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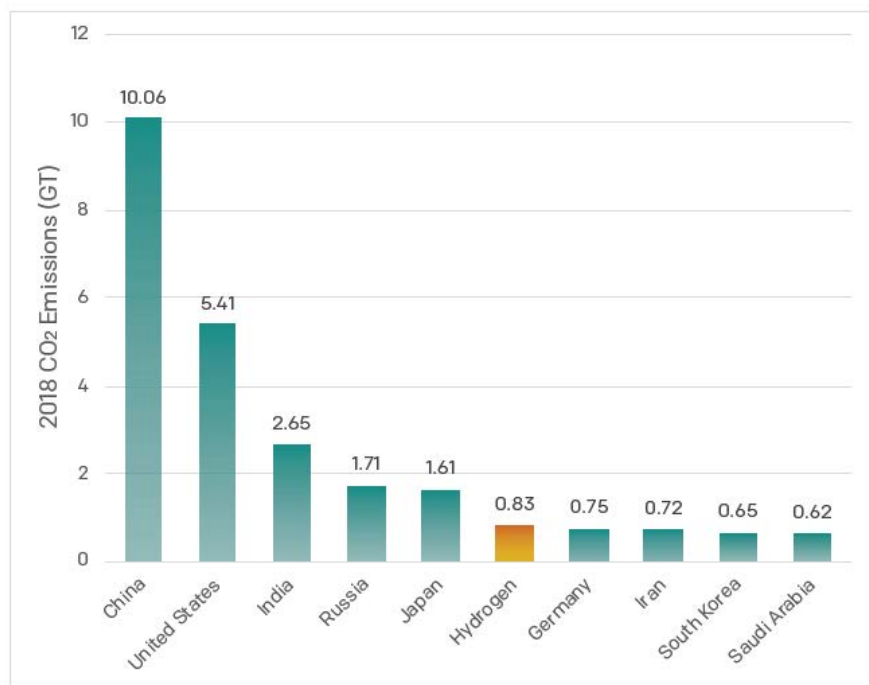
# Reclaiming Hydrogen for a Renewable Future:

Distinguishing Oil & Gas Industry Spin From  
Zero Emission Solutions

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# Status Quo: Hydrogen's Climate and Health Threat



Reclaiming Hydrogen for a Renewable Future



The bulk of hydrogen demand in the United States today is for use in crude oil refineries. The fossil fuel industry is the country's primary producer and consumer of hydrogen. *Thomas Northcut / Getty Images*



# Focus on renewable electrolytic hydrogen (i.e., zero-emission H<sub>2</sub>)

- Protect public health
- Avoid gamesmanship and inaccurate carbon accounting



# Compare two certified LCFS pathways for hydrogen fuel

- Produced using steam reformation of fossil gas in Wilmington, CA
- Paired with “environmental attributes” of dairy manure gas in Indiana
- Carbon intensity = -287
- Produced using electrolysis in Alameda County, CA
- Powered by local solar resources
- Carbon intensity = 0



# Catalyzing the market for green hydrogen

- The first priority for green hydrogen should be deploying it to displace the hydrogen currently produced through steam reformation of fossil gas.
- Taxpayer-funded projects should only support hydrogen projects that do not rely on polluting sources of hydrogen.
- CARB should implement SB 1505 (Lowenthal 2006).



# Decarbonizing hydrogen is not the goal!

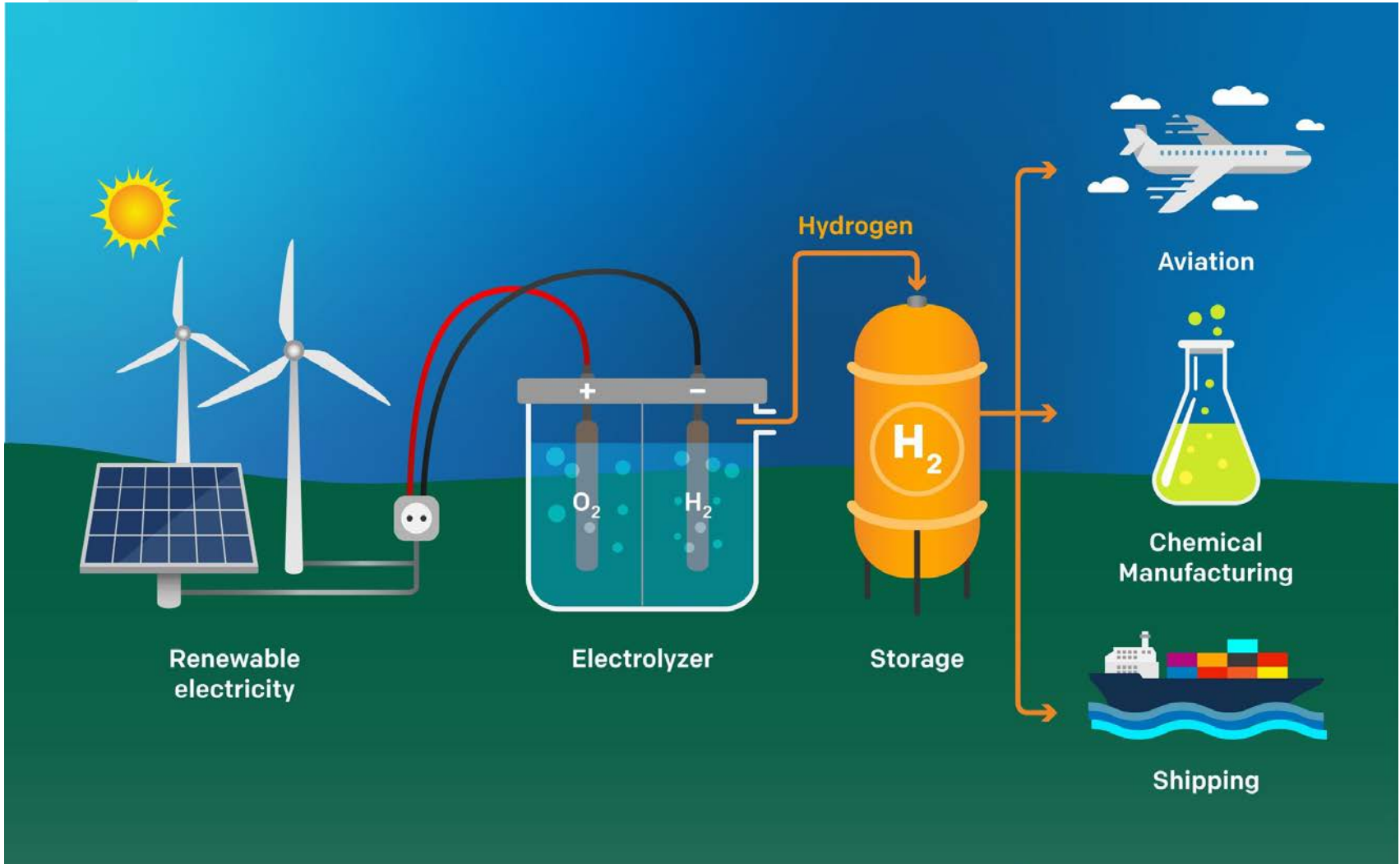
- Decarbonizing the economy is the goal.
- Hydrogen is not going to be the best tool for most sectors.
- Set ambitious zero-emission standards and let hydrogen compete against direct electrification.



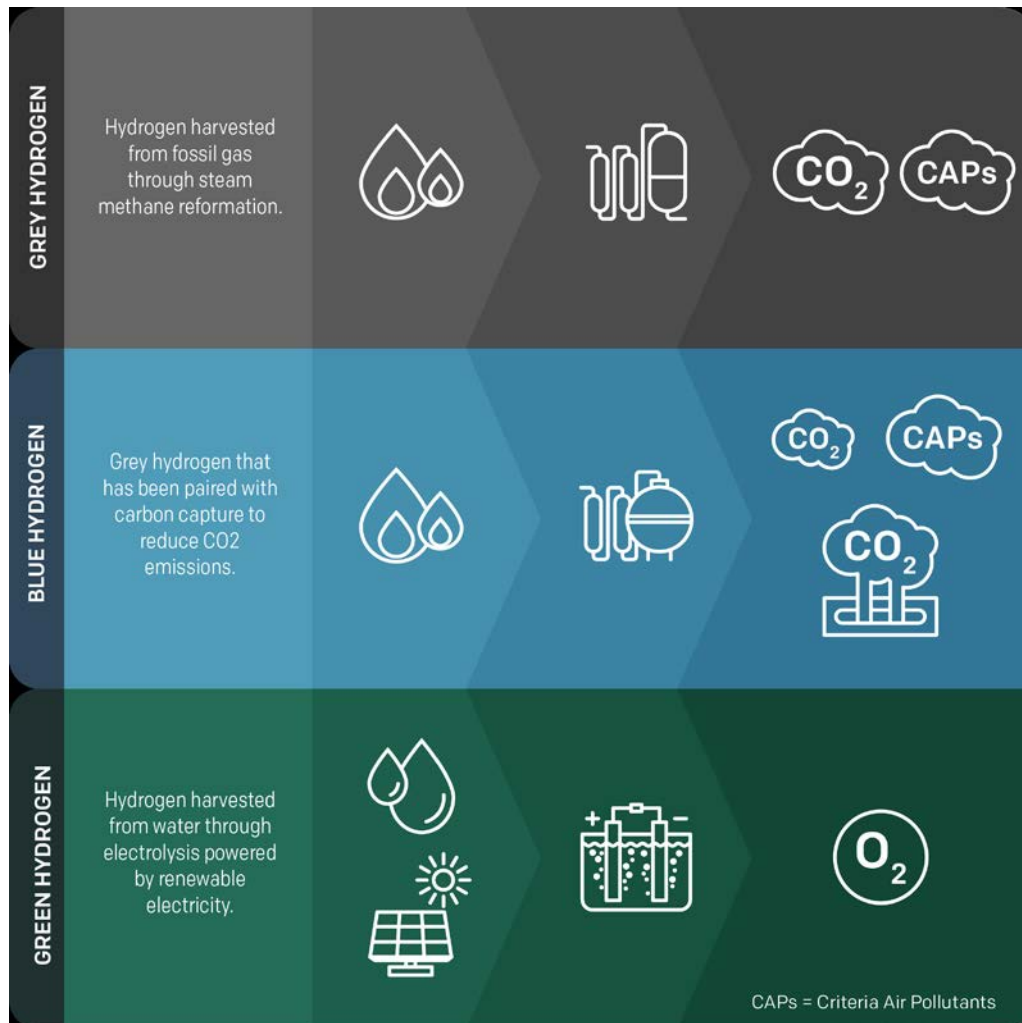
# APPENDIX



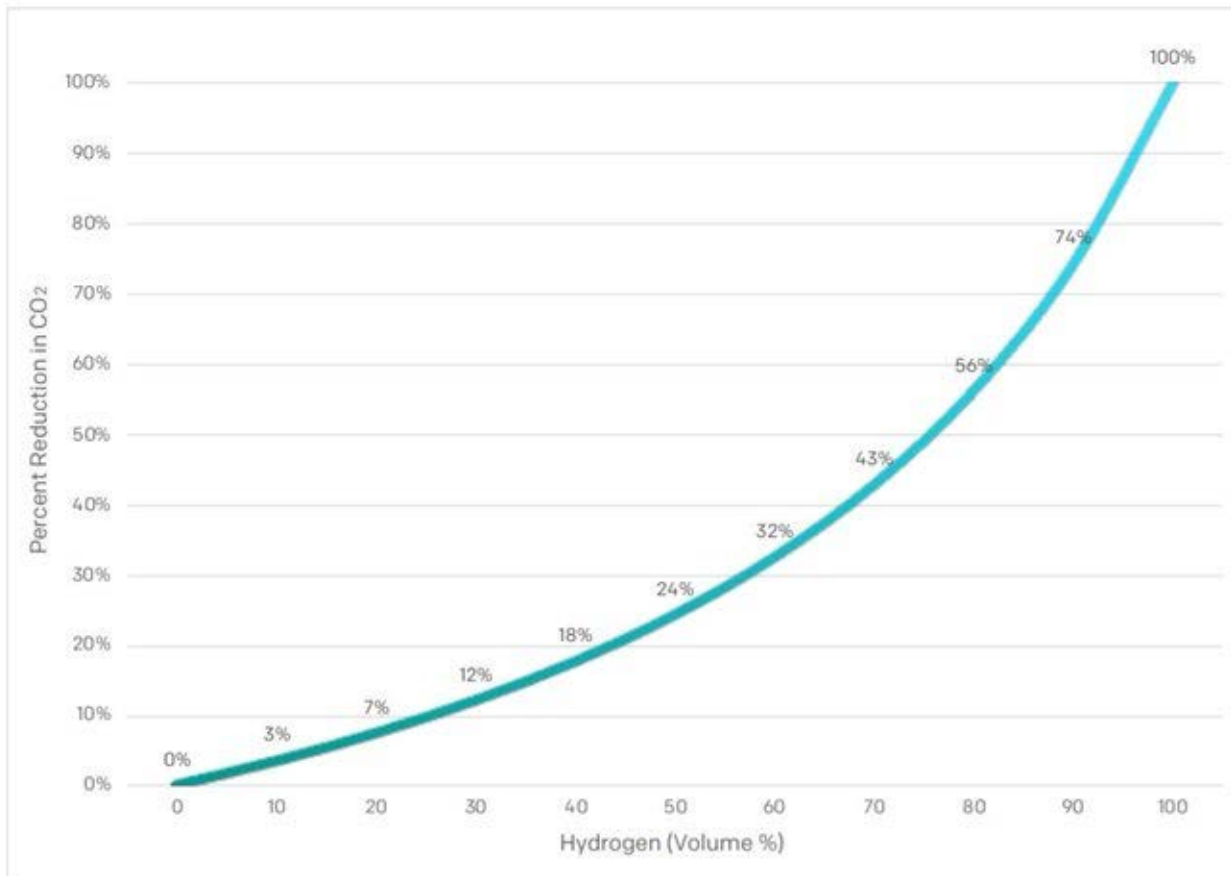
# What is green hydrogen?



# Comparing Gray, Blue, and Green Hydrogen



# Decoding Claims about Hydrogen “Blends”



**Figure 7: Relationship between CO2 emissions from combustion and hydrogen/methane fuel blends (volume %)**

# Energy Inefficiency

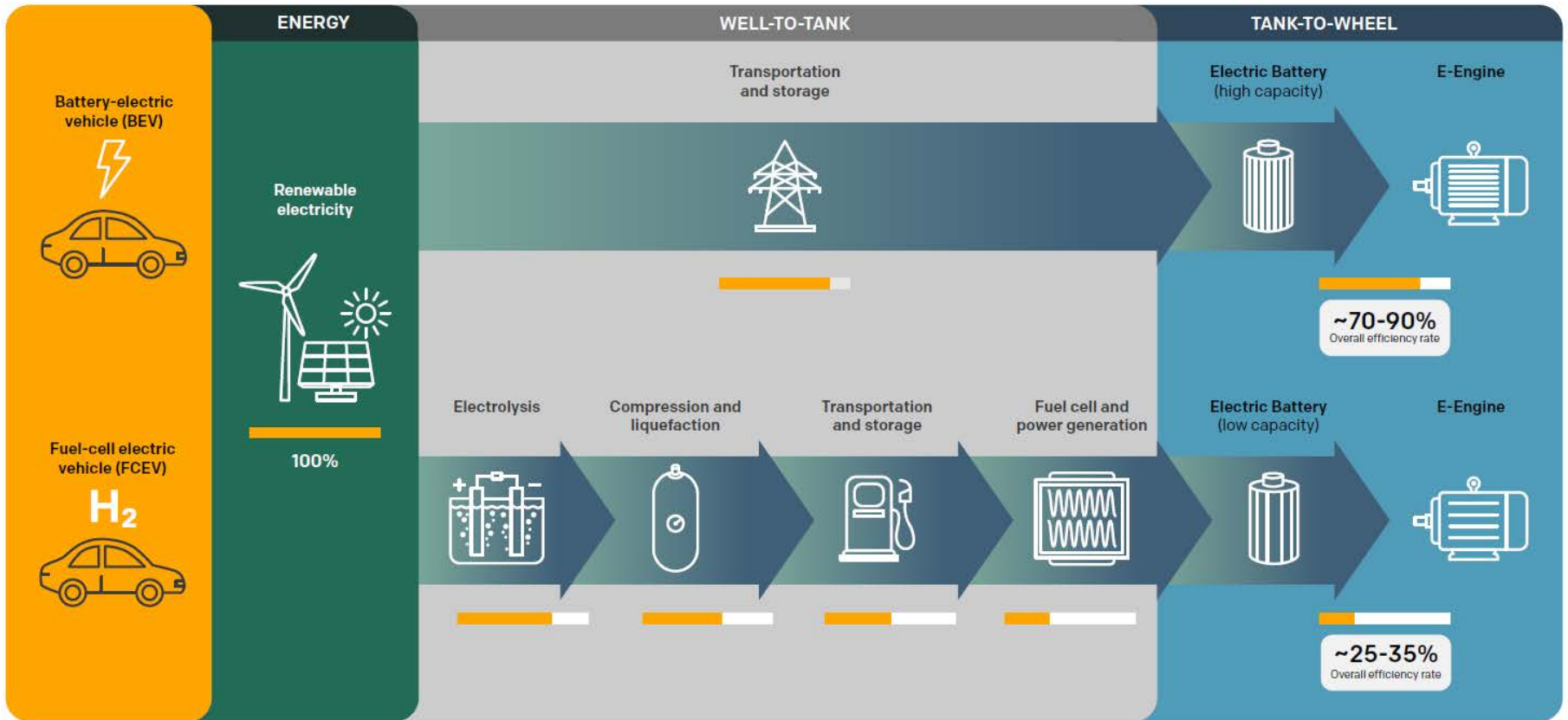



Figure 8: Comparing the efficiency of renewable energy in battery and fuel cell vehicles


Data source: Volkswagen (2020)



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