

Liftoff Opportunities Snapshot: Clean Hydrogen

Hydrogen can play a role in decarbonizing up to 25% of global energy-related CO₂ emissions, particularly in industrial/chemicals uses and heavy-duty transportation sectors.



Clean hydrogen production for U.S. demand has the potential to scale from **<1 million metric tons per year (MMTpa) to 10 MMTpa in 2030.**

The opportunity for clean hydrogen production in the U.S. is **50 MMTpa by 2050.**

The U.S. clean hydrogen market is poised for rapid growth, accelerated by:

Hydrogen hub program funded by the Bipartisan Infrastructure Law

Multiple tax credits under the Inflation Reduction Act

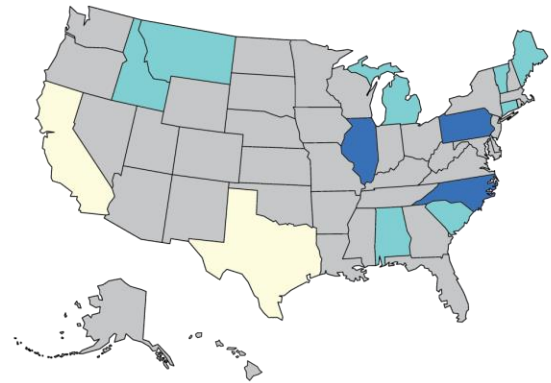
Department of Energy's Hydrogen Shot

Decarbonization goals across the public and private sectors

Specialization in Alternative Electric Power Subcluster by State, 2021

- High Employment Specialization and Share
- High Employment Specialization
- High Employment Share

Source: <https://clustermapping.us/>



In the next 5 to 10 years, clean hydrogen's cost, efficiency, and risks are expected to improve with build-out of new midstream infrastructure, continued Research & Development, and government funding and programming.

The United States has diverse domestic resources to produce clean hydrogen, often adjacent to existing industrial clusters.

Production potential for clean hydrogen from on-shore wind, utility scale photovoltaic (PV) solar, offshore wind, concentrated solar power, and biomass resources

A: Hydrogen production potential from onshore wind resources, by county land area



B: Hydrogen production potential from utility-scale PV, by county land area



C: Hydrogen production potential from concentrated solar power, by county land area



D: Hydrogen production potential from solid biomass resources, by county land area



E: Hydrogen production potential from offshore wind resources, by county land area



The information in this flyer is based on the [Pathways to Commercial Liftoff: Clean Hydrogen](#) report.