Articles + Publications | May 31, 2023

Impacts of the Inflation Reduction Act on US Battery Developers

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This article was originally published on May 31, 2023 in New Energy World. Reprinted here with permission.

More batteries. More people. More urgency to reduce grid queues. These are three key demands from companies in the US battery storage sector if the industry is to take full advantage of the IRA, which became law last August.

The impacts of the legislation have been immediate and far-reaching. The $369bn package that the White House has earmarked for clean energy has transformed the way the US is seen globally and is supercharging investor interest in the country's cleantech sector. The battery industry has been one of the most significant beneficiaries.

The biggest change for energy storage companies in the IRA was the introduction of an investment tax credit (ITC) for standalone storage projects at a base rate of 6% and a full ('bonus') rate of 30% for projects that meet requirements about apprentice labour and prevailing wages. Previously, the ITC was only available to energy storage projects when paired with an ITC-eligible renewable generation, typically solar.

This has transformed the economics of significant numbers of storage projects and has led to a 10 GW increase in the capacity of battery storage projects planned in the US to 26.5 GW, according to the US Energy Information Administration.

However, we must also acknowledge that surging interest in the US battery sector brings challenges for companies, and we identified five areas where the IRA is affecting market activity in our report, *Taking Charge: Inside the US Battery Boom*.

1) Expansion of standalone storage

The standalone storage ITC in the IRA has led to an explosion in demand from developers to proceed with projects. One consultant we talked to reported that 80–90% of battery projects that he was considering pre-IRA were hybrid schemes, but that has inverted since the IRA so that 80–90% of projects he is now seeing are standalone.

The IRA has unleashed huge pent-up demand from developers of standalone storage projects in the US and means European investors are now looking at how to gain a foothold in the US.

However, it also puts more pressure on companies to develop those standalone storage projects in an already

crowded market, while also finding the right mix of merchant exposure and contracted offtake to attract tax equity investors without diminishing overall returns.

2) More constraints on battery supply

Developers of US storage projects in 2023 and 2024 will have to push ahead with their developments despite tight constraints on the availability of batteries and other components.

In the short term, this means that the IRA will actually boost battery makers in Asian markets, especially China, that can supply technology to the US. But we believe there is plenty of room to be optimistic too, as battery gigafactories totalling $73bn were announced in the US in 2022 and interviewees were confident in the US supply chain long-term.

3) Greater impetus to reform interconnection queues

Renewables firms in the US have long been aware of the obstacles posed by long queues to gain grid interconnections. Lawrence Berkeley National Laboratory reported in April 2023 that projects totalling 2 TW were in US grid queues, and projects with a battery element made up 1.1 TW of these. This is a major obstacle.

However, we are also encouraged there will be action to fix it. The Federal Energy Regulatory Commission revealed proposed changes in June 2022, and the clamour from companies for reforms will grow in the months ahead. We are hopeful there will be action to help fix this pressing challenge.

4) Concerns over growing skills gaps

Since the IRA, developers have dusted off plans for battery projects that might have been economically unviable but taking them through development and construction needs workers: both those in offices assessing the plans, and those on sites who can build and maintain projects. Companies in the renewable energy sector were reporting shortages of workers even before the IRA, and the IRA has only exacerbated this issue.

The White House has promised to create millions of clean energy jobs in the next decade, and IRA measures to promote apprenticeships should help fill some of the gaps – but skills gaps will remain a concern for years to come.

5) Continued lack of clarity on policy

Transformative legislation such as the IRA always needs to be followed by administrative guidance spelling out how the legislation will work.

In our report, interviewees identified three areas where they need clarity – tax credit transferability rules; the rules related to ‘energy communities’; and how far storage developers can use the storage ITC for the battery part of a hybrid project and the production tax credit (PTC) for the generation part. This is not an exhaustive list, but it shows us that the rules are still far from clear in some areas, and that this has an impact on investment decisions.

Overall, though, the IRA is an exciting legislative package that has prompted other parts of the world to look enviously at US climate projects.

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What happens next?

We're forecasting significant inflows into the US battery sector from established markets in Europe, Asia and South America, while domestically, battery projects will receive a boost by being eligible for tax credits. Despite the explosion of standalone projects, co-location of storage with solar or wind generation will also continue to see growth, at both new and existing sites. And developers and investors will start to look at how they can apply the IRA rules to projects with emerging, long-duration storage technologies.

But it is only by finding solutions in the five areas above that the US will unleash its full battery potential.

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