SEIA Solar Energy Industries Association®

Inflation Reduction Act:

Solar Energy and Energy Storage Provisions Summary

Status

As of August 16, 2022, the Inflation Reduction Act (IRA) has passed in both the Senate and the House of Representatives and has been signed by the president. The summary below reflects what is in the final draft of the legislation.

About this Summary

This summary is intended only to provide a quick overview of some key provisions in the Inflation Reduction Act (IRA). As more details emerge, SEIA will publish additional in-depth guides to the enacted provisions for member companies. SEIA is working with member companies to implement these provisions with relevant federal agencies to ensure that the guidance and regulations issued are workable. When agencies issue final guidance and regulations, SEIA will update the detailed guides for member companies. Nothing in this summary should be interpreted as tax or legal advice.

Members can view a more detailed summary here.

If your company is not a member of SEIA, you can **join here**. SEIA members can email their questions to **membership@seia.org** and SEIA will work to address those questions in updated documents and a forthcoming Frequently Asked Questions page.

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Solar Energy and Energy Storage Provisions of the IRA

Residential

Section 25D Investment Tax Credit for Direct Ownership Solar (cash sales and loan-financed sales to homeowners)

The personal income tax credit for the installation of solar energy property is extended and raised to 30% with the step-down beginning in 2033 when it drops to 26%. Stand-alone energy storage also becomes eligible for this credit for batteries at with at least 3 kilowatt-hours (kWh) of capacity.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Credit Prior to IRA	26%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Credit Under IRA	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	26%	22%	0%

The stand-alone battery credit only applies to expenditures made after December 31, 2022.

There is no direct pay or refundability. It continues to function as it has in the past.

Investment Tax Credit for Third-Party-Owned Residential Systems

Third-party-owned (TPO) residential systems are financed and receive the ITC via the business tax code. For details on the business ITC, see the next section. As before, a system is directly owned by an individual taxpayer and claims the personal tax credit or is TPO and has the tax credit claimed by the third-party owner, not both.

Section 25C Investment Tax Credit for Clean Energy Property

Extended at 30% through 2032; beginning with property placed in service after 2022, lifetime cap replaced with an annual cap of $1,200 except for heat pumps, heat pump water heaters, biomass stoves and biomass boilers which are capped at $2,000 in aggregate. Credit also applies to improvement to or replacement of a panelboard, sub-panelboard, branch circuits or feeders that have capacity of at least 200 amps and are installed to enable the “installation or use” other eligible property under this Section 25C.

Residential Efficiency and Electrification Rebates

The IRA provides $4.3 billion to State Energy Offices to establish rebates for a variety of home energy upgrades under the Home Owner Managing Energy Savings (HOMES) rebate program. Rebates for home energy retrofits up to the lesser $8,000 per home or 80% of project cost if the project saves at least 35%. Lesser amounts available if projects save less than 35%. Multi-family rebates are also supported with different rebate amounts. Caps can increase for low- and moderate-income families with approval of the Secretary.

While all ultimate rebates are subject to state implementation, the legislation sets the following maximum values but those values could be increased by states for low- and moderate-income households:

Single-Family

- For retrofit projects modeled energy savings at least 20% and up to 35%, the lesser of $2,000 or 50% of project costs
- For retrofit projects modeled energy savings more than 35%, the lesser of $4,000 or 50% of project costs
- For measured energy savings, of at least 15%, an amount scaled relative to average home energy use in the state where the project is installed where $2,000 would awarded for 20% energy savings, or 50% of project cost

Multi-Family

- For retrofit projects modeled energy savings at least 20% and up to 35%, $2,000 per dwelling unit and maximum of $200,000 per multifamily building
- For retrofit projects modeled energy savings more than 35%, $4,000 per dwelling unit and a maximum of $400,000 per multifamily building
- For measured energy savings, of at least 15%, an amount scaled relative to average home energy use in the state where the project is installed where $4,000 would awarded for 20% energy savings or 80 of project cost

Cannot be combined with High-Efficiency Electric Home Rebate Program.

High-Efficiency Electric Home Rebate Program

The IRA provides $4.275 billion for grants to State Energy Offices and $224 million to Indian Tribes to establish rebate programs for home electrification. Importantly, this explicitly includes rebates up to $4,000 for "electric load service center upgrades," i.e. main panel upgrades and up to $2,500 for "electric wiring." These provisions are capped at 50% of qualifying costs for households making between 80% and 150% of area median income. It appears that households earning more than 150% of area median income are not eligible for these rebates.

While all ultimate rebates are subject to state implementation, the legislation sets the following maximum values:

Upgrade	The Lesser of:		
	Maximum Rebate $ Amount	Maximum Rebate as Percent of Cost	
		Households 80%-150% of Area Median Income*	Households Less Than 80% of Area Median Income*
Heat pump water heater	$1,750	50%	100%
Heat pump for HVAC	$8,000	50%	100%
Electric stove, cooktop, range, oven, or heat pump clothes dryer	$840	50%	100%
Electric load service center	$4,000	50%	100%
Insulation, air sealing and ventilation	$1,600	50%	100%
Electric wiring	$2,500	50%	100%
Maximum total across all upgrades	$14,000	50%	100%

* For multi-family properties if at least 50% of resident households are 80% to 150% of area median income.

** For multi-family properties if at least 50% of resident households are less than 80% of area median income.

Utility-Scale, Commercial, Industrial, Non-Profit, Government, Etc. and Third-Party-Owned Residential

The business investment tax credit is extended and lifted to 30% for projects that have started or start construction before the end of 2024 and the credit becomes available to stand-alone storage. Solar also becomes eligible for the production tax credit which is currently at $0.026/kWh for 2022 and rises with inflation. After 2024, the credit transitions to a “tech neutral” structure.

Current Law (pre-IRA)

	2022	2023	2024	2025	2026	2027	2028	2029	2030
ITC for Solar*	26%	22%	10%	10%	10%	10%	10%	10%	10%
ITC for Stand-Alone Storage	0%	0%	0%	0%	0%	0%	0%	0%	0%
PTC for Solar ($/kWh)	$0	$0	$0	$0	$0	$0	$0	$0	$0

Source: SEIA Summary of Inflation Reduction Act (H.R. 5376)

* Projects that begin construction in 2022 and are online before the end of 2025 are eligible for 26%. Projects that begin construction in 2023 and are online before the end of 2025 are eligible for 22%. Projects that begin construction after 2023 are eligible for 10%. Additional transition guidance will have important implications.

** The PTC is adjusted for inflation each year by the IRS. The levels reported for years 2023-2035 assume annual inflation of 2% for illustrative purposes.

Inflation Reduction Act ITC and PTC

Under the IRA, projects will be able to choose the ITC or PTC. Both credits come with potential adders for meeting certain domestic content requirements, locating in energy communities, or allocated credits for being on qualified low-income property. The level of the base credits and adders are shown in the tables below. Stand-alone storage is eligible only for the ITC. Both ITC and PTC credits become transferable.

The ITC becomes available for costs of interconnection for projects with a net output of less than 5 MWac.

Direct pay becomes available for state and tribal governments, Alaska native corporations, certain tax-exempt entities and rural cooperatives.

All timelines below are subject to specific placed-in-service and start-construction deadlines and documentation requirements. Details are available to SEIA members.

Commercial ITC Under IRA

	2022†	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	100% 2033*	75% 2034*	50% 2035*	0% 2036*
Projects Under 1 MWac															
Base ITC*	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	22.5%	15%	0%
Bonus for Meeting Domestic Content Minimums**		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bonus for Siting in "Energy Community"		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Allocated Low-Income Bonus***															
Low-Income Community as Defined by the New Markets Tax Credit or on Indian Land		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	7.5%	5%	0%
Qualified Low-Income Residential Building Project or Qualified Low-Income Economic Benefit Project		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	15%	10%	0%
Projects Over 1 MWac that Begin Construction Less than 60 Days After Dept. of Treasury Issues Guidance															
Base ITC*	30%	30%	30%												
Bonus for Meeting Domestic Content Minimums**		10%	10%												
Bonus for Siting in "Energy Community"		10%	10%												
Allocated Low-Income Bonus for Projects Under 5 MWac***															
Low-Income Community as Defined by the New Markets Tax Credit or on Indian Land		10%	10%												
Qualified Low-Income Residential Building Project or Qualified Low-Income Economic Benefit Project		20%	20%												
Projects Over 1 MWac that Begin Construction 60 Days After Dept. of Treasury Issues Guidance															
Base for All Projects															
Base ITC*	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	4.5%	3%	0%
Bonus for Meeting Domestic Content Minimums**		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1.5%	1%	0%
Bonus for Siting in "Energy Community"		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1.5%	1%	0%
Adders for Projects that Meet Labor Requirements															
Base ITC*	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	18%	12%	0%
Bonus for Meeting Domestic Content Minimums**		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	6%	4%	0%
Bonus for Siting in "Energy Community"		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	6%	4%	0%
Allocated Low-Income Bonus for Projects Under 5 MWac***															
Low-Income Community as Defined by the New Markets Tax Credit or on Indian Land		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	7.5%	5%	0%
Qualified Low-Income Residential Building Project or Qualified Low-Income Economic Benefit Project		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	15%	10%	0%

Source: SEIA Summary of Inflation Reduction Act (H.R. 5376)

* Actual phased down is based on the later of the dates shown or the year after electric sector CO2 emissions drop 75% below 2022 levels.

** Must include 100% domestic iron/steel and an increasing percent of manufactured goods over time.

*** Allocated credits will be based on an application and award process that will have to be developed by the Secretary. Maximum of 1.8 GWac/year.

†Bonus credits available for projects placed in service after December 31, 2022.

PTC Under IRA

	2022†	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	100% 2033**	75% 2034**	50% 2035**	0% 2036**
Projects Under 1 MWac															
Base PTC*	2.6 ¢/kWh	2.7 ¢/kWh	2.7 ¢/kWh	2.8 ¢/kWh	2.8 ¢/kWh	2.9 ¢/kWh	2.9 ¢/kWh	3.0 ¢/kWh	3.0 ¢/kWh	3.1 ¢/kWh	3.2 ¢/kWh	3.2 ¢/kWh	2.4 ¢/kWh	1.6 ¢/kWh	0.0 ¢/kWh
Bonus for Meeting Domestic Content Minimums***		0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.0 ¢/kWh
Bonus for Siting in "Energy Community"		0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.0 ¢/kWh
Projects Over 1 MWac that Begin Construction Less than 60 Days After Dept. of Treasury Issues Guidance															
Base PTC*	2.6 ¢/kWh	2.7 ¢/kWh	2.7 ¢/kWh												
Bonus for Meeting Domestic Content Minimums***		0.3 ¢/kWh	0.3 ¢/kWh												
Bonus for Siting in "Energy Community"		0.3 ¢/kWh	0.3 ¢/kWh												
Projects Over 1 MWac that Begin Construction 60 Days After Dept. of Treasury Issues Guidance															
Base for All Projects															
Base PTC*	0.5 ¢/kWh	0.5 ¢/kWh	0.5 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.6 ¢/kWh	0.5 ¢/kWh	0.3 ¢/kWh	0.0 ¢/kWh
Bonus for Meeting Domestic Content Minimums***		0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.0 ¢/kWh	0.0 ¢/kWh	0.0 ¢/kWh
Bonus for Siting in "Energy Community"		0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.1 ¢/kWh	0.0 ¢/kWh	0.0 ¢/kWh	0.0 ¢/kWh
Adders for Projects that Meet Labor Requirements															
Base PTC*	2.1 ¢/kWh	2.1 ¢/kWh	2.2 ¢/kWh	2.2 ¢/kWh	2.3 ¢/kWh	2.3 ¢/kWh	2.3 ¢/kWh	2.4 ¢/kWh	2.5 ¢/kWh	2.5 ¢/kWh	2.6 ¢/kWh	2.6 ¢/kWh	1.9 ¢/kWh	1.3 ¢/kWh	0.0 ¢/kWh
Bonus for Meeting Domestic Content Minimums***		0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.2 ¢/kWh	0.1 ¢/kWh	0.0 ¢/kWh
Bonus for Siting in "Energy Community"		0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.2 ¢/kWh	0.3 ¢/kWh	0.3 ¢/kWh	0.2 ¢/kWh	0.1 ¢/kWh	0.0 ¢/kWh

Source: SEIA Summary of Inflation Reduction Act (H.R. 5376)

* The PTC is adjusted for inflation each year by the IRS. The levels reported for years 2023-2035 assume annual inflation of 2% for illustrative purposes.

** Actual phased down is based on the later of the dates shown or the year after electric sector CO2e emissions drop 75% below 2022 levels.

*** Must include 100% domestic iron/steel and an increasing percent of manufactured goods over time.

†Bonus credits available for projects placed in service after December 31, 2022.

Manufacturing

The IRA establishes two credits for manufacturers; 1. A 30% investment tax credit (Section 48C) for eligible investment costs in facilities and equipment and 2. A manufacturing production credit for certain components based on the volume of product manufactured. Manufacturers can only seek to take one or the other; that is, a manufacturer cannot claim the investment credit and then claim the production credit for product from the same factory.

Ten billion dollars are allocated for the Section 48C tax credits, and up to six billion dollars can go to projects located outside of census tracts (or adjacent tracts) where a coal mine closed after 1999 or a coal-fired power plant was retired after 2009. To receive the full 30% credit, a project must meet prevailing wage and apprenticeship requirements Otherwise, the credit will be six percent. There is also no direct pay option, with limited exceptions, and manufacturers must apply and be chosen for the Section 48C tax credit. Credits are based on application and award process.

The production credit specifies different rates for various products as specified in the table below. Manufacturing production credits are also eligible for direct pay for five consecutive years.

									100%	75%	50%	0%
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Solar												
PV Modules	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	7 ¢/Wdc	5.3 ¢/Wdc	3.5 ¢/Wdc	1.8 ¢/Wdc	0.0 ¢/Wdc
Thin-Film PV Cells	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	5 ¢/Wdc	3.8 ¢/Wdc	2.5 ¢/Wdc	1.3 ¢/Wdc	0.0 ¢/Wdc
Crystalline Silicon PV Cells	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	4 ¢/Wdc	3.0 ¢/Wdc	2.0 ¢/Wdc	1.0 ¢/Wdc	0.0 ¢/Wdc
Crystalline Silicon PV Wafers	$12/m2	$12/m2	$12/m2	$12/m2	$12/m2	$12/m2	$12/m2	$12/m2	$9/m2	$6/m2	$3/m2	$0/m2
Solar Grade Polysilicon	$12/kg	$12/kg	$12/kg	$12/kg	$12/kg	$12/kg	$12/kg	$12/kg	$9/kg	$6/kg	$3/kg	$0/kg
Polymer Backsheets	$0.40/m2	$0.40/m2	$0.40/m2	$0.40/m2	$0.40/m2	$0.40/m2	$0.40/m2	$0.40/m2	$0.30/m2	$0.20/m2	$0.10/m2	$0/m2
Inverters*												
Central Inverter	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.25 ¢/Wac	0.19 ¢/Wac	0.13 ¢/Wac	0.06 ¢/Wac	0.00 ¢/Wac
Utility Inverter	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.50 ¢/Wac	1.13 ¢/Wac	0.75 ¢/Wac	0.38 ¢/Wac	0.00 ¢/Wac
Commercial Inverter	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	2.00 ¢/Wac	1.50 ¢/Wac	1.00 ¢/Wac	0.50 ¢/Wac	0.00 ¢/Wac
Residential Inverter	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	6.50 ¢/Wac	4.88 ¢/Wac	3.25 ¢/Wac	1.63 ¢/Wac	0.00 ¢/Wac
Microinverter	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	11.00 ¢/Wac	8.25 ¢/Wac	5.50 ¢/Wac	2.75 ¢/Wac	0.00 ¢/Wac
Trackers												
Torque tube or longitudinal purlin	$0.87/kg	$0.87/kg	$0.87/kg	$0.87/kg	$0.87/kg	$0.87/kg	$0.87/kg	$0.87/kg	$0.65/kg	$0.44/kg	$0.22/kg	$0.00/kg
Structural fasteners	$2.28/kg	$2.28/kg	$2.28/kg	$2.28/kg	$2.28/kg	$2.28/kg	$2.28/kg	$2.28/kg	$1.71/kg	$1.41/kg	$0.57/kg	$0.00/kg
Batteries												
Electrode active materials**	10%	10%	10%	10%	10%	10%	10%	10%	7.5%	50%	2.5%	0%
Cells ($/kWh)	$35	$35	$35	$35	$35	$35	$35	$35	$26.3	$17.5	$8.8	$0
Modules ($/kWh)	$10	$10	$10	$10	$10	$10	$10	$10	$7.5	$5	$2.5	$0
Modules that don't use cells ($/kWh)	$45	$45	$45	$45	$45	$45	$45	$45	$33.8	$22.5	$11.3	$0
Critical Materials**	10%	10%	10%	10%	10%	10%	10%	10%	7.5%	5%	2.5%	0%

Source: SEIA Summary of Inflation Reduction Act (H.R. 5376)

* Central inverter = inverter greater than 1,000 kWac
Utility inverter = suitable for commercial or utility-scale; at least 600 volts; greater than 125 kWac but not greater than 1,000 kWac
Commercial inverter = suitable for for commercail or utility-scale; 208, 480, 600 or 800 volts; three-phase power; and greater than 20 kWac but not greater than 125 kWac
Residential inverter = suitable for a residence; 120 or 240 volts single-phase; capacity not greater than 20 kWac
Microinverter = suitable to connect with one solar module; 120 or 240 volts single-phase or 208 or 480 volts three-phase; capacity not greater than 650 Wac

** Percent of production cost

Additional Provisions

The IRA contains many other provisions important to the energy transition of direct or indirect interest to the solar energy and energy storage industries. These include the provisions listed below.

- $500 million for the Defense Production Act (some of which could be used for solar manufacturing)
- Greenhouse Gas Reduction Fund totaling $29 billion overseen by the Environmental Protection Agency
- Climate Pollution Reduction Grants to state and local governments totaling $5 billion
- Environmental and Climate Justice Block Grants: $3 billion for disadvantaged communities
- Department of Energy Loan Program Office gets an additional $40 billion in commitment authority
- $2 billion in loan authority for new transmission construction in designated national interest corridors.
- $760 million for the Department of Energy to issue grants to state, local or tribal entities to facilitate siting of high-voltage interstate transmission
- Solar Right-of-Way Restrictions on Department of Interior lands (right-of-way can only issue if an oil and gas lease sale has been held in previous 120 days, and certain acreage thresholds have been offered in previous year)
- Additional $1 billion for rural renewable energy electrification loans and expansion of the program to include storage
- Additional $1B for REAP, with total grants limited to 50% of the total cost of an eligible project
- $9.6B for loans and financing for rural co-ops to purchase renewable energy, generation, zero-emission systems, and related transmission, limited to 25% of total cost
- Incentives for build-out of electric vehicle charging networks
- Extension, expansion, and changes to electric vehicle tax credits, including a new credit for purchasing used EVs

Find Out More

SEIA will continue to provide detailed descriptions of critical provisions as agency guidance and implementing regulations are issued.

These detailed guides are available to SEIA member companies.