



# ***PROGRESS ON ACORE'S \$1T 2030 CAMPAIGN***

**\$1T**  
**2030**

ACORE launched its \$1T 2030 campaign in 2018 to achieve \$1 trillion in private sector investment in U.S. renewable energy and enabling grid technologies by 2030, while advocating for the policy reforms and market drivers to help meet this goal. One trillion dollars of investment over these 12 years would represent more than two times the historic investment in the U.S. renewable sector before the campaign<sup>1</sup> and help get us on a trajectory toward President Biden's achievement of a carbon-free grid by 2035.

1

Non-hydro U.S. private-sector renewable energy investment 2004-2017 was \$460 billion. Source: BloombergNEF



## Investment in 2020

### Renewable sector investment declined overall due to lower wind sector financings, but solar investment surged.

The U.S. renewable energy sector attracted **\$54.4 billion** in asset finance investment in 2020,<sup>2</sup> a **12 percent decrease from 2019**, according to BloombergNEF. Wind investment was only half of the record year the sector achieved in 2019, which was spurred by a rush to qualify for the federal production tax credit that was phasing down.<sup>3</sup> Credits for beginning new wind energy development were scheduled to phase out at the end of 2020. While Congress extended the wind production tax credit in December of 2020, investors had little opportunity to take advantage of this change. Meanwhile, the solar sector experienced its best year ever in 2020 with \$36.2 billion invested, a 36 percent year-over-year increase.

### Energy storage achieved a record \$1.2 billion in investment in 2020, but the \$2 billion invested in the overall grid-enabling technology sector continues to fall below its potential.

The development of grid-enabling technologies – energy storage, electric transport infrastructure and hydrogen applications – will be essential for expanding the demand for and integration of renewable energy. However, these sectors attracted just \$2 billion in asset finance in 2020. Investment in energy storage, specifically, achieved a record annual investment of \$1.2 billion.<sup>4</sup> Electric vehicle infrastructure drew \$0.8 billion, and hydrogen applications did not attract a significant amount of investment.<sup>5</sup>

### Expanded transmission capacity is needed to facilitate the expansion and integration of renewable energy.

The nation will need to build out its transmission capacity to connect high renewable resource centers with high electric demand centers. Through an expanded, nationally connected transmission grid, or Macro Grid, we can enhance grid resiliency and dramatically reduce carbon emissions. We estimate that the transmission capital costs associated with interconnecting new renewable energy in 2020 totaled \$1.9 billion, up from \$1.2 billion in 2019.<sup>6</sup> Wood Mackenzie and the American Clean Power Association anticipate that \$89 billion of investment will be needed in prioritized transmission lines between 2020 and 2030 to reach 50 percent renewables on the U.S. electric grid.<sup>7</sup>

2 BloombergNEF. Investment and Valuation Database. Accessed May 3, 2021 at: <https://www.bnef.com/interactive-datasets/2d5d59acd9000005?data-hub=3>

3 BloombergNEF. "Energy Transition Investment Trends: Tracking global investment in the low-carbon energy transition. 2021. Accessed May 3, 2021 at <https://www.bnef.com/insights/25307/view>, p.8

4 BloombergNEF. Investment and Valuation Database. Accessed May 3, 2021 at: <https://www.bnef.com/interactive-datasets/2d5d59acd9000005?data-hub=3>

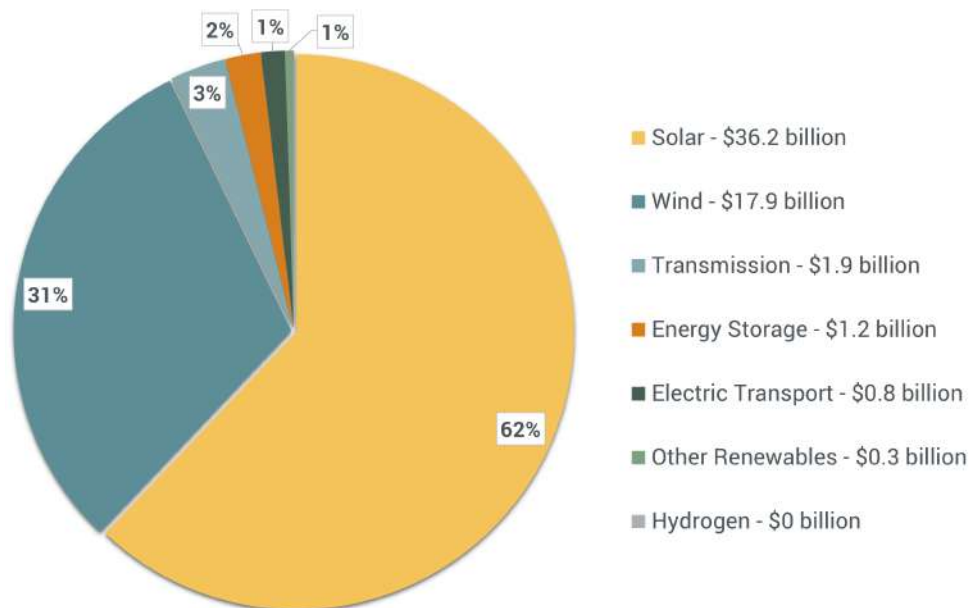
5 ACORE has modified this report's enabling grid subsector categories to reflect market developments, a change in source data and better represent the grid technologies that will enable renewable growth. Our revised categories track asset finance in energy storage, electric transport infrastructure (public and private charging) and hydrogen infrastructure (electrolyzers and hydrogen fueling stations), and no longer represent corporate finance.

6 To estimate the annual cost of interconnecting renewables, we calculate a capacity-weighted average cost of interconnection between MISO and PJM for both wind and solar. We then multiply those values by 2018, 2019, and 2020 wind and solar capacity additions. We begin by taking constructed wind and solar interconnection costs (\$/kW) for MISO (2018) and PJM (2019) as reported by the Lawrence Berkeley National Lab (LBNL), and calculate a weighted average for both wind and solar. The cost of interconnecting wind totals \$51.05/kW, and the cost of interconnecting solar totals \$63.84/kW. We then multiply the capacity-weighted average costs of interconnecting wind and solar by wind and solar capacity additions in 2018, 2019, and 2020, as reported by the BNEF Sustainable Energy in America 2021 Factbook. Lawrence Berkeley National Laboratory. Improving estimates of transmission capital costs for utility-scale wind and solar projects to inform renewable energy policy. October 2019. [https://eta-publications.lbl.gov/sites/default/files/td\\_costs\\_formatted\\_final.pdf](https://eta-publications.lbl.gov/sites/default/files/td_costs_formatted_final.pdf), pages 10 & 12. BloombergNEF and the Business Council for Sustainable Energy Sustainable Energy in America 2021 Factbook. February 2021. <https://bcse.org/factbook/>, page 22.

7 American Clean Power Association & Wood Mackenzie. "Renewable energy and infrastructure policy scenario analysis". December 2020. Accessed May 3, 2021 at: <https://cleanpower.org/wp-content/uploads/2021/02/american-clean-power-renewable-energy-and-infrastructure-policy-analysis.pdf>



**Figure 1: 2020 U.S. Private Sector Investment in Renewable Energy and Enabling Grid Technologies, by Sub-Sector**



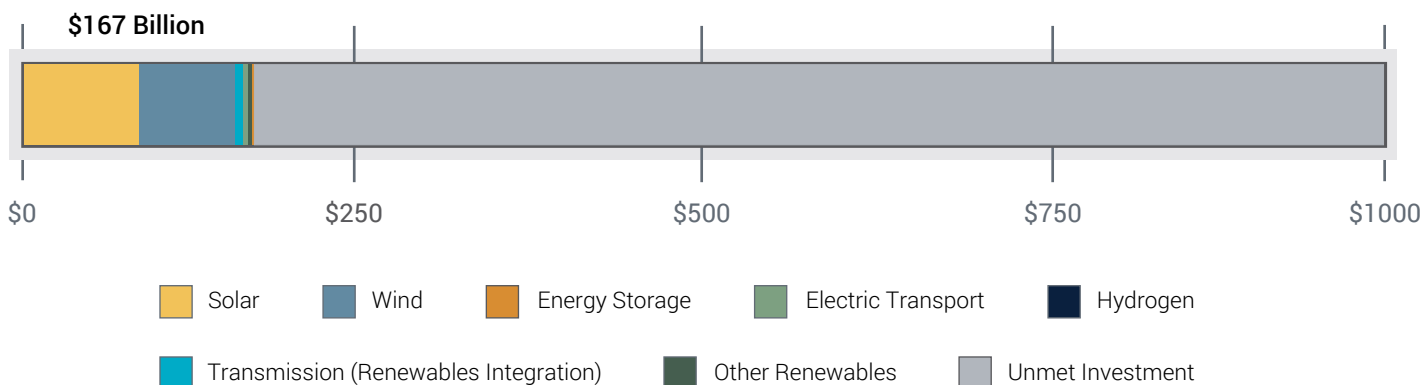
### The U.S. retains its second-place ranking in global renewable energy investment.

Internationally, the U.S. continues to rank second in renewable energy investment, behind China. China reached \$101.5 billion<sup>8</sup> in 2020, which is **1.7 times the investment in the U.S.** China's investment in grid-enabling technologies is \$3.7 billion.

## Where We Stand

**The U.S. has now attracted \$167 billion in renewable energy and grid-enabling technology sector investment since the \$1T 2030 campaign launch in 2018**, reaching 16.7 percent of the \$1 trillion campaign goal. Achieving the 2030 goal will require an average annual investment of \$92.6 billion through 2029, an annual increase of 59 percent above the 2020 investment level.

**Figure 2: Cumulative Progress on \$1T 2030 Campaign (2018-2020) (in billions)**



Source: BloombergNEF

## While aggressive, the \$1T 2030 objective puts the U.S. in reach of a carbon-free electricity system.

President Joe Biden's goal to achieve carbon-free electricity by 2035 is a massive undertaking, but achieving ACORE's \$1 trillion by 2030 target will put this ambitious goal within reach.

According to BloombergNEF, wind and solar are already on track to replace coal and could replace three-quarters of existing gas generation by growing to 1,100 gigawatts (GW) by 2030, up from 215 GW as of year-end 2020. The remaining one-quarter of gas generation could be replaced by 330 GW of capacity from hydrogen, carbon capture and storage, geothermal or other "clean firm" technologies.<sup>9</sup> Just boosting wind and solar capacity to 1,100 GW by 2035 would require a capital investment of \$1.1 trillion.<sup>10</sup>

According to a study published by the University of California Berkeley in June 2020, by reaching 90 percent renewable energy by 2035, the power sector could "inject \$1.7 trillion in clean energy investments into the U.S. economy."<sup>11</sup>

## New Drivers for Growth

### Expanded federal support for renewable energy has begun to bear fruit, and more will come.

The Biden administration is taking a whole-of-government approach to address the climate crisis and support the transition to a renewable energy economy.

#### *GHG Emissions Reductions*

Having reentered the Paris Climate Agreement on April 22, 2021, the administration set an aggressive target to reduce economy-wide net greenhouse gas (GHG) pollution by 50-52 percent from 2005 levels by 2030.<sup>12</sup>

#### *Offshore Wind*

On March 29, 2021, the administration announced a target of adding 30 GW of offshore wind to the grid by 2030. Along with tax credit extensions and new loan guarantees, the still nascent offshore wind sector now has unprecedented policy support.<sup>13</sup>

#### *American Jobs Plan*

President Biden also unveiled the American Jobs Plan on March 31, 2021, a more than \$2 trillion climate and infrastructure effort to support the President's goal of 100 percent carbon-free electricity by 2035.<sup>14</sup> This ambitious initiative places our sector at the center of efforts to revive the American economy as it seeks to catalyze an accelerated transition to clean energy and address the climate crisis. The critical next step will be for Congress to translate key elements of the American Jobs Plan into legislation, which is expected to move forward later this year.

9 BloombergNEF. Decarbonizing U.S. Power Part 1: A Roadmap to 2035. March 2, 2021. <https://www.bnef.com/insights/25641/view>

10 Between 2021 and 2024, BNEF expects \$48 billion in annual investment in wind and solar capacity. The figure would need to increase to \$90 billion per year from 2025 to 2035. BloombergNEF. Decarbonizing U.S. Power Part 2: Greening Bulk Generation. March 3, 2021. <https://www.bnef.com/insights/25649/view>

11 University of California Berkeley. 2035: The Report. June 2020. <https://www.2035report.com/wp-content/uploads/2020/06/2035-Report.pdf>

12 The White House. "FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies." April 22, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/>

13 The White House. "FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs." March 29, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>

14 The White House. "FACT SHEET: The American Jobs Plan." March 31, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/factsheet-the-american-jobs-plan/>

