



## AEG Stakeholder Dinner

# Hydrogen Hub Funding and the Inflation Reduction Act

Hydrogen Hub FOA: In [Late Sept. / Early Oct], the Secretary shall solicit proposals for regional clean hydrogen hubs. \$8 B is authorized from the period of FY 2022-2026.

## *Selection criteria*

- Feedstock diversity—“(i) at least 1 regional clean hydrogen hub shall demonstrate the production of clean hydrogen from fossil fuels; “(ii) at least 1 regional clean hydrogen hub shall demonstrate the production of clean hydrogen from renewable energy; and “(iii) at least 1 regional clean hydrogen hub shall demonstrate the production of clean hydrogen from nuclear energy.
- End-use diversity—“(i) at least 1 regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the electric power generation sector; “(ii) at least 1 regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the industrial sector; “(iii) at least 1 regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the residential and commercial heating sector; and “(iv) at least 1 regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the transportation sector.
- Geographic diversity—each regional clean hydrogen hub— “(i) shall be located in a different region of the United States; and “(ii) shall use energy resources that are abundant in that region.
- Hubs in natural gas-producing regions—To the maximum extent practicable, at least 2 regional clean hydrogen hubs shall be located in the regions of the United States with the greatest natural gas resources.

## Inflation Reduction Act:

“The Bill creates a new 10-year [Production Tax Credit] in an amount of up to \$3/kg of qualified clean hydrogen produced after 2022” ... “To claim the full \$3/kg, the hydrogen production must result in a lifecycle greenhouse gas emissions rate of less than .45 kg of carbon dioxide equivalent per kilogram of hydrogen”... “

Source: IJJA final language; Kirkland & Ellis Summary  
[Schumer and Manchin's Inflation Reduction Act](#)  
[Includes Significant Tax Incentives to Combat](#)  
[Climate Change | Publications | Kirkland & Ellis LLP](#)



1 Dollar

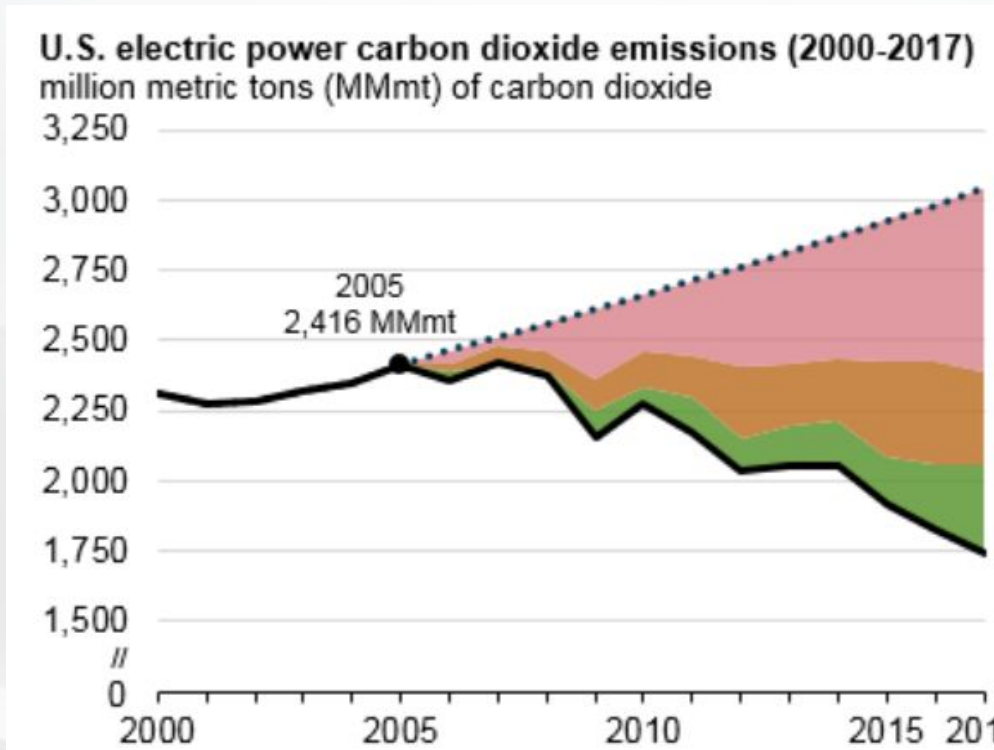


1 Kilogram

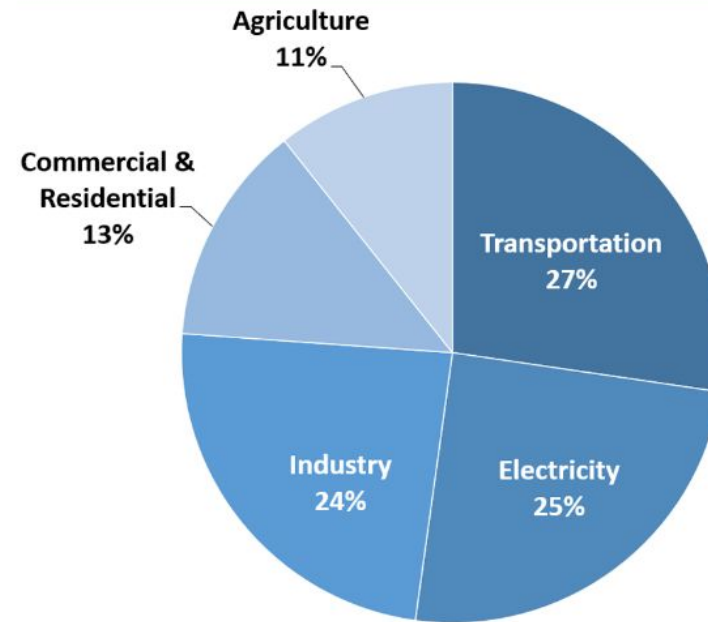


1 Decade

# Addressing Climate Change Requires Action Across Sectors



**Total U.S. Greenhouse Gas Emissions by Economic Sector in 2020**

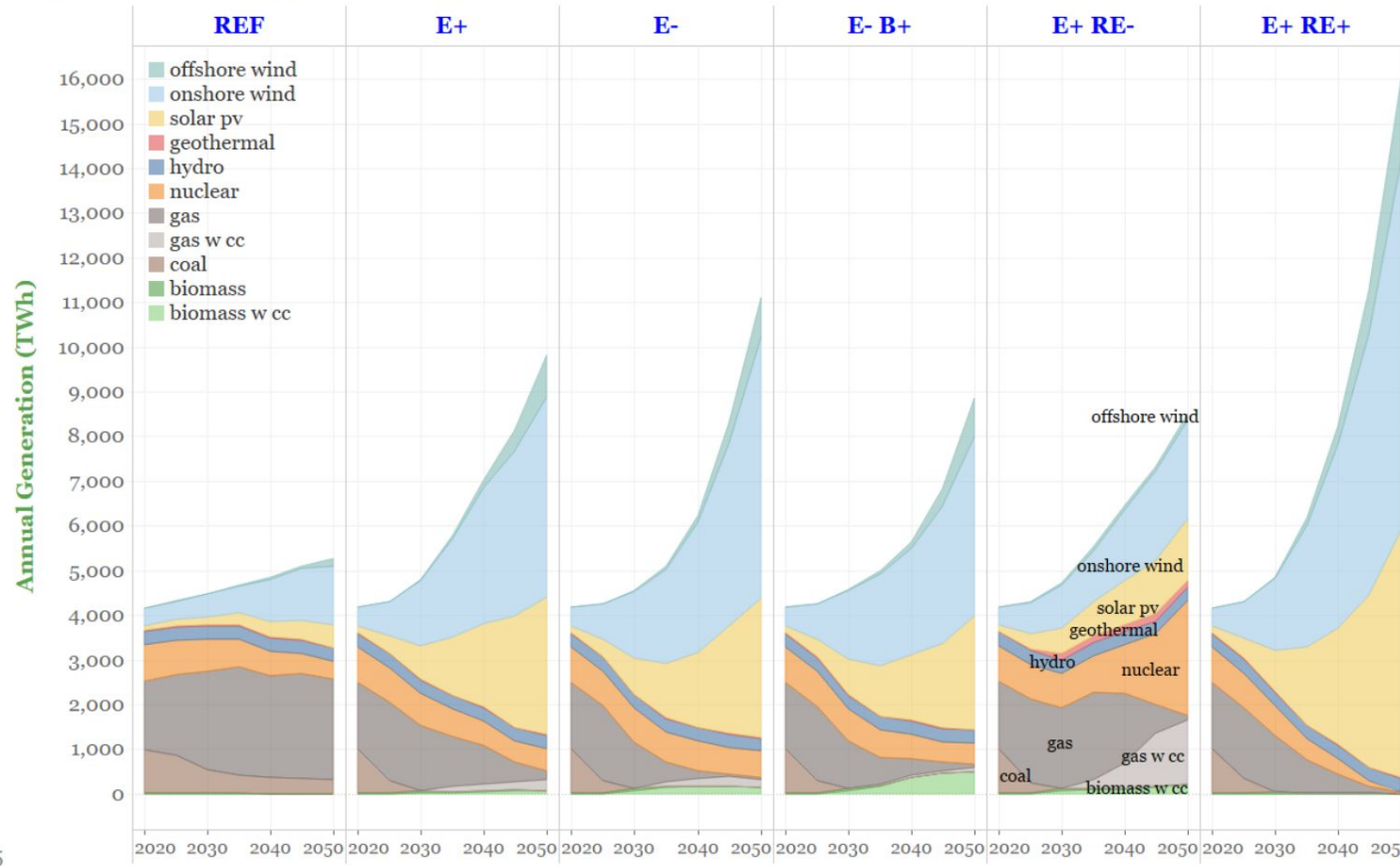


Total Emissions in 2020 = 5,981 [Million Metric Tons of CO<sub>2</sub> equivalent](#). Percentages may not add up to 100% due to independent rounding.

Source: Energy Information Administration, US Energy Related Carbon Dioxide Emissions, 2017; US EPA [Sources of Greenhouse Gas Emissions | US EPA](#)

# Princeton Net Zero Study:

## Solar and wind generated electricity have dominant roles in all net-zero pathways



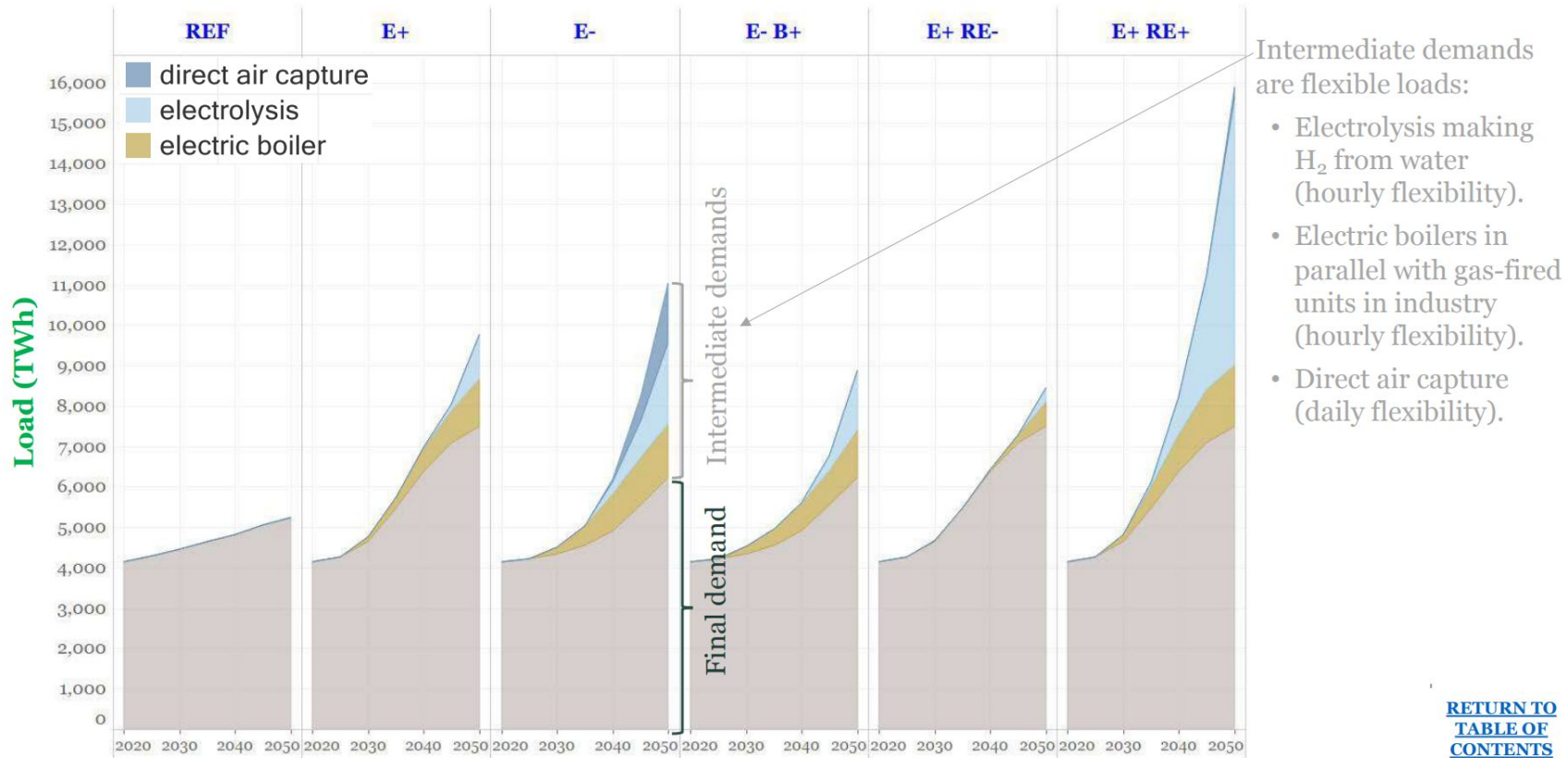
- Share of electricity from carbon-free sources roughly doubles from ~37% today to 70-85% by 2030 and reaches 98-100% by 2050.
- Wind + solar grows >4x by 2030 to supply ~1/2 of U.S. electricity in all cases except E+RE-; in that case, growth is constrained, but still triples by 2030 to supply 1/3 of electricity.
- By 2050, wind and solar supply ~85-90% of generation in E+, E-, and E-B+. In E+RE-, 44%; in E+RE+, 98%.

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Source: Princeton Net Zero Study

# Princeton Net Zero Study:

Electricity load grows 2x – 4x by 2050, including flexible intermediate loads that absorb variable wind and solar generation.



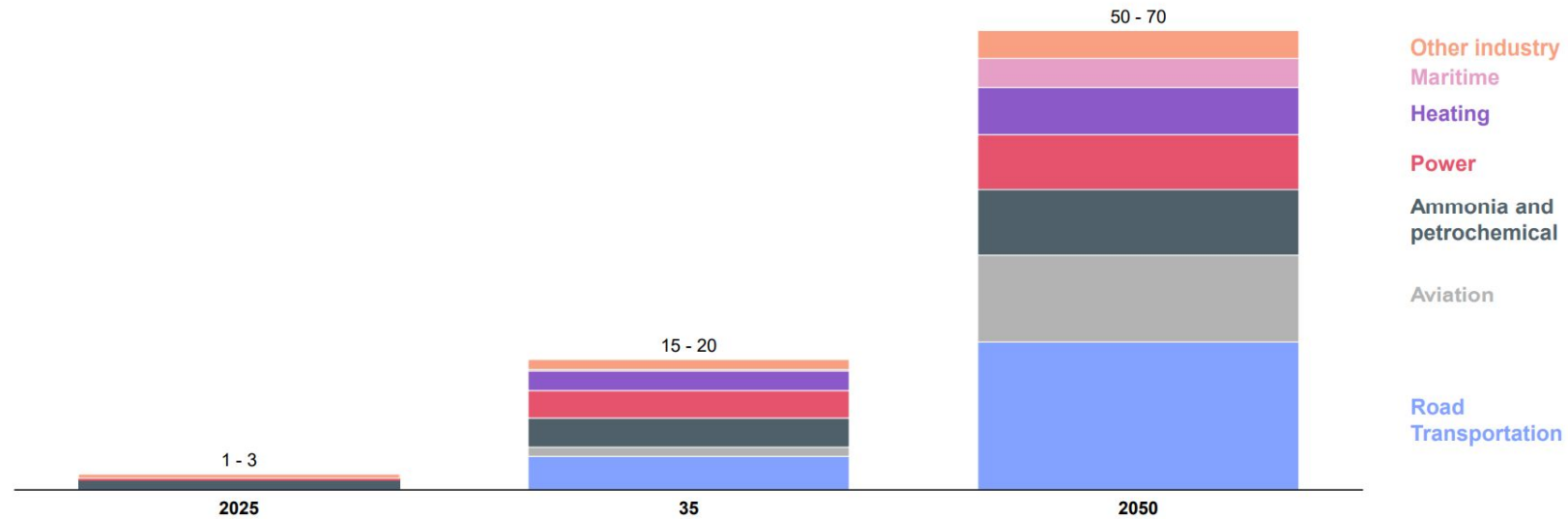
Source: Princeton Net Zero America Study, [innovation.Princeton.edu](http://innovation.Princeton.edu)

# McKinsey Hydrogen Analysis: Projections Range from 2-7 x by 2050

## Example US H<sub>2</sub> projection: We expect H<sub>2</sub> demand to concentrate in transport, industry uses, heating, and power by 2050

Developed 6 months ago before passage of IIJA

Low carbon<sup>1</sup> hydrogen demand in USA, million Mtpa  
(Accelerated Transition scenario)



1. Blue and Green hydrogen

Source: McKinsey Hydrogen Insights; McKinsey Energy Insights Global Energy Perspective 2021, December 2020, team analysis

McKinsey & Company 19

# Investing in a regional hydrogen hub supports the objectives of the Administration's Justice 40 Initiative and Environmental Justice priorities

Incorporation of the EEEJ priorities into this hydrogen project helps ensure communities in a region being awarded the funding for the hydrogen hub will share in the benefits of the DOE investment:

## Community Investment



*Redevelopment within communities, STEM education and job training programs*

## Improving Public Health & the Environment



*Emissions reductions, particularly in disadvantaged communities, result from replacing fossil end uses with hydrogen, including heavy duty fuel cell electric vehicles*

## Jobs & Opportunity



*Communities will see growth in construction, development and ongoing jobs, including engineering*

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# QUESTIONS