

Confidence in both U.S. renewable energy and energy storage over the next three years is at an all-time high among investors and developers.

Mid-term confidence in the renewable energy and energy storage sectors increased since ACORE’s 2020 surveys among investors and developers.

In the renewable energy sector, investors on average report a score of 85/100, or “Extremely Confident,” increasing eight points from 2020. Developers report 87/100, an increase of nine points.

Figure 13: Investor Confidence in Renewable Energy Growth in 2021-2024

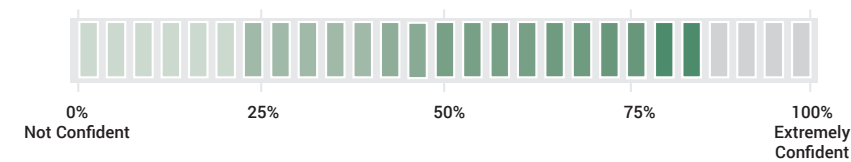


Figure 14: Renewable Energy Confidence by Investment Level

Annual Investment in U.S. Renewable Energy	Confidence in U.S. Renewable Energy
<\$100 million	Extremely Confident (90/100)
\$100 million - \$500 million	Extremely Confident (88/100)
>\$500 million	Extremely Confident (88/100)

Figure 15: Developer Confidence in Renewable Energy Growth in 2021-2024

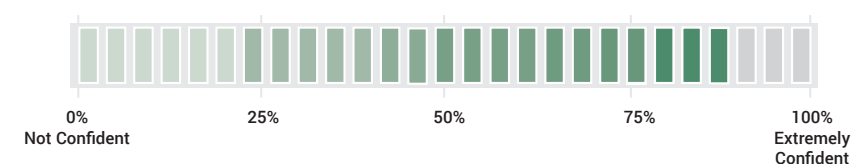


Figure 16: Renewable Energy Confidence by Developer Revenue

Total Revenue of U.S. Renewable Business	Confidence in U.S. Renewable Energy
<\$100 million	Extremely Confident (85/100)
\$100 million - \$500 million	Extremely Confident (91/100)
\$500 million - \$1 billion	Confident (75/100)
>\$1 billion	Extremely Confident (91/100)

In the energy storage sector, investors and developers score their confidence levels an average of 82/100 (an increase of eight points) and 85/100 (an increase of six points), respectively.

Figure 17: Investor Confidence in Energy Storage Growth in 2021-2024

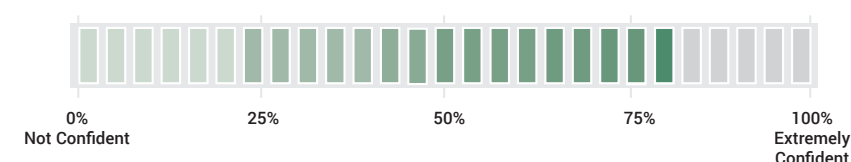


Figure 18: Energy Storage Confidence by Investment Level

Annual Investment in U.S. Renewable Energy	Confidence in U.S. Energy Storage
<\$100 million	Confident (75/100)
\$100 million - \$500 million	Extremely Confident (87/100)
>\$500 million	Extremely Confident (86/100)



Figure 19: Developer Confidence in Energy Storage Growth in 2021-2024

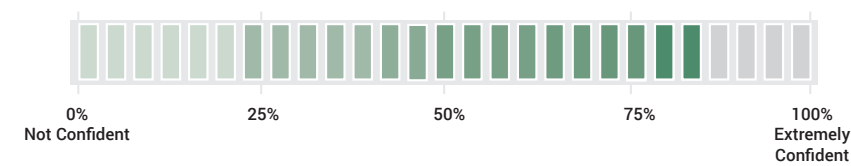


Figure 20: Energy Storage Confidence by Developer Revenue

Total Revenue of U.S. Renewable Business	Confidence in U.S. Energy Storage
<\$100 million	Extremely Confident (82/100)
\$100 million - \$500 million	Extremely Confident (93/100)
\$500 million - \$1 billion	Somewhat Confident (60/100)
>\$1 billion	Extremely Confident (88/100)

One developer describes their outlook on storage as “very bullish” and is planning hybrid solar-plus-storage projects almost exclusively.

“Our executive team...wants storage to be synonymous with our development pipeline. Pretty much everything we scope out these days is going to be solar plus storage.”
– Renewable Energy Developer

An investor reports that lenders and sponsors are becoming more confident in investing in energy storage and predicts financing structures will improve.

“In terms of project finance, lenders and sponsors are getting more comfortable with [energy storage]. It is still in its early stage, but in five years, those issues will be solved.”
– Renewable Energy Investor

Among investors, energy storage sector confidence varied slightly more among investment levels than renewable energy sector confidence. The confidence levels of investors that invest less than \$100 million annually average somewhat lower than larger investors at 75/100 confidence.

Among developers, energy storage sector confidence is lowest for developers that operate renewable energy businesses with total revenues of \$500 million to \$1 billion, at 60/100 or “Somewhat Confident.”



Hydrogen, specifically green hydrogen produced from renewable energy sources, is an emerging sector attracting the attention of both investors and developers. However, concerns remain about its scalability, costs and technical feasibility.

"I think green hydrogen is super interesting. We continue to have conversations on how our projects support the power needs of electrolysis plants. The viability of green hydrogen seems to be growing every day."
– Renewable Energy Developer

"We are still evaluating the technical feasibility of hydrogen and are keeping it in the back of our mind. However, hydrogen is extremely water-intensive and we are far from the technology being scalable."
– Renewable Energy Investor

"We [will look into hydrogen] but, from a cost perspective, it's a little too far off for right now. The electrolyzer costs are a little too high."
– Renewable Energy Developer

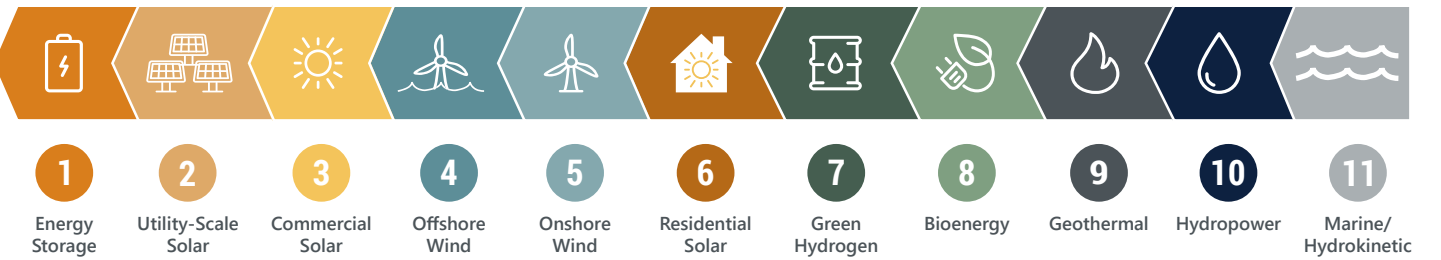
Investors rank energy storage and utility-scale solar as the most attractive sectors over 2021-2024.

Investors anticipate energy storage, utility-scale solar, commercial solar and offshore wind will be the most attractive sectors for investment over the next three years. These sectors received the highest weighted scores from investors when asked to rank the top three sectors they anticipate will be most attractive for investment from 2021-2024.

Generally, investors favor proven technologies, such as wind, solar and energy storage, although, notably, green hydrogen ranks higher than bioenergy or hydropower.

"Solar and wind are technologically mature. Storage is getting there. I feel much more comfortable investing in those technologies than carbon sequestration or hydrogen. We're not going to be investing a lot of dollars at risk in the earlier projects."
– Renewable Energy Investor

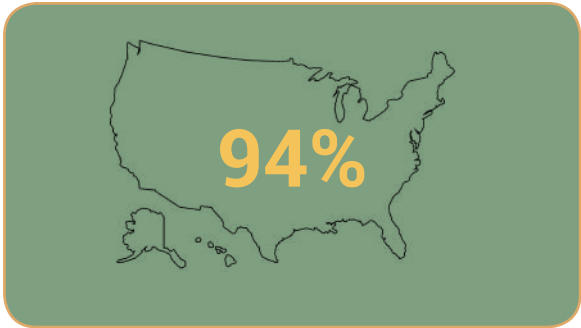
Figure 21: Ranking of Sectors Most Attractive for Investment in 2021-2024



The U.S. will continue to be attractive to investors compared to other leading countries in 2021-2024.

The majority of investors anticipate the U.S. will either maintain its attractiveness or become more attractive for investment over the next three years than other leading countries. Forty-eight percent of investors expect “No Change” in the attractiveness of the U.S., and 46 percent anticipate the country’s attractiveness will “Increase” and “Significantly Increase” over the period.

Figure 22: Percentage of Investors That Perceive the U.S. as Attractive for Investment Compared to Other Leading Countries in 2021-2024



PJM, CAISO and NYISO are the most attractive power markets to both investors and developers.

Investors and developers are aligned in expecting that the PJM, CAISO and NYISO markets will be most attractive for investment and development, respectively, over the next three years. These regions received the highest weighted scores among investors and developers when asked to rank the top three regions they expect to be most attractive. The non-RTO Southeast scores the lowest among both groups.

Figure 23: Ranking of U.S. Regional Power Markets Most Attractive for Renewable Investment or Deployment in 2021-2024

Investors	Developers
PJM	PJM
CAISO	CAISO
NYISO	NYISO
ISO-NE	Non-RTO West
MISO	MISO
ERCOT	ERCOT
Non-RTO West	ISO-NE
SPP	SPP
Non-RTO Southeast	Non-RTO Southeast

“CAISO has always been robust...general procurement tends to happen [there].”
– Renewable Energy Investor

“PJM is the largest energy market we serve and consumes the majority of our efforts.”
– Renewable Energy Developer

