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New Energy Tax Financing Market Poised to Scale as Treasury Issues Final Rules on How IRA Tax Credit Transfers Will Work – $47B in Potentially Transferable Tax Credits in 2024, Rising to Over $100B in 2030

On April 25, the U.S. Treasury issued final rules regarding transfer of energy tax credits under the Inflation Reduction Act (IRA). While the market for transferable IRA energy tax credits had already begun to develop based on draft rules released last June, we expect the transfer market to scale considerably with the certainty of final rules.

Drawing on projections from the U.S. Treasury, we estimate that the total addressable market of potentially transferable energy tax credits is $47 billion in 2024, **rising to more than $100 billion per year in 2030.** Not all these credits will ultimately be transferred. However, based on our engagement with key players in the growing ecosystem around this market, we can easily imagine a transfer market in which tens of billions in tax credits are bought and sold each year.

With some early tax credit transfers priced in the range of 90 cents on the dollar, the new market will create attractive opportunities for credit sellers to finance clean energy investments and for credit buyers to reduce tax payments while furthering their corporate climate and clean energy commitments.

Our sector analysts have been following announced credit transfer deals by companies they cover, and we have also been analyzing this marketplace closely. We expect tax credit transfers to be a key area of focus at our 3rd Annual Evercore ISI Global Clean Energy & Transition Technologies Summit taking place June 11-12 in New York City.

In this note, we provide an overview of how IRA tax credit transfers work and the outlook for this new energy tax finance market.

We also deep-dive into one specific transferable credit – the Advanced Manufacturing Production Credit (45X) – that was newly created in the IRA. 45X is attracting significant attention because of its potential volume ($7 billion in 2024 rising to $36 billion in 2030) and relatively straightforward eligibility requirements, especially for battery and solar manufacturing. Additionally, there are reasons to believe that certain investments relying on 45X will receive additional protection from imports and, in most circumstances, are less likely to be disrupted by a possible change in Administration.

IRA Energy Tax Credit Transfers: Overview and Market Outlook

A Major Change in Energy Tax Finance to Enable Surging Clean Energy Investment: U.S. clean energy investment has surged in response to long-term tax incentives in the IRA, reaching $239 billion in 2023 (up 38% yr/yr), according to the Rhodium Group/MIT Clean Investment Monitor. Prior to the IRA, a clean energy project (typically a wind or solar farm) that wished to finance against future tax credits would have had to find a tax equity investor, adding cost and complexity to the project. The pre-IRA tax equity market was sizeable – about $18-20 billion per year, according to the American Council on Renewable Energy – but still far short of what is needed in the post-IRA clean energy investment landscape. There are some key new features in the IRA that will enable energy tax finance to scale significantly.

- **The IRA allows businesses to sell energy tax credits for cash.** This will radically simplify the process of monetizing energy tax credits because the tax credit beneficiary no longer needs to be an equity owner in the project.
- **The IRA tax credit transfer mechanism is a key enabler for companies to finance their clean energy investment plans.** With the U.S. Treasury finalizing rules on tax credit transfers, we expect to see more long-term credit transfer deals in which borrowing is secured by a contractual commitment to transfer future tax credits. This should help unlock a vital new source of financing for many companies in the clean energy space.
- **Early credit transfer transactions indicate attractive implied financing costs for sellers looking to finance investments and meaningful tax savings for buyers.** High-quality companies and projects are receiving in the range of 90 cents on the dollar for transferring tax credits.

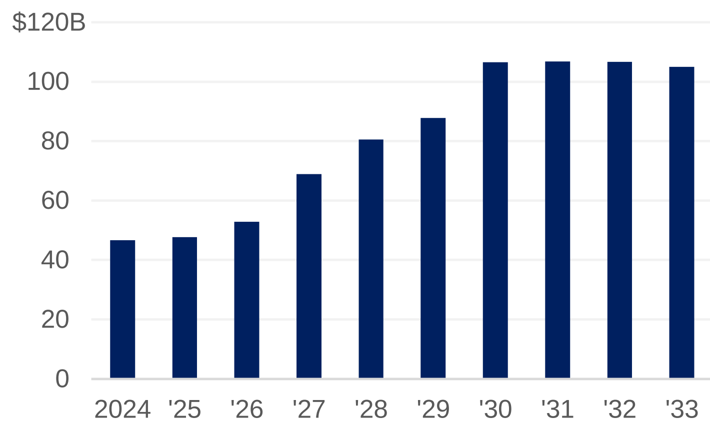
Already Strong Interest but Still Early Days: We have already seen several large transfer deals, such as First Solar's sale of $700 million in solar manufacturing tax credits to Fiserv. We are also seeing signs the transfer market is poised to scale rapidly: NextEra transferred $400 million in tax credits for 2023 and has announced $1 billion worth of transfers for 2024. There are also examples of smaller deals, including Eos Energy transferring $2.3 million worth of tax credits to a privately held software company. An estimated $7 to $9 billion in IRA tax credits generated in 2023 are being sold, according to marketplace startup Crux Climate. (We recently hosted, along with our energy analyst James West, a webinar with Crux Climate CEO Alfred Johnson about how the transfer market is developing so far and his outlook going forward – link)

Final Rules on How Transfers Work Now in Place; No Major Changes from Proposed Rules: The level of activity in this new transfer market is notable given that until last week the U.S. Treasury had proposed but not yet finalized rules. The final regulation released April 25 hewed closely to the proposal released for comment last June, with some important clarifications but no major changes. This signals that the government is comfortable with how this marketplace is unfolding and ensures continuity. With the final rules in place, participants in the transfer market should have clarity and certainty to transact with confidence.

In conjunction with the release of the final regulation, the U.S. Treasury also announced that approximately 57,000 clean energy projects or facilities have been registered with the Internal Revenue Service for potential tax credit transfer.

Massive Total Addressable Tax Transfer Market: Drawing on U.S. Treasury projections, we estimate that in 2024 companies will generate $47 billion in tax credits that could potentially be transferred – rising to more than $100 billion per year in 2030. The actual amount of tax credits that ultimately gets transferred will depend on a range of factors. Some companies may decide to retain the credit to apply against their own tax liability. For a subset of tax credits, companies may take advantage of a time-limited provision through which they can receive the credit as a direct payment from the Internal Revenue Service after filing their tax returns ("direct pay"). Other companies may choose to monetize their tax benefits through traditional tax equity finance, which allows the seller to monetize tax benefits from depreciation in addition to the tax credit, although as noted above, that requires the buyer to take equity in the project.

Figure 1: Volume of Potentially Transferable IRA Energy Tax Credits ($ billions)

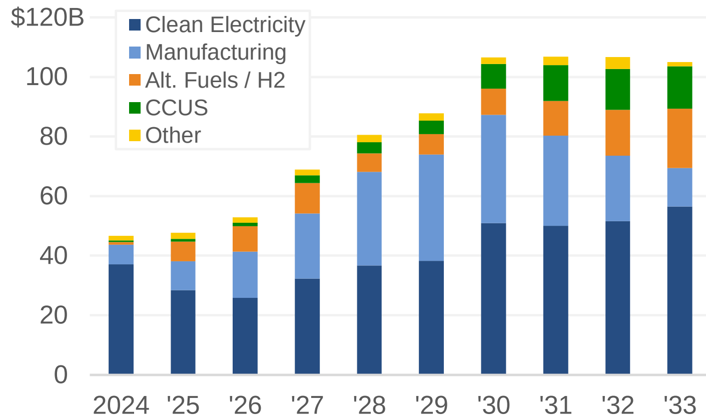


Source: Evercore ISI analysis of U.S. Treasury data

While potential tax credit sellers do have alternatives, we are seeing strong interest from sellers in the transfer market because it is offering up-front cash at good terms with relative speed and simplicity. Figures on project registrations released by the U.S. Treasury suggest that even in cases where the seller would have the option for "direct pay" after filing tax returns, the vast majority are still opting for transfer. Ultimately, even if just a fraction of the potentially transferable credits ends up getting transferred, we will still likely soon see a market in which tens of billions in tax credits are changing hands each year.

Range of Credits Can Be Transferred: Below we also break out the estimate of potentially transferable credits by activity type. The largest transferable credits are the Clean Electricity Production Tax Credit (45/45Y), the Advanced Manufacturing Production Credit (45X), and the Clean Electricity Investment Tax Credit (48/48E). Credits for hydrogen production (45V) and carbon capture (45Q) are also transferable, as well as the Advanced Energy Project Credit (48C), which has a unique design to support projects in communities with closed coal mines or retired coal-fired power plants (see appendix for a full list of transferable credits). We deep-dive into 45X below because it is generating significant interest in the transfer market, due to the large volume of credits to be generated and relatively straightforward eligibility requirements, among other factors.

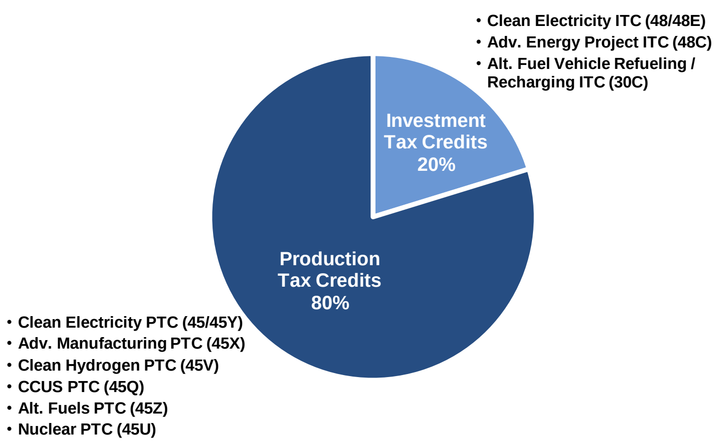
Figure 2: Volume of Potentially Transferable IRA Energy Tax Credits, by Activity Type ($ billions)



Source: Evercore ISI analysis of U.S. Treasury data

Potentially transferable credits include both investment and production tax credits, but looking cumulatively over the next 10 years, 80% of the volume of potentially transferable credits is from production credits. For buyers, the deal structure and diligence process will differ depending on whether the credit to be bought is an investment or production credit. Investment credits are typically calculated as a percentage of the basis of eligible property and earned as a one-time lump sum when the property is placed in service. Production credits are based on units of output and earned annually over a multi-year period.

Figure 3: Share of Potentially Transferable IRA Energy Tax Credits by ITC/PTC (based on cumulative volume, 2024-33)



Source: Evercore ISI analysis of U.S. Treasury data

A Large Pool of Potential Buyers: Aggregate corporate income tax payments are projected to average more than $500 billion per year over the coming decade, so even as the supply of potentially transferable tax credits scales to more than $100 billion annually in 2030, there should be a large pool of interested buyers to absorb any credits put up for sale on the transfer market.

To date, financial institutions have been most active as buyers, but we expect to see buyers from a range of sectors, given the attractive opportunity to reduce taxes while furthering corporate climate and clean energy commitments.

Key Rules for the Transfer Market: The U.S. Treasury has recognized that the IRA transfer market is a key financial enabler for the Administration's broader clean energy goals and has worked to make the transfer process as straightforward as possible. But there are some nuances around how transfers work, including situations where a tax credit is improperly claimed. Below we summarize some of the key rules that will be relevant to investors and corporate financial executives.

- Timing of Payment: Buyers can pay sellers cash for tax credits no earlier than the first day of the taxable year in which the credit is expected to be earned, but contractual commitments for future purchases are allowed, and sellers can finance against these contractual commitments.
- Carryback/Carryforward: Buyers may carry forward a transferred tax credit for 22 years into the future or carry it back up to three years in the past.
- Quarterly Estimated Tax Payments: Buyers may account for transferred tax credits when calculating quarterly estimated tax payments, provided they do so no earlier than the seller otherwise would have. *(Generally speaking, this will mean a transferred credit can be applied to quarterly tax payments in the same year the credit is generated, but not sooner)*
- No Second Transfer: A credit may not be re-transferred after it has been transferred once.
- Credit Slicing: Sellers may transfer part of a tax credit and may have multiple buyers for parts of a single credit, but in cases where the seller is also earning the IRA's bonus credits (e.g., for locating in an "energy community" or utilizing domestic content), the base and bonus credits may not be transferred separately.
- Can't Transfer Depreciation Tax Benefit: The IRA credit transfer mechanism can only be used to transfer the specified tax credits; it cannot be used to transfer benefits associated with depreciation. *(One implication of this is that the traditional tax equity market will continue to exist to help certain sellers monetize tax benefits of depreciation)*
- Buyer Liability: In circumstances where the Internal Revenue Service seeks to recover the credit (for example, if a taxpayer claims an investment tax credit on property that is taken out of service shortly thereafter), the buyer bears the risk of a so-called "recapture" event. Buyers may also be liable (including possible penalties) if they buy an "excessive" credit, meaning one that exceeds what seller is legally allowed to claim. *(One implication of this is that many early transactions have involved insurance and/or indemnities, and there is particular focus on determining the basis of investments eligible for investment tax credits)*

45X is a Powerful New Incentive for Domestic Manufacturing

The Section 45X Advanced Manufacturing Production Credit is the centerpiece of the IRA's effort to drive onshoring of clean energy supply chains. It is also attracting significant interest in the transfer market. 45X provides a direct production subsidy to manufacturers of key clean energy products and components, including solar panels, wind turbines, batteries and battery materials, inverters, and critical minerals (see appendix for full list of 45X-eligible components).

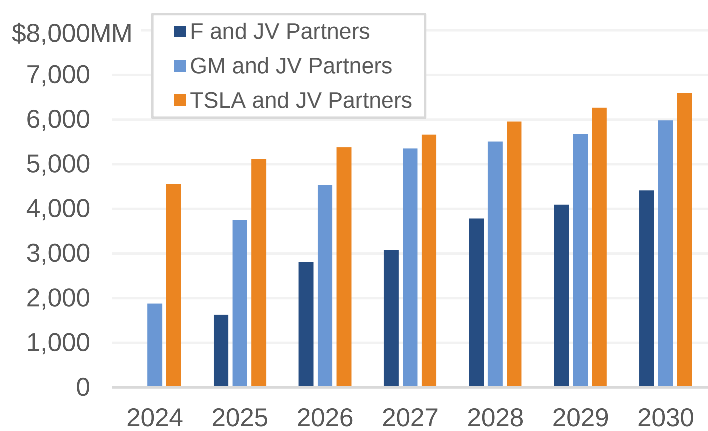
For many 45X-eligible components – especially battery cells and modules – the 45X credit makes the U.S. a globally competitive location for manufacturing investments. *Drawing on U.S. Treasury projections, we estimate there will be $7 billion in potentially transferrable 45X credits in 2024, rising to $36 billion in 2030.*

Battery JVs Can Generate Enormous 45X Credits: With 45X offering a tax credit of $35/kWh for cell production and $10/kWh for modules, large-scale gigafactories can earn billions in credits each year. This can potentially generate billions in tax credits for TSLA, GM, and F, along with their joint venture partners such as Panasonic, LG, and SK. Typically these JVs are 50/50 but may vary. Our automotive sector team has estimated that:

- TSLA and its JV partners could collectively receive $4.6 billion in 45X credits in 2024 and $5.1 billion in 2025
- GM and its JV partners could collectively receive $1.9 billion in 2024 and $3.7 billion in 2025
- Ford and its JV partners could collectively receive $1.6 billion in 2025 and $2.8 billion in 2026

These numbers could continue to grow through 2030 as gigafactory output climbs.

Figure 4: Potential 45X Battery Cell/Module Manufacturing Credits to OEMs and JV Partners ($ millions)



Source: Evercore ISI, company data

Solar Manufacturers also Have Huge 45X Potential: 45X is also includes a tax credit of 4 cents/watt for solar cells and 7 cents/watt for modules, along with additional credits for other solar inputs, creating huge potential for solar manufacturers. QCells' 3.3 gigawatt solar manufacturing operation in Georgia could earn $500+ million worth of tax credits per year, according to press reports. As noted above, one of the largest publicly announced tax credit transfer transactions to date involved First Solar selling $700 million worth of 2023 45X credits to Fiserv at 96 cents on the dollar. Even with the 45X subsidy, U.S. solar manufacturers face intense price competition from China and Southeast Asia, so we will be watching to see what additional import protection may be put in place in the coming months (discussed in greater detail below).

Speed is of the Essence: The 45X credit begins phasing down in 2030 for most eligible components including batteries and solar, so manufacturers are moving quickly to get factories up and running.

Straightforward Requirements to Receive Credit: In contrast to other IRA tax credits that come with complex requirements, 45X is relatively straightforward. In general, to receive the credit, manufacturers must be operating in the U.S. and produce and sell the eligible product or component in the normal course of business. Requirements that apply to other IRA tax credits, such as domestic content standards, the Foreign Entity of Concern restriction, and labor standards (prevailing wage and apprenticeship), do not apply to 45X.

Regulatory Clarity Already Exists for Certain Segments of the Market: Given that 45X generally has fewer complexities than some other IRA provisions, Treasury's initial proposed rule on 45X (issued December 2023) was seen as straightforward for many components, including solar and battery cell/module manufacturing. However, companies have continued to raise questions around how 45X applies to upstream and midstream parts of the battery supply chain, including critical minerals extraction and processing and production of electrode active materials. For these parts of the battery supply chain, the 45X credit is based on a percentage of production costs incurred, rather than a fixed dollar amount, so there is continued focus on what will be allowed to count within creditable production costs. Companies in the upstream and midstream parts of the battery supply chain have called for further clarification on this point, and it will be an issue to watch when Treasury finalizes the 45X rules.

45X-Driven Investments Could Receive Additional Import Protections in the Coming Months: The Biden Administration has signaled strongly that investments tied to 45X – particularly in the battery and solar manufacturing space – could receive additional trade protection. Recent statements from Treasury Secretary Yellen and USTR Tai suggest the U.S. is highly concerned that Chinese import competition will threaten the viability of these investments. Yellen said April 8, "We just want to make sure that we're not driven out of business, and that our firms and workers have opportunities in these industries which will be important ones in our future."

There are a number of policy levers going forward that could help in this regard, including the conclusion of the four-year review of the Section 301 tariffs on China, as well as the tariffs on Chinese solar products imported via Southeast Asia where the two-year moratorium ends in June and without further action, tariffs will come into place. The Administration is also now considering a recent petition from First Solar, QCells, and other manufacturers for additional solar tariffs on Southeast Asian imports.

Many 45X-Driven Investments Should Be Able to Avoid Potential Disruption from the Election: As we have written (link), the future of the IRA could be impacted by the outcome of the election, as former President Trump and many Congressional Republicans have called for the repeal of the IRA. However, we believe a full repeal is highly unlikely, given that the IRA in general – and 45X in particular – is driving significant investment and job creation in states represented by Republicans and Democrats alike, including key swing states like Michigan, Georgia, and Arizona. Rather than trying to disrupt these investments, Trump could instead decide to reframe many of them as part of his own efforts to boost domestic manufacturing, while targeting only the projects involving Chinese companies. He would also likely be inclined to maintain or increase import protection in these and other industries via tariffs.

In contrast to certain other IRA tax credits that could be susceptible to major changes via executive actions, we believe 45X entails relatively little scope for disruptive regulatory developments. On the legislative front, it is possible that Congress could try to tinker with the IRA amidst the major tax and budget fight expected in 2025. Given that 45X is a large part of the cost of IRA, Congress might look for some budgetary savings here by putting more constraints around the credit, such as domestic content requirements. That said, any changes to 45X would almost certainly come with some type of grandfathering for existing projects, though the details would have to be worked out (e.g., whether projects would be grandfathered based on a beginning of construction date, a commencement of operations date, or some other milestone).

Appendix

Transferable IRA Energy Tax Credits

- Clean Electricity PTC (45/45Y)
- Clean Electricity ITC (48/48E)
- Advanced Manufacturing PTC (45X)
- Clean Hydrogen PTC (45V)
- Carbon Capture and Utilization/Sequestration PTC (45Q)
- Alternative Fuels PTC (45Z)
- Nuclear PTC (45U)
- Advanced Energy Project ITC (48C)
- Alternative Fuel Vehicle Refueling/Recharging ITC (30C)

(PTC = Production Tax Credit. ITC = Investment Tax Credit)

45X-Eligible Components

Eligible Component		Tax Credit
Batteries	Cell	$35 per kilowatt hour
	Module	$10 per kilowatt hour *(battery technologies that do not use cells may receive $45 per kilowatt hour for the module)*
Critical Minerals	50 minerals specified in statute	10% of cost
Electrode Active Materials	Solvents, Additives, Electrolyte Salts, Electrolytes, Catholytes, Anolytes, Separators, Metal Salts and Oxides	10% of cost
Solar	Module	7 cents per watt
	Cell	4 cents per watt
	Wafer	$12 per square meter
	Polysilicon	$3 per kilogram
	Backsheet	40 cents per square meter
	Torque Tube	87 cents per kilogram
	Structural Fastener	$2.28 per kilogram
Wind	Blade	2 cents per watt
	Nacelle	5 cents per watt
	Tower	3 cents per watt
	Offshore fixed foundation	2 cents per watt
	Offshore floating foundation	4 cents per watt
	Offshore vessel	10% of sales price
Inverters	Multiple types	0.25 to 11 cents per watt depending on type

Note: Other than critical minerals category, 45X credit phases down beginning in 2030 and fully phases out by end-2032.

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