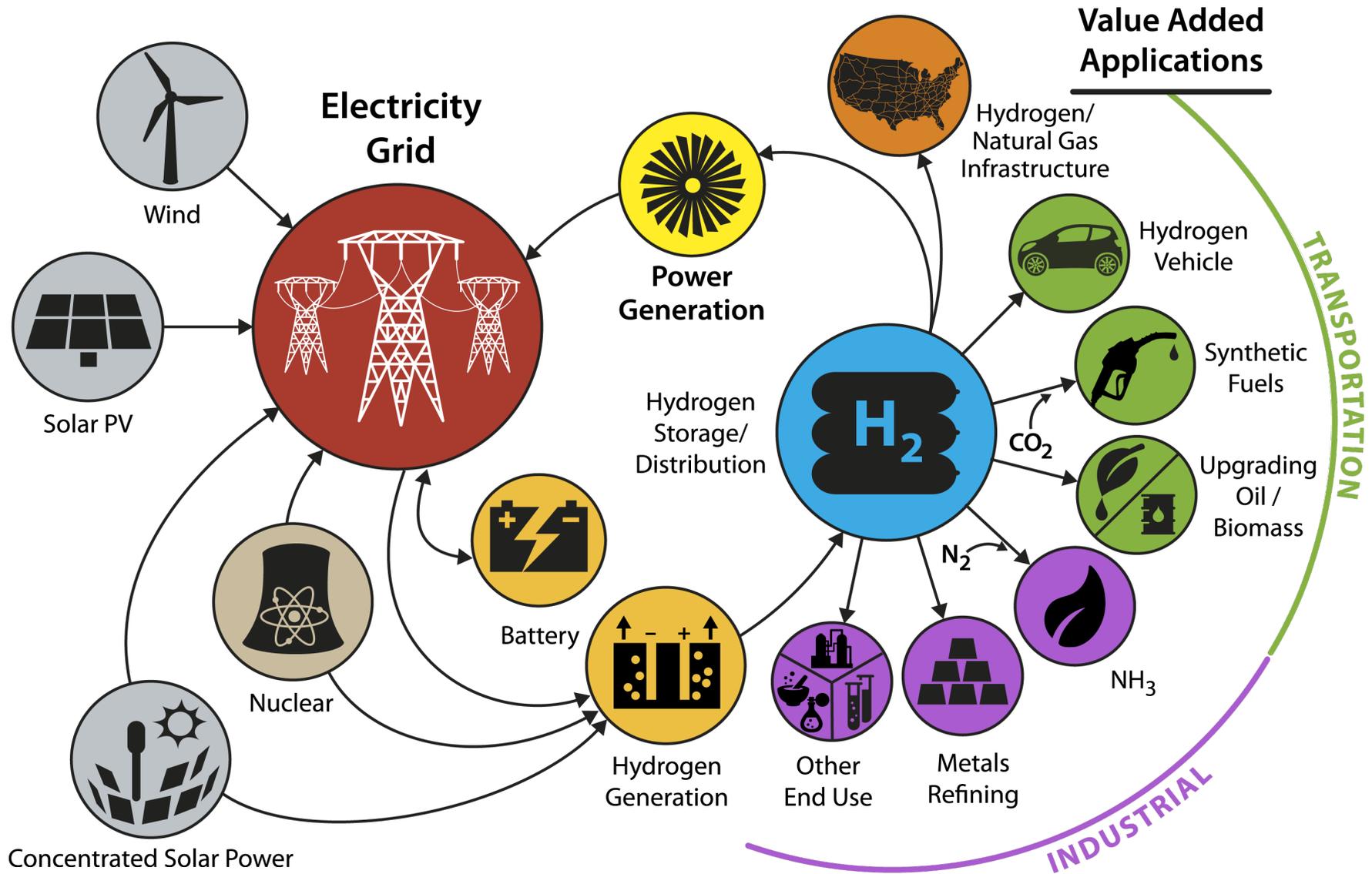
- **Decarbonizing our energy sector is hard**

---

- **Dwight D. Eisenhower**

**"If you can't solve a  
problem, enlarge it"**

# Conceptual H<sub>2</sub> at Scale Energy System\*



\*Illustrative example, not comprehensive

# H<sub>2</sub> @ Scale



Reduction by  
Sector

75%  
Grid

25%  
Transportation

25%  
Industrial

**MORE**  
Jobs  
Security  
Resiliency

Creating a sustainable future

50% fewer GHG emissions than today . . . by **2050**