2018

ACORE
AMERICAN COUNCIL ON RENEWABLE ENERGY

THE FUTURE OF U.S. RENEWABLE ENERGY INVESTMENT

A Survey of Leading Financial Institutions

CONTENTS

FROM THE PRESIDENT & CEO

In April 2018, ACORE conducted a survey of prominent investors in the U.S. renewable energy sector to better understand the climate for investment amid ongoing national and global developments. Working closely with leading financial firms in our membership – banking institutions, asset managers, private equity firms and others – ACORE plays an important role in supporting capital formation and investment in renewable energy. This survey report supports our work by gauging investors' confidence in the renewable energy sector, their insights about the impacts of market and policy changes, and their projections for cumulative private investment levels to 2030.

The results underscore a resilient and healthy market with significant potential for continuing, and even accelerating, the recent trend of dramatic renewable sector growth. Respondents expect renewable energy to continue to be an attractive asset class and anticipate that investors' confidence will remain high. While our aging grid infrastructure and mixed policy signals could limit future expansion, investors expect ongoing efforts to modernize the grid, coupled with policy signals that embrace a transitioning energy mix, to drive significant new demand for renewable energy over the next decade.

As part of this survey, we asked investors to project possible levels of cumulative private investment in the U.S. renewable energy sector and related grid modernization between 2018 and 2030 under an ideal market and policy scenario. The responses indicate that the sector could attract $1 trillion by 2030, with investment split between renewable energy and enabling technologies that modernize the grid.

$1T 2030

With this report, ACORE is launching a campaign to help make this $1 trillion by 2030 projection real. We will be strategically advocating for the market and policy reforms necessary to realize this growth in renewable energy and grid investment over the next decade.

How will we achieve $1T by 2030? Investors' insights on necessary market and policy reforms provide important insights on how best to meet this aggressive target, which include:

- **Policies to Stimulate Growth:**
  While existing tax credits for renewables remain on schedule to phase out after 2021, federal policy signals will remain important for supporting long-term investor confidence, as they are for other industries. In particular, respondents identified carbon pricing and a technology-neutral energy tax credit as potentially important. Respondents also expect states to play a particularly significant role in stimulating demand through ambitious renewable portfolio standards. They also identified reforms to siting and permitting processes as key for substantially increasing renewables sector growth.
- **Market Demand Signals:**
  Market developments such as increased corporate purchasing and growth of the storage and electric vehicle sectors are expected to create new opportunities for renewable energy growth. However, challenges remain. Respondents highlighted the need for market-based signals that better reflect the values and services provided by energy storage and renewables to prevent our aging grid from hindering growth.

Major banking institutions have already signaled long-term interest in the sector by making large public commitments to invest in clean technologies. Many survey respondents said their companies would double their cumulative U.S. investments between 2018 and 2030, compared with a business-as-usual scenario, if we can secure the key policies and market changes identified above.

Over the coming months, as part of the $1T 2030 Campaign, ACORE will be conferring with key business and government leaders, releasing new reports, hosting events and taking other steps in support of this important objective. As the renewable sector moves to the next stages of market maturity, we look forward to working with the investment community and our many other allies to catalyze the transition to a renewable energy economy.

Gregory S. Wetstone

Gregory Wetstone
President & CEO
American Council on Renewable Energy

SURVEY HIGHLIGHTS

Respondents reported that, with sustained demand, U.S. renewable energy will continue to be an attractive asset class with strong potential for investment growth.

- Over the next three years, **investor confidence in the U.S. renewable energy sector is expected to remain high, with an average confidence level of 84/100**.
- **Two-thirds** of respondents plan to increase their investments in U.S. renewables by **more than 5%** in 2018 compared with 2017, and half plan to increase their investments by **more than 10%**. None reported plans to decrease renewable investment by 5% or more.
- Respondents also expect **renewable energy to increase in attractiveness compared with other asset classes** in their investment portfolios over the next three years.
- **Company projections to 2030: A large majority (89%) of respondents** who chose to project their companies' investments in U.S. renewable energy between 2018 and 2030, **said they would, at a minimum, double their planned investments in U.S. renewables under an ideal policy and market scenario** compared with a business-as-usual base case.
- **Total sector projections to 2030:** When considering ideal policy and market scenarios, **70%** of respondents indicated that **cumulative private investment in U.S. renewable energy** could reach **$500 billion** between 2018-2030, while 26% projected it could reach $1 trillion. In addition, investors projected similar investment levels in energy storage and related grid enhancements over that same period.

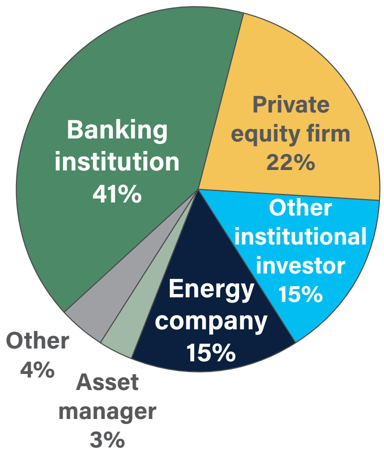
Market and policy changes over the coming decade will drive new demand for renewable energy, but investors are cautious about potential mixed policy signals to slow demand.

- **More than half (58%)** of respondents identified the **lack of a federal policy driver for renewable energy after the sunsets of the production tax credit (PTC) and investment tax credit (ITC)** as a hurdle for continued growth at current levels.
- **Expanded state renewable portfolio standards** were identified as key growth policies, with **45%** of respondents indicating they are "very important" and **50%** indicating they are "important."
- **A majority (88%)** of the respondents identified **energy storage** to be a leading magnet for investment within the next three years. This investment should, in turn, **stimulate renewable energy development**, with **three-quarters** of respondents reporting energy storage scale-up to be an important market driver for renewables growth to 2030.
- **More than half (59%)** of tax equity providers represented in this survey **do not plan to reduce their planned tax equity investments** over the next three years in response to the new Base Erosion and Anti-Abuse Tax (BEAT), which was enacted with the 2017 tax reform package. Thirty percent of respondents reported that the effects of the law are still unknown.

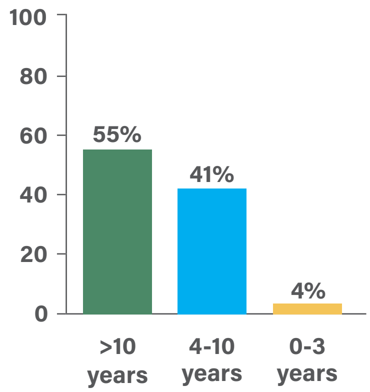
PROFILE OF RESPONDENTS

This survey profiles the opinions of investment professionals who represent institutions that finance and invest in renewable energy projects, technologies and companies. Approximately half (52%) of the institutions represented in this survey invest more than $500 million each year in the U.S. renewable energy sector. A majority (88%) are either headquartered in the U.S. or responded for business units located in the U.S. The majority of respondents occupy senior positions at their companies, with 73% serving as CEO, managing director or at a comparable level.

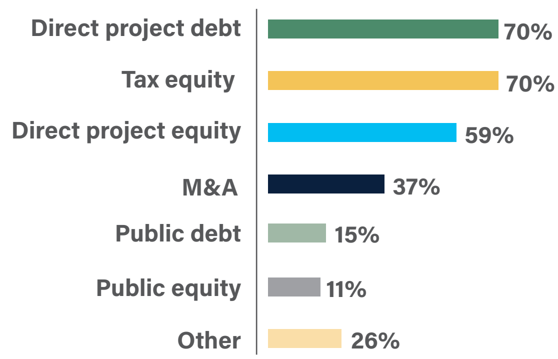
Organization type



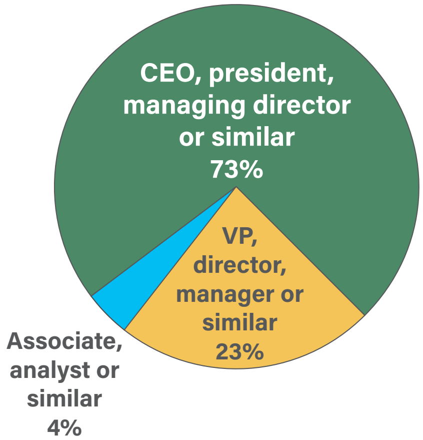
Length of time active in the U.S. renewable energy sector



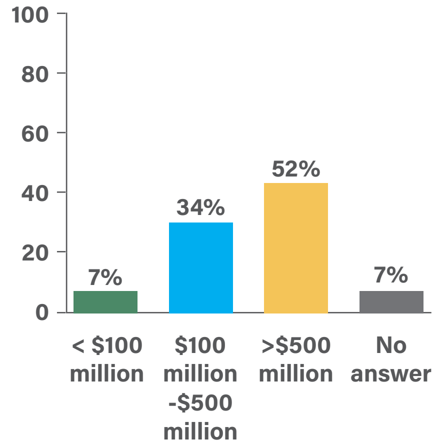
Financing vehicles used



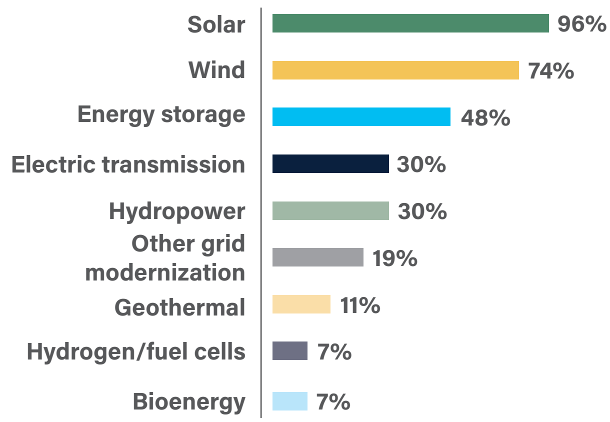
Position of respondent



Annual investment levels in U.S. renewables



Sectors of investment activity (past three years)



NEAR-TERM MARKET OUTLOOK

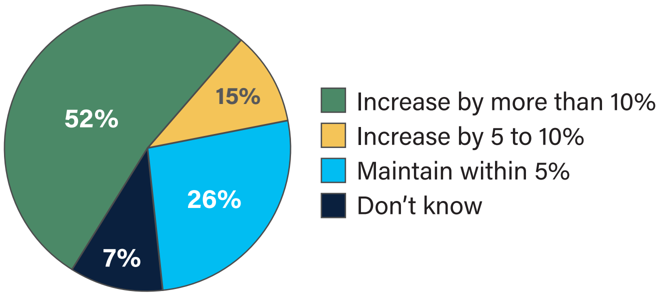
Photo: Salt River Project (SRP)

Investment in 2018

Sixty-seven percent of the surveyed companies plan to increase their investments in U.S. renewables in 2018 compared with 2017 by **more than 5%**, citing "increases in volume in new and secondary business" and "more opportunities."

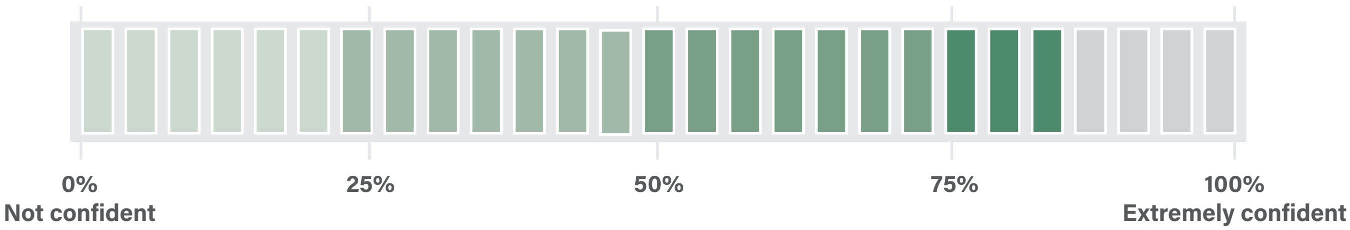
No respondents reported that they would **decrease their companies' investments by more than 5%**.

Expected change in U.S. renewable energy investment in 2018 compared with 2017



Outlook to 2021

Confidence in U.S. renewable energy sector growth



Renewable energy as an asset class

Renewable energy will **increase in attractiveness** compared with other asset classes in respondents' investment portfolios

0 – Decrease

5 – No change

10 – Increase

U.S. as a venue for investment

A majority of respondents indicated that the U.S. will continue to be an **attractive venue for investment** compared with other market leaders

Ranking of sectors most attractive for investment

1. Energy storage
2. Residential/ commercial solar
3. Onshore wind
4. Utility-scale solar
5. Offshore wind

Out of nine sectors, investors chose these top five as most attractive for investment between 2018 and 2021

Effects of the New Base Erosion and Anti-Abuse Tax

The BEAT, which passed with the 2017 tax package, imposes a new tax on qualifying multinational corporations that invest in tax equity. While its full impact on the sector is still unknown, the majority (59%) of tax equity providers represented in this survey reported they do not plan to reduce their planned levels of tax equity investment in renewable energy projects to 2021.

41% reported there would be no change to their planned investments

30% said the effects of BEAT are still unknown

18% plan to increase their investments due to the exits of other tax equity providers

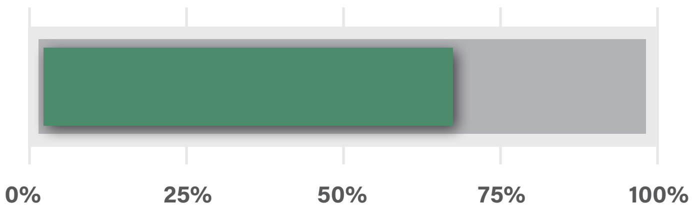
12% expect to reduce their tax equity investments

LOOKING FORWARD TO 2030

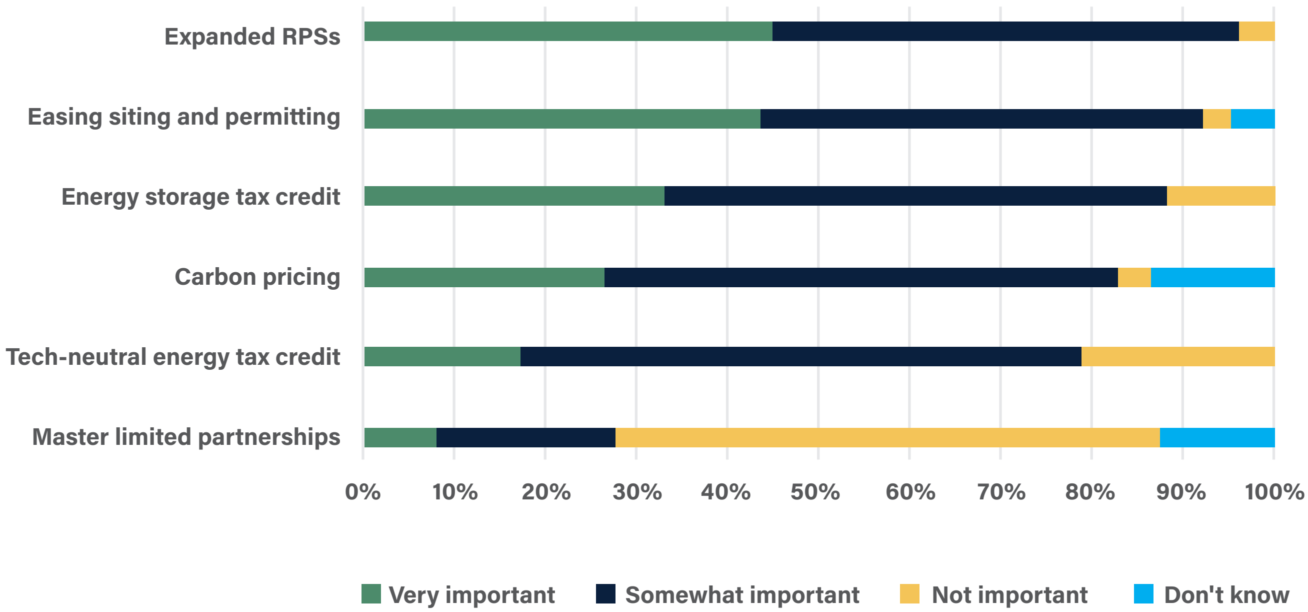
The Role of Policy

Federal and state policy will continue to play an important role in sustaining renewable investment and growth to 2030. Fifty-eight percent identified the lack of a federal policy driver for renewable energy after the sunsets of the PTC and ITC to be a hurdle for renewables growth. Respondents identified carbon pricing, a technology-neutral energy tax credit and/or a federal tax credit for energy storage as important potential federal policies that could help stimulate demand over the coming decade. State renewable portfolio standards and eased siting and permitting processes topped the list of most important policies to encourage market expansion.

The importance of federal policy for sustaining current annual investment levels from 2018 to 2030



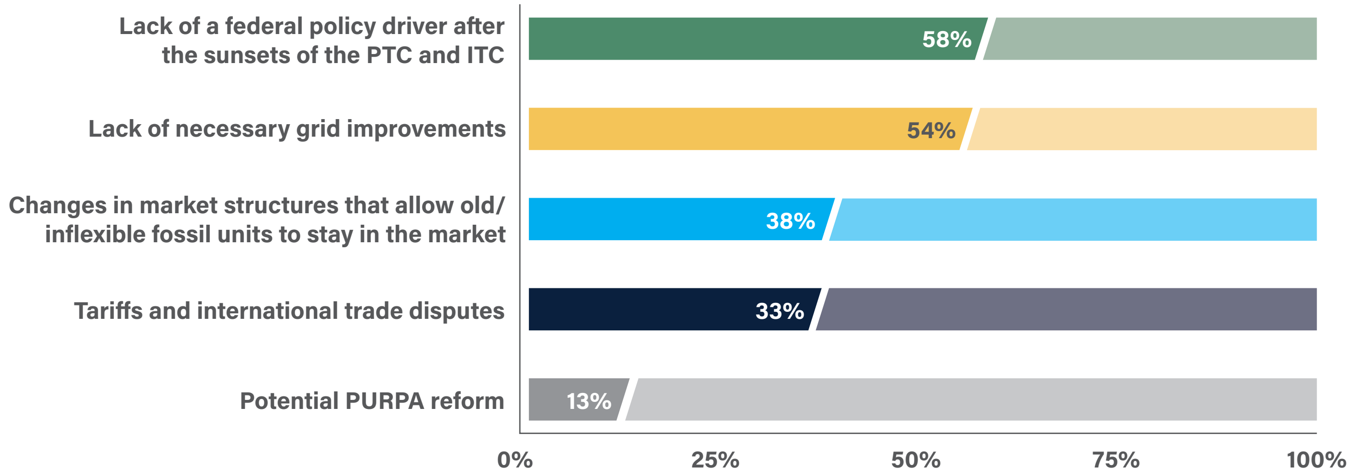
Policies that could encourage growth



Potential Hurdles

Respondents also identified potential new policies and regulatory changes that could hinder growth, including changes to market structures that would allow old/inflexible units to stay online, as well as tariffs for renewable energy components that could incite international trade disputes.

Top potential hurdles that could hinder growth

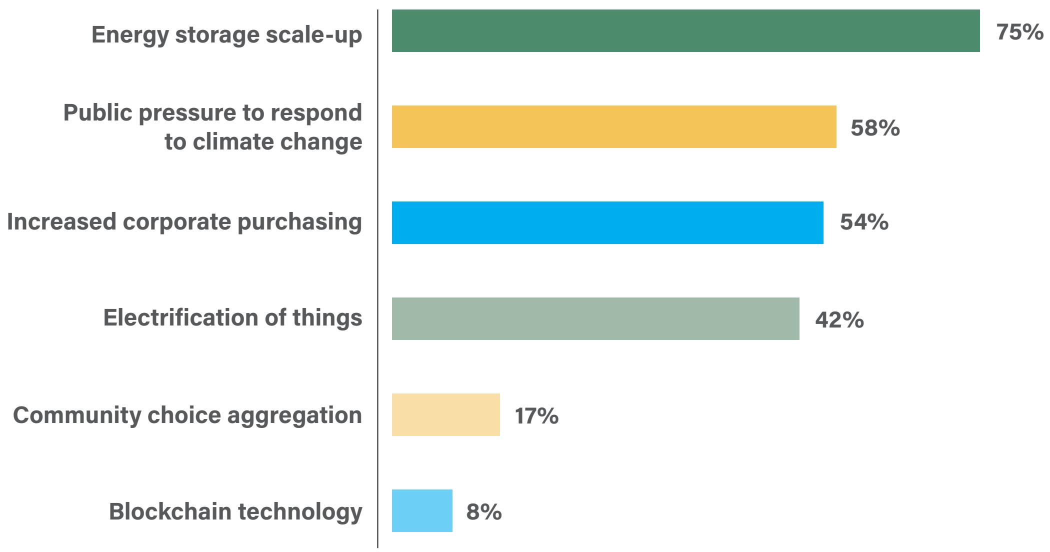


The survey asked investors to select the top three hurdles

Evolving Markets

Market factors will create new opportunities for renewable energy growth, notably energy storage scale-up, public pressure to respond to climate change and increased corporate purchasing. Nonetheless, there will continue to be challenges. Lack of necessary grid improvements was identified by 54% to be a barrier to future renewable energy growth. Write-in answers also identified low natural gas prices, low electricity load growth and interest rate risks.

Top market factors that could accelerate growth



The survey asked investors to select the top three market factors

INVESTMENT ACHIEVABLE BY 2030

Respondents were asked to consider ideal policy and market scenarios to 2030, reflecting on the opportunities and hurdles identified in prior questions, and how their companies, as well as the broader investment community, might respond:

x2

A majority (89%) of responding investors said they would double their companies' cumulative investments over the period 2018-2030.

Seventy percent of respondents projected that cumulative private investment in U.S. renewable energy would reach $500 billion over the period between 2018 and 2030, while 26% projected it would reach $1 trillion.

Respondents projected that additional investment in energy storage, transmission and advanced grid technologies, to help improve integration of renewables and support market growth, would also fall within the range of $500 billion to $1 trillion over this same period.

About ACORE

The American Council on Renewable Energy is a national non-profit organization that unites finance, policy and technology to accelerate the transition to a renewable energy economy. Founded in 2001, ACORE is the focal point for collaborative advocacy across the renewable energy sector, supported by hundreds of members spanning renewable energy technologies and constituencies. ACORE manages the Partnership for Renewable Energy Finance (PREF), a coalition of senior-level officials with companies that finance, develop, manufacture and use renewable energy.

For more information, please visit www.acore.org.

$1T 2030: The American Renewable Investment Goal

On June 19, 2018, ACORE and a coalition of its financial institution members announced the launch of a new campaign that aims to reach $1 trillion in U.S. private sector investment in renewable energy and enabling grid technologies by 2030.

Through $1T 2030: The American Renewable Investment Goal, leading energy financiers have now come together in a coordinated effort to accelerate the investment and deployment of renewable power. The campaign will leverage the network of ACORE members and supporters, highlighting a combined set of common sense policy reforms and distinct market drivers that are necessary to reach this ambitious goal. For more information, please visit www.acore.org/1T2030.

Survey Methodology

ACORE conducted an online, anonymous survey in April 2018 with financial institutions that actively finance and invest in renewable energy projects, technologies and companies. Respondents represent approximately one-third of annual U.S. renewable energy investment. The survey defined questions relating to the “renewable energy sector” to refer to energy production using wind, solar, bioenergy, waste energy, hydropower, geothermal or marine hydrokinetic technologies.

Images courtesy of Pexels and Depositphotos unless otherwise noted.

Published by:

American Council on Renewable Energy
1600 K St. NW, Suite 650
Washington, DC 20006
202.393.0001

Questions or comments: info@acore.org