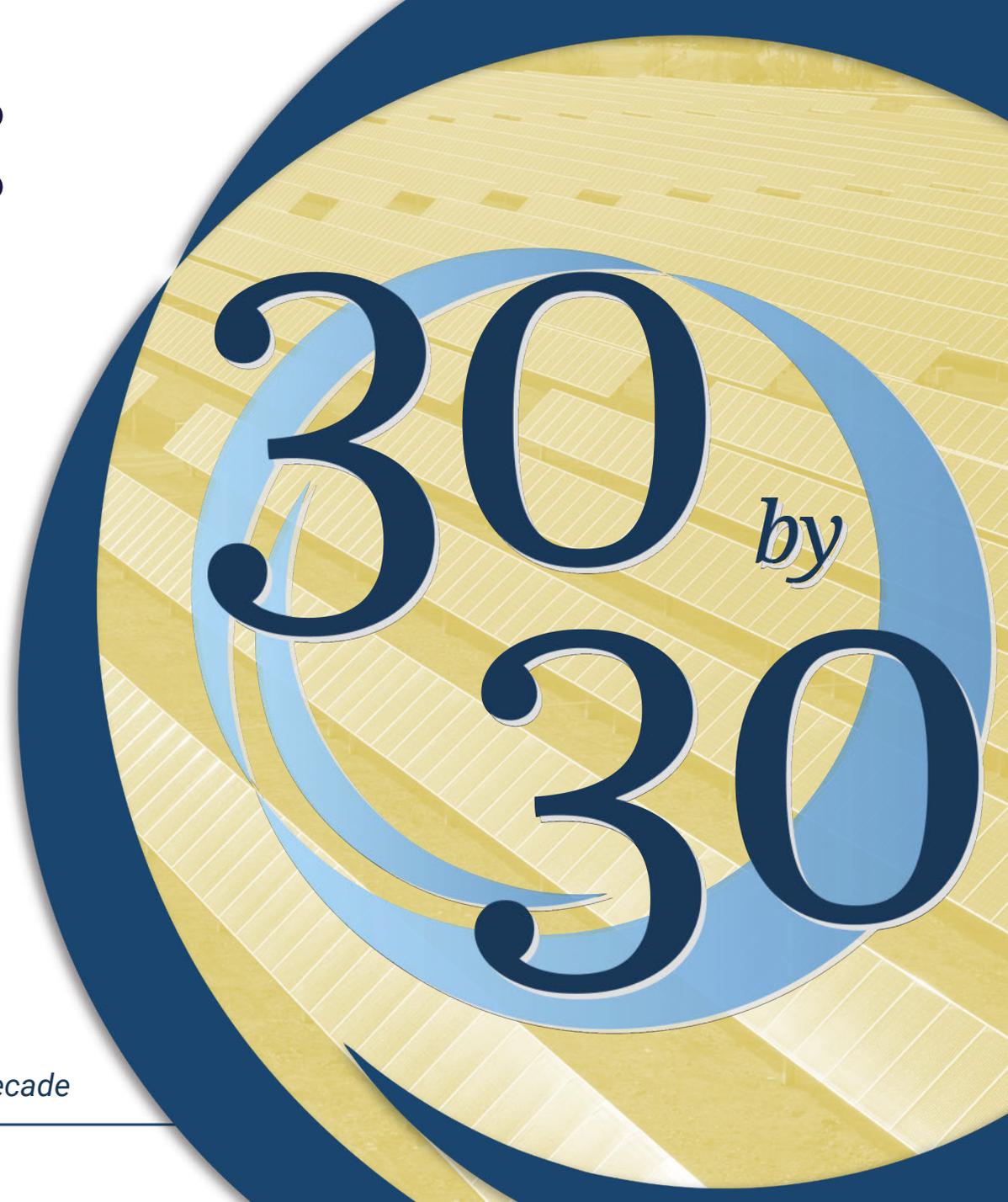


# 30% by 2030: A New Target for the Solar+ Decade

SEIA Issue Brief  
September 2021



*Powering the Solar+ Decade*



# Introduction

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In 2019, SEIA laid out a vision for the 2020s in our Roadmap for the Solar+ Decade. In that roadmap, we set a target for solar energy to reach 20% of generation by 2030 as the U.S. transforms the electric grid and builds a robust clean energy economy.

In light of historic changes in the last two years – shifting political dynamics, increased urgency to address climate change, the challenges of the COVID-19 pandemic and more – the potential for solar growth has only increased.

**As a result, we are announcing a new target for solar to reach 30% of U.S. electricity generation by 2030.**

Recent forecasts for the solar industry under a business-as-usual scenario would place solar at roughly 15% of electricity generation in 2030, but with bold policy action and continued private sector innovation, this ambitious 30% target is absolutely achievable.

Doing so would make meaningful strides in lowering carbon emissions and addressing the climate crisis, while creating hundreds of thousands of jobs and injecting billions of dollars in much-needed economic investment for local communities.

# Key Findings

## Reaching 30% of generation means that in 2030, the U.S. solar industry will:

- install nearly 125 gigawatts ( $\text{GW}_{\text{dc}}$ ) annually
  - up from 19  $\text{GW}_{\text{dc}}$  in 2020
- have built nearly 850  $\text{GW}_{\text{dc}}$  of total capacity
  - up from 95  $\text{GW}_{\text{dc}}$  at the end of 2020
- inject more than \$120 billion into the economy annually
  - up from \$25 billion in 2020
- employ more than 1 million Americans
  - up from 230,000 in 2020
- offset nearly 700 million metric tons (MMT) of CO<sub>2</sub> annually
  - up from 100 MMT in 2020



# Key Findings

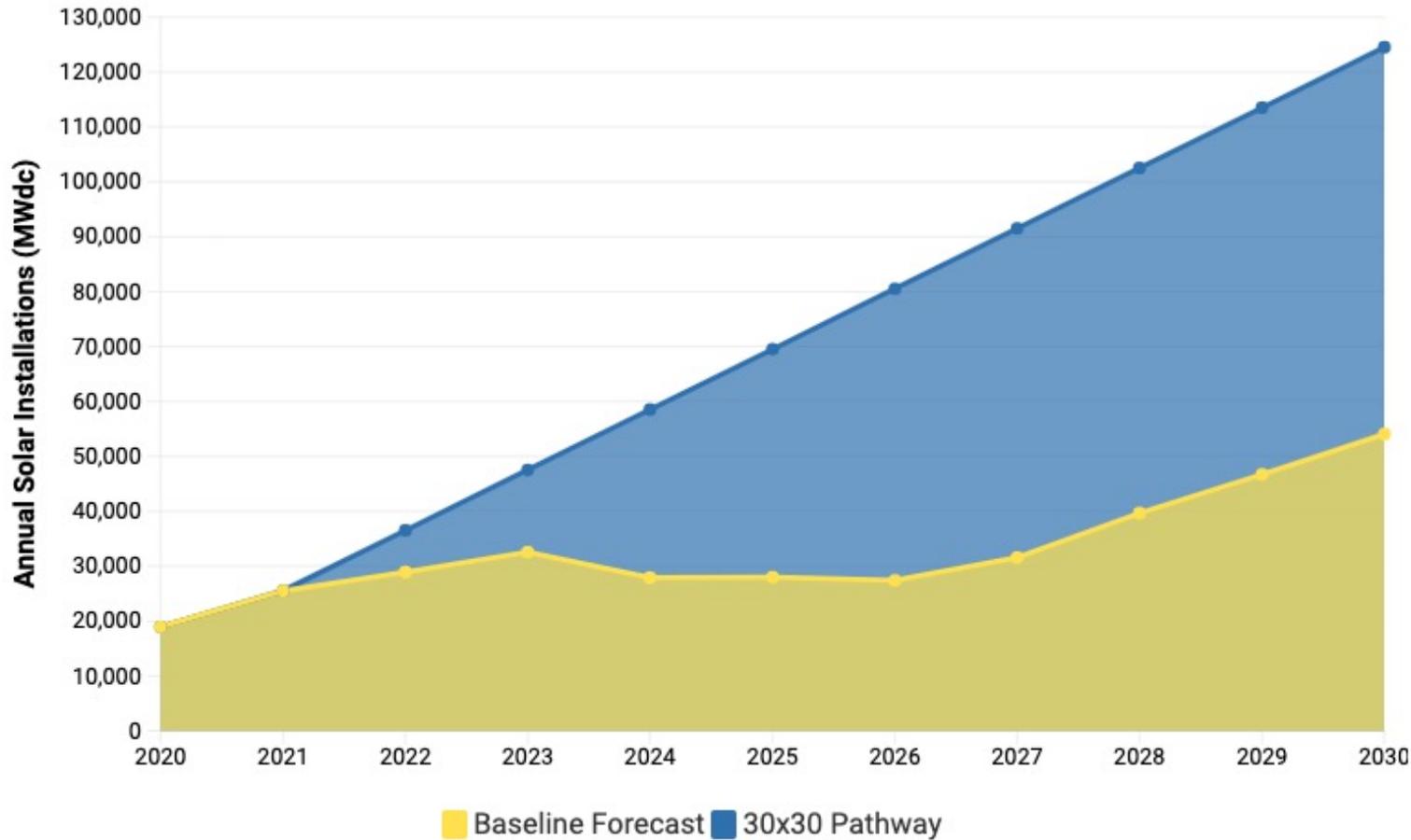
## Solar installations need to ramp up quickly to stay on track and tackle climate change

- To reach 30% of generation and stay on track to decarbonize the electricity grid, average solar installations must increase from roughly 30 GW<sub>dc</sub> over the next decade to more than 48 GW<sub>dc</sub>
  - In other words, annual solar installations must increase by 60% above current forecasts between 2022 – 2030 to reach the Biden administration’s long-term climate goals
- Delaying progress toward that goal, either through congressional inaction, trade disruption or other barriers will have serious climate consequences
- Remaining on a business-as-usual path for just 3 years would **cost the U.S. 417 million metric tons of CO2 emissions** – the equivalent of keeping 11 coal-fired power plants online from 2020 – 2030
- To catch up after a 3-year delay would require a staggering 436 GW<sub>dc</sub> of total installations between 2028 – 2030



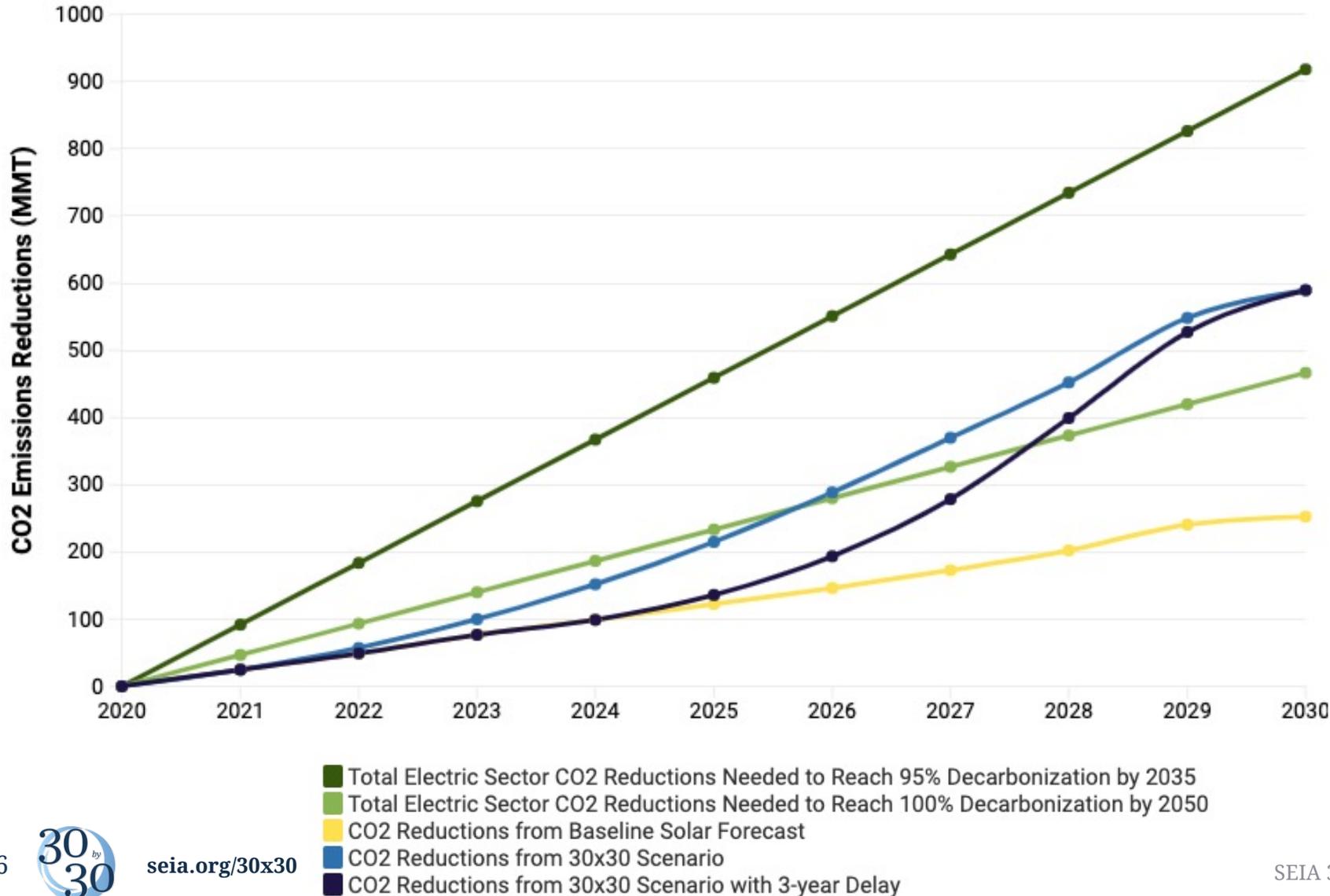
# Massive Deployment Needed to Reach 30%

## Annual U.S. Solar Installations



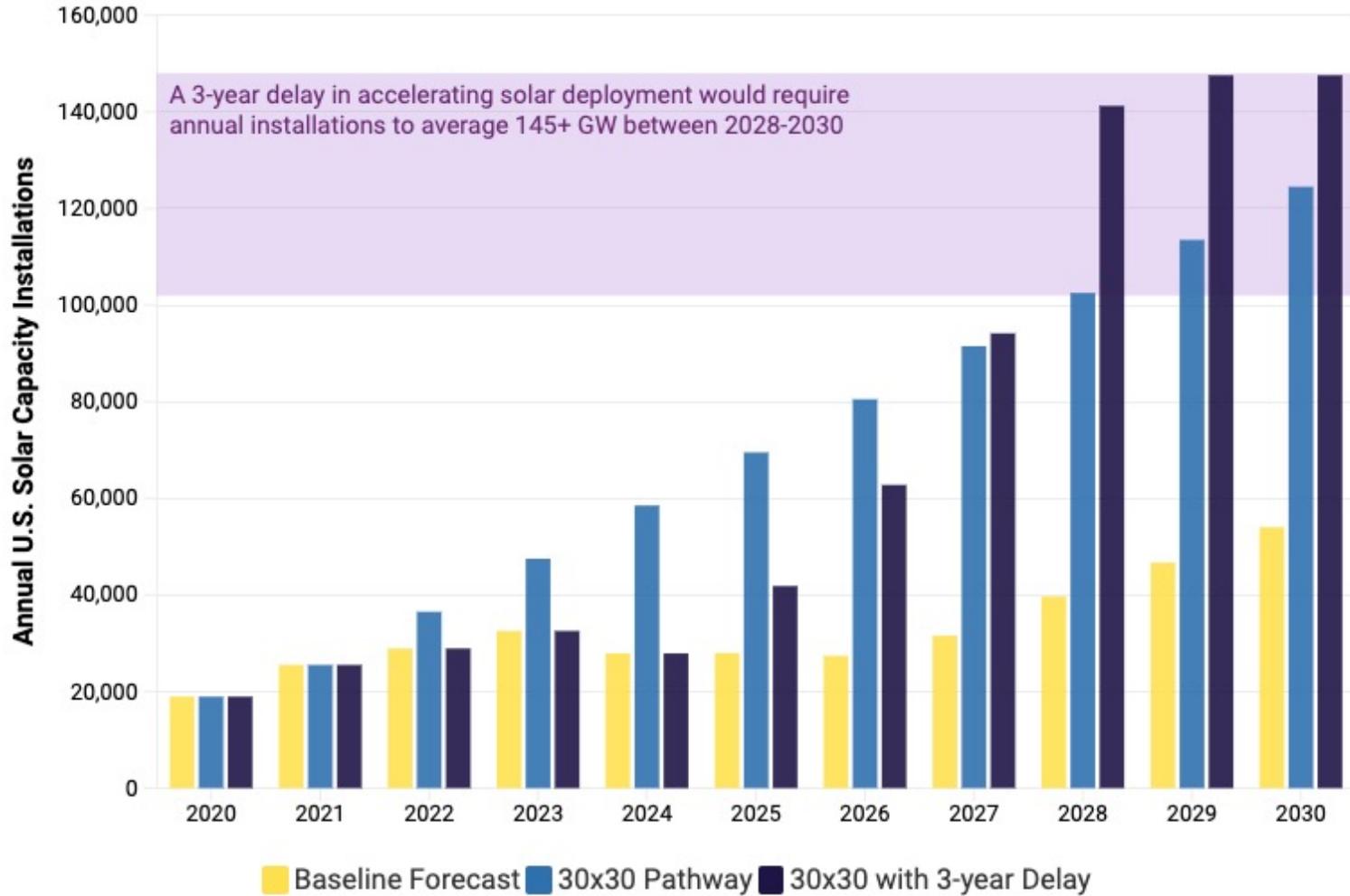
To account for 30% of all electricity generation in the U.S., the solar industry will need to deploy more than 700 GW<sub>dc</sub> over the next decade to reach nearly 850 GW<sub>dc</sub> of total installed capacity. Over the 9-year period between 2022 – 2030, total solar installations must increase by nearly 130% beyond the baseline forecast from the most recent [\*U.S. Solar Market Insight\*](#) report.

# 30x30 Pathway Helps Solve the Climate Crisis



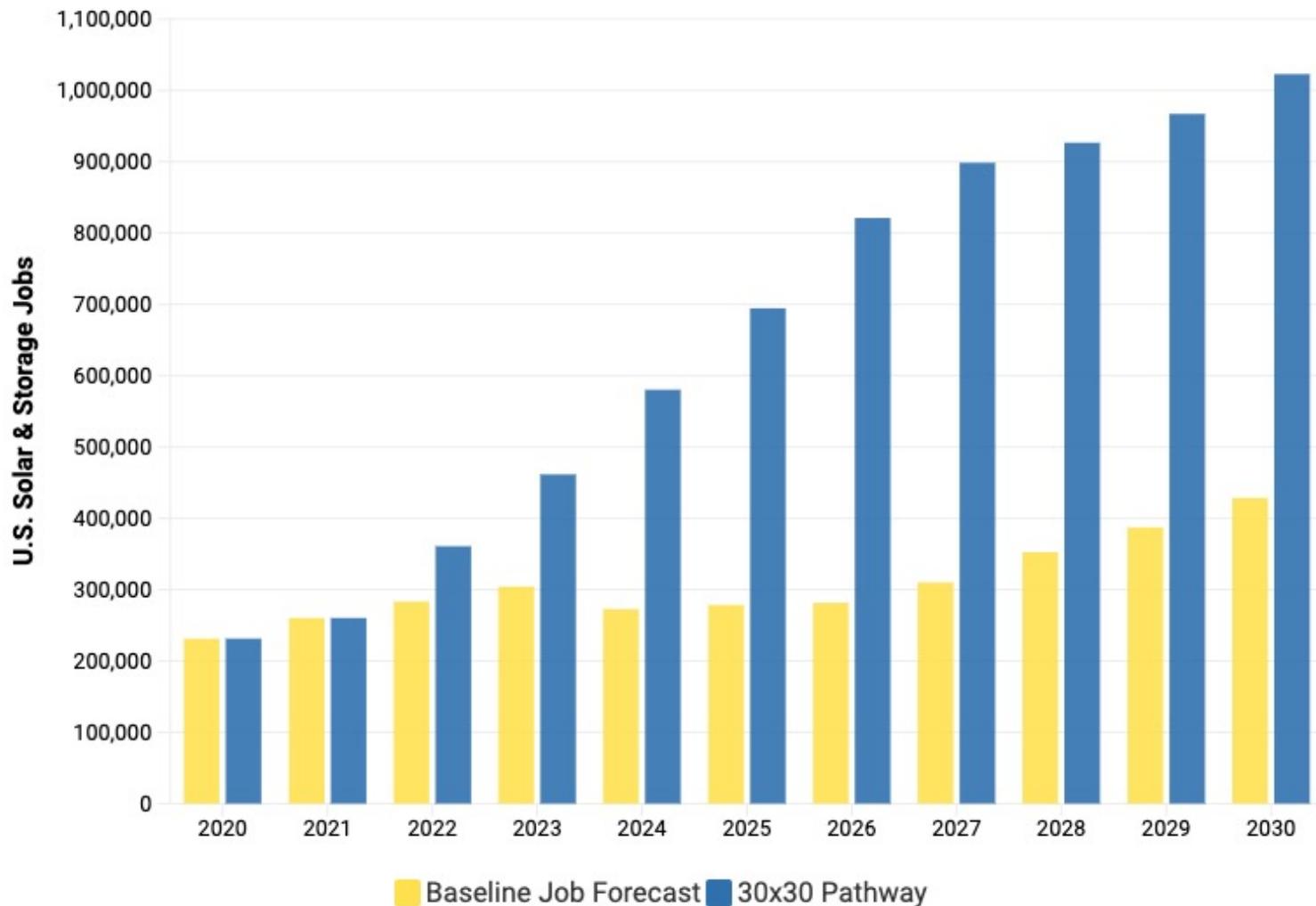
To reach President Biden’s goal of decarbonizing the U.S. electricity sector, total CO2 emissions from electricity generation must be reduced by 900 MMT by 2030. Under a 30% of generation scenario, solar would account for nearly 2/3 of those reductions, with the remainder accounted for by other zero-carbon energy sources, increased electrification and improvements in energy efficiency. The baseline solar forecast would fall far short of these targets, making it all the more difficult to mitigate climate change.

# Delays Make 30% Pathway Far More Challenging



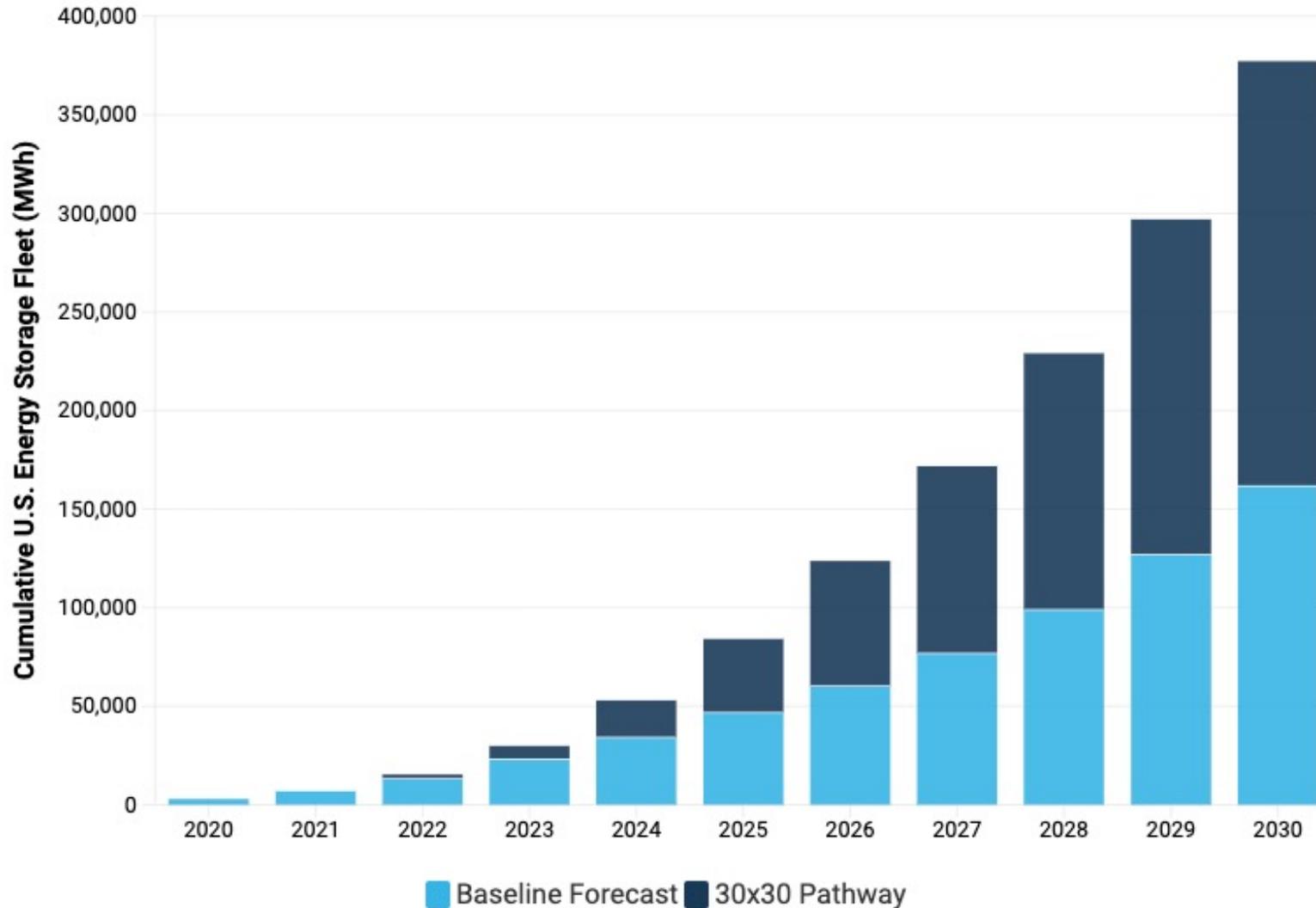
We are at a key inflection point to reduce carbon emissions in line with recommendations from the scientific community, and near-term acceleration in solar deployment is critical. Staying on a business-as-usual path for just 3 years would result in 417 MMT of CO<sub>2</sub> emissions that would otherwise be avoided. In addition to climate implications, the cost of delay in the near term would require unprecedented solar installations in the out years, raising concerns about labor and supply chain constraints.

# Unprecedented Job Growth on the Horizon



Lowering carbon emissions and addressing the climate crisis are not the only reasons to accelerate solar deployment. To reach 30% of all electricity generation, the solar and storage industries would need to hire 800,000 new workers to reach a total workforce of more than 1 million Americans. Along the way, the industry would invest more than \$820 billion into the U.S. economy.

# Storage Growth Needed to Support 30x30 Vision



As solar and other clean energy resources increase their generation portfolio on the U.S. grid, energy storage will play a critical role in managing demand peaks and ensuring a reliable, resilient electricity system. As solar capacity ramps up to reach 30% of all generation, energy storage installations will skyrocket, adding an average of 40 gigawatt-hours (GWh) annually from 2022 – 2030.

# About SEIA

*Building a strong solar industry to power America*



Federal, State &  
Local Policy



Climate &  
Equity



Managing  
Growth



Trade, Technology  
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