



The Inflation Reduction Act Impacts on Solar, Energy Storage, and Other DG Projects

November 2, 2022

Contact:

Scott Ameduri, President

Enerlogics Networks, Inc.

Office: 216.362.3000 x303

sameduri@enerlogics.com

Enerlogics Representative Development Experience



Brooklyn Solar Project

4 MWdc solar project constructed on a former landfill in Brooklyn, Ohio.



Penta Career Center

1.3 MWdc ground mount solar project constructed at Penta Career Center in Perrysburg, Ohio.



Cuyahoga County Rooftop Solar Program

1.4 MWdc multi-site deployment of solar systems on various sites within Cuyahoga County.



Kent State University

Multi-site deployment for the Kent State University regional campus throughout Eastern Ohio; 6-campus, 3.4 MWdc solar project that includes both ground mount and rooftop solar



City of Lakewood Ohio

650 kWdc multi-site deployment of rooftop solar systems on various sites within the City of Lakewood Ohio.

City of Ann Arbor

Multi-site deployment of solar systems on various sites within the City of Ann Arbor. Up to 4.2 MWdc of solar across all locations including ground mount, rooftop, and floating solar.

City of Cleveland Heights Ohio

828 kWdc multi-site deployment of rooftop solar systems on various sites within the City of Cleveland Heights Ohio.



Inverter



Transformer



Battery Module

Typical Project Development Process

Multistep process with full customer engagement throughout



Level Set

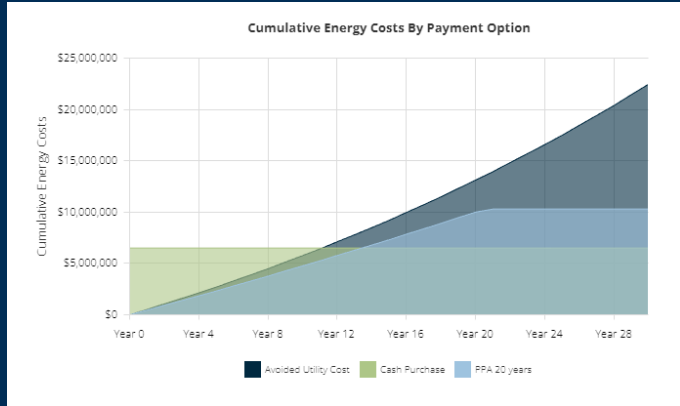
- Project Locations: the presentation today will focus on behind-the-meter projects
 - Front-of-the-meter (aka utility scale) projects have similar impacts from the IRA, however many of these projects will utilize the IRA benefits to reduce the delivered cost of power
- Technologies: the presentation will focus on solar and energy storage system (ESS) technologies
 - Other clean energy technologies (wind, etc.) have similar benefits
- Treasury Guidance: Treasury is currently in a public comment period; information provided is based on interpretations of the law and expected guidance but not yet finalized
- *Disclaimer: Enerlogics is not a tax advisor and is providing this for information purposes only based on our review of the Inflation Reduction Act and past experiences with project level financing and structuring*



Solar Deployment Types Comparison

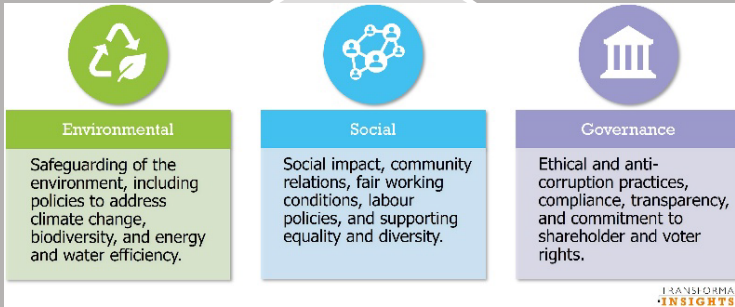
	Onsite Solar	Community Solar, etc.	Financial PPA
Example			
Typical Project Size	<2 MWs	2-10 MWs	>20 MW
Deployment Type	Ground Mount Roof Mount Carport	Ground Mount	Ground Mount
Typical Project Costs	\$1.65 - \$3.50/W	\$1.25 - \$2.00/W	<\$1/W
Typical PPA Rates*	\$0.06 - \$0.12/kWh	\$0.05 - \$0.10/kWh	<\$0.05/kWh
Facility Benefits	Avoidance of generation costs, avoidance of T&D charges, demand savings	Avoidance of generation costs	Avoidance of generation costs, long term price hedging strategy
Typical Deployment Times	Weeks to Months	Months to Years	3+ Years
Best for	Facilities with significant usable area for solar and stable electricity load, credit, and certainty to be in same location for 20+ years Example: Walmart rooftop	Offtaker with multiple facilities within the same service territory, limited usable area Example: Cuyahoga County / Cleveland Public Power in CURP	Large energy users (>100M kWh per year) with stable long term energy needs Example: Apple data centers

Why Solar and Energy Storage Now?



Electricity Cost Savings to Combat Rising Electricity Costs

- Utilize lower-cost solar with predictable power costs for next 25+ years



Achieve sustainability goals

- Use locally-generated solar (and energy storage) to reduce costs and carbon footprint

IRA Investment Tax Credits	Value
Base	30%
Domestic Content	10%
Energy Community	10%
Low Income Community	10% / 20%

Base with prevailing wage/apprenticeship for projects > 1 MWac

Low-income area at 10%, 20% if providing power to low-income households

Leverage tax benefits

- Capture tax benefits of the Inflation Reduction Act (IRA) to reduce delivery costs under both cash purchase and third party financed options

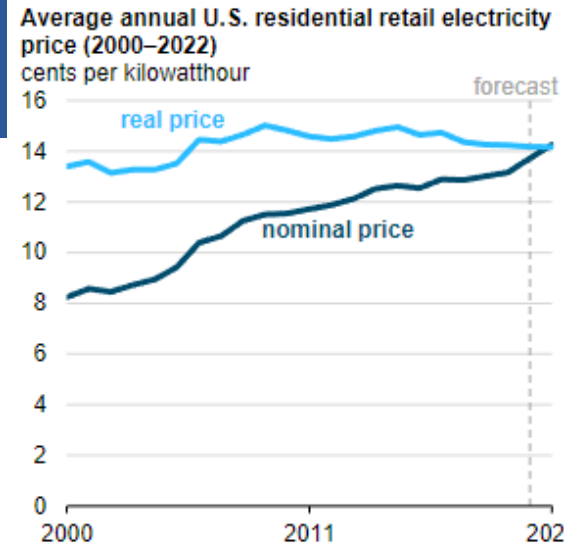
Benefits of Solar and Energy Storage

Rising Electricity Prices

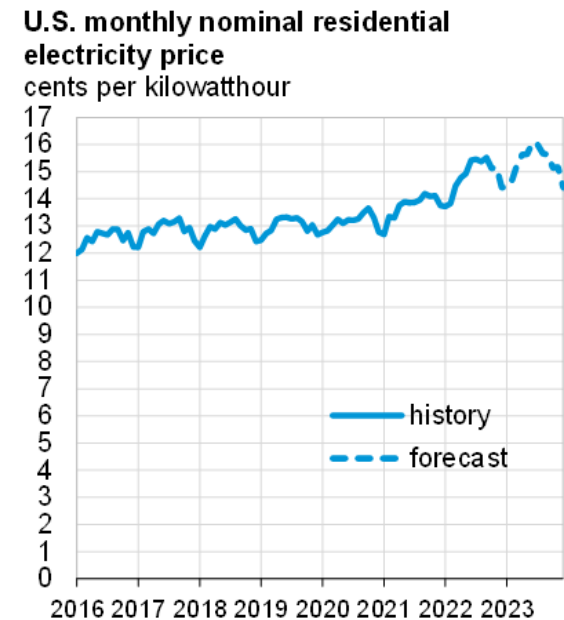
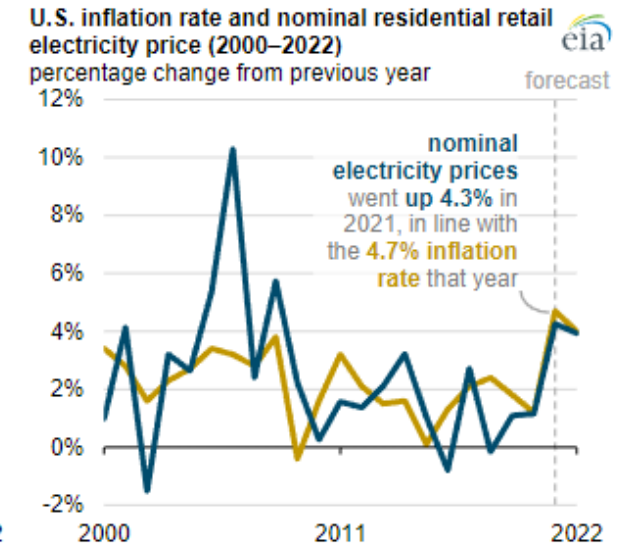
- 2021: US retail electricity prices rose at the **fastest rate since 2008**
- 2022: EIA forecasts that wholesale electricity prices at major power trading hubs will be about **20-60% higher** on average this winter.
- 2022: EIA forecasts that the residential price of electricity will average 14.9 cents per kWh in 2022, **up 8% from 2021**. Higher retail electricity prices largely reflect an increase in wholesale power prices, which are driven by higher natural gas prices

Electricity prices are high and continuing to increase

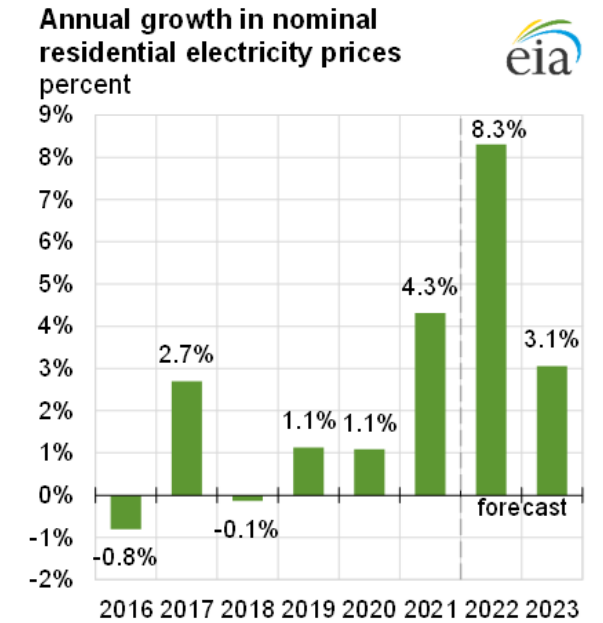
Sources: <https://www.eia.gov/todayinenergy/detail.php?id=51438> and <https://www.eia.gov/outlooks/steo/report/electricity.php>



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

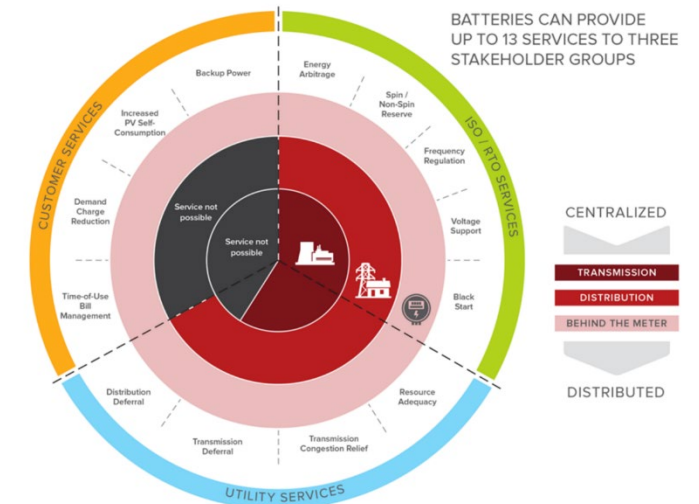
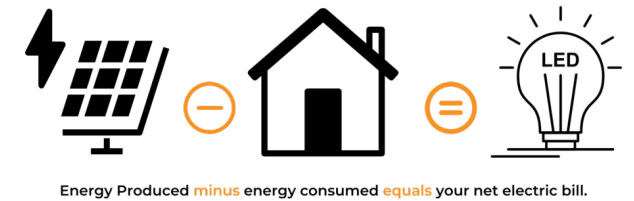
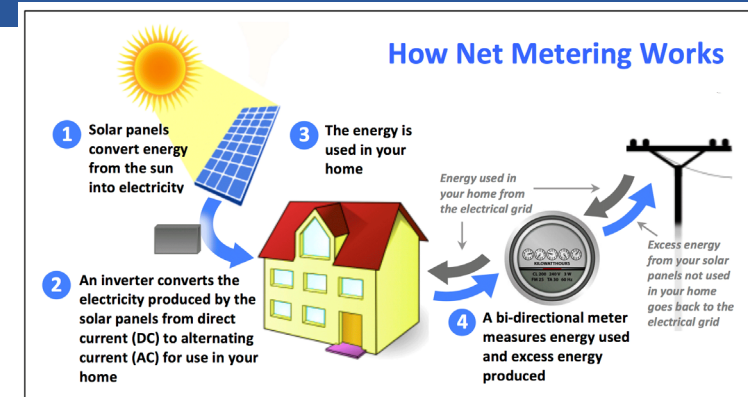


Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2022

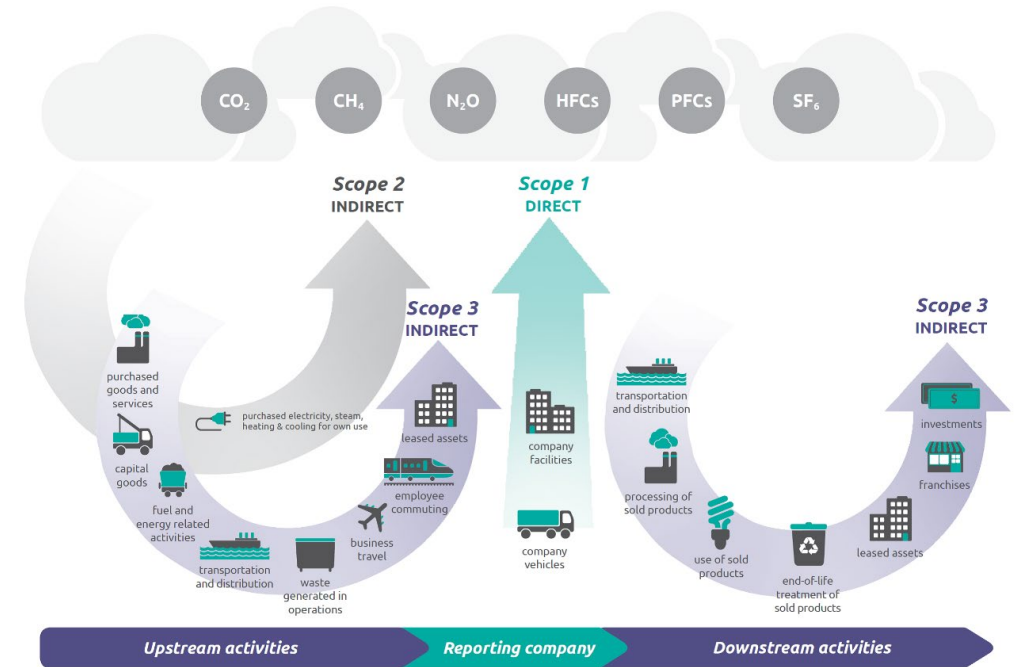


How Solar and Energy Storage Helps Address Rising Electricity Prices

- First tenant is to know where you are at – baseline your energy usage and costs
- Solar and ESS generally sized for only a portion of your facility’s usage
 - Solar sized around available roof, ground, and parking lot areas
 - ESS sized around critical load, demand management, and resiliency needs
- Net metering enables your facility to produce more energy during daylight hours (exporting power to the grid) and then utilize more grid power during hours when energy production is lower than consumption
 - Net metering policies vary by state, mostly on size and on compensation schemes
- Energy produced by solar offsets the energy utilized by your facility from the grid, including both the generation and delivery of that power
- ESS enables shifting of usage profile (demand management, arbitrage, and revenue generation opportunities) to manage costs and generate revenue



ESG and Scope 1, 2 and 3



- Our focus is on addressing an appropriate, accretive and implementable solution to the “E” in ESG
- Why now? Increasing your multiple by positively impacting your bottom line

- Scope 1 is concerned with direct emissions from facility activity
- Scope 2 is indirect / upstream activities including electricity utilized at the facility level
- Scope 3 includes transmission/distribution of electricity

Solar impacts the scope 2 and scope 3 emissions

How Solar and Energy Storage Affect ESG

- Again, know where you are at with benchmarking
 - EPA's Emissions & Generation Resource Integrated Database (eGRID) provides site-level calculations of scope 2 and scope 3 impacts based on your energy usage: <https://www.epa.gov/egrid>
 - Scope 2 and Scope 3 emissions around electricity are based on the generation mix for facility location
- Offsite solar and wind (purchasing electricity via green tariffs, VPPAs, etc.) affects your scope 2 emissions only
- Onsite solar and wind (e.g., behind-the-meter projects) affects your scope 2 and scope 3 emissions
- Combination of onsite and offsite renewables gives a balanced option
- Purchase of renewable energy credits (RECs) can be used to bridge gaps and towards e.g., overall carbon footprint reduction from other emissions



Highlights of the Inflation Reduction Act (IRA)

- 10 (plus) years of full-value credits for onshore/offshore wind, solar, storage, and hydrogen.
 - Production Tax Credit (PTC)/Investment Tax Credit (ITC) through the end of 2024; tech-neutral credits from 2025-2032 (or later).
- Full value credits tied to prevailing wage and apprenticeship requirements.
- Adders/bonuses available for complying with domestic content requirements and investing in projects in certain energy and low-income communities.
- Direct pay available for hydrogen and advanced manufacturing PTC for the first 5 years; otherwise mostly limited to tax-exempt entities.
- New transferability program available for entities unable to elect direct pay—allowing the selling of credits to unrelated parties.
- Accelerated depreciation restored for clean energy projects (clean energy tax credits already protected) in corporate minimum tax.

Inflation Reduction Act and Project Impacts

Inflation Reduction Act (IRA) signed into law on 8/16/2022

- IRA provisions for full 30% ITC:
 - ① <1 MWac system size OR
 - ② If > 1MWac
 - A Meet prevailing wage AND apprenticeship requirements OR
 - B Start construction less than 60 days after Treasury guidance (limited window for new projects)

✓ Most projects qualify under #1 or #2
- IRA Energy Storage Credits:
 - ① New 30% ITC for standalone storage with minimum 5 kWh

✓ ESS projects qualify
- IRA provisions for bonus 10% ITC for domestic content:
 - ① 100% domestic steel in project AND
 - ② Minimum 40% (2023) of equipment cost from US manufacturers

✓ Most projects will NOT qualify: #1 met via current suppliers of racking; currently limited suppliers for #2
- IRA “bonus” language includes additional 10% tax credits for:
 - ① Qualified energy communities OR
 - ② Low income areas

✓ Dependent on project location
- IRA Direct Pay option for tax-exempt facilities

✓ Enables tax exempt facilities to receive cash payment for tax credits; no domestic content bonus available; domestic content requirements will start in 2024 with reduction in direct pay if not meeting domestic content requirements

Example Tax Credits

- The tax credits are generally available to projects placed in service after December 31, 2022.
- Max. credit amount: a small-scale project in a low-income energy community claiming the ITC could receive a credit in an amount of up to 70%; a project claiming PTCs could receive credits in an amount of up to \$38.50 per MWh

Credit Rates				
Credit	Base Credit	Base + Bonus	Base + Bonus + Domestic Content/Energy Community	Base + Bonus + Domestic Content + Energy Community
ITC	6%	30%	40%	50%
PTC*	\$5.50 / MWh	\$27.50 / MWh	\$30.25 / MWh	\$33.00 / MWh

Source: "ACP Summary of the Inflation Reduction Act", American Clean Power.

ITC and PTC

- ITC was set to step down from current 26% (2022) to 22% then to 10% thereafter
 - IRA steps this back up to 30% with size/prevaling wage requirements
- Projects can elect either the ITC or the PTC
 - ITC is a 1x tax credit based on the project cost / fair market value
 - PTC is a tax credit based on the energy production of the system over the initial 10 years of operation
- Behind-the-meter projects generally best served with the ITC
- Standalone ESS only qualifies for the ITC

ITC Rates

- 30% tax credit
 - Base Credit: A base credit rate of 6% of the basis of energy property.
 - Increased Credit: Increased credit is 24% if labor requirements are met; specifically, the ITC rises to 30% for developers that pay a prevailing wage.
 - Bonus Credit: There are three additional percentage point bonuses that are available to projects: (1) that meet domestic content requirements (10 percentage points); (2) are located in low-income or fossil fuel-reliant communities (10/20 percentage points); and (3) are located in energy communities (10 percentage points).
 - Tax-Exempt Bonds: For facilities financed with tax-exempt bonds, the credit amount would be reduced by the lesser of (1) 15%; or (2) the fraction of the proceeds of a tax-exempt obligation used to finance the project over the aggregate amount of the project's financing costs.
- In order to claim the ITC at the bonus credit rate, taxpayers must satisfy the prevailing wage requirements for the duration of the construction of the project and for 5 years after the project is placed into service and must meet the apprenticeship requirements during the construction of the project.
 - The higher credit rates would also be available to any project with a maximum net output of less than one megawatt and for facilities that begin construction after January 1, 2022, but 60 days after the Secretary of the Treasury publishes guidance on the wage and registered apprenticeship requirements.

Bonuses are stackable.

ITC Details

Commercial ITC Under IRA

	2022 [†]	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	100%	75%	50%	0%	
												2033*	2034*	2035*	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 Sitting 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 Sitting 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 Sitting 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 Sitting 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.

Energy Storage ITC

- The definition of ITC eligible property is expanded to include standalone storage
- Qualifying storage technology includes “property (other than property primarily used in the transportation of goods or individuals and not for the production of electricity) which receives, stores, and delivers energy for conversion to electricity (or, in the case of hydrogen, which stores energy), and has a nameplate capacity of not less than 5 kilowatt hours.”
- Application: The ITC only applies to a new standalone energy storage project placed in service after Dec. 31, 2022, as long as the construction/modification begins before Dec. 31, 2024.
- Modified existing storage property is eligible if: (1) the property was placed in service before the date of enactment and has a capacity of less than 5 kWh and is modified so that it has a nameplate capacity of more than 5 kWh; or (2) modified in a manner that increases its nameplate capacity by more than 5 kWh.
- Tech-Neutral: Storage is eligible for tech-neutral and the emissions standard does not apply to storage for eligibility purposes.
- Normalization: Storage projects are eligible to opt out of normalization requirements until the end of 2024; unlike other project technologies under the ITC.

Tech-Neutral Tax Credit

- Beginning in 2025, creates an emissions-based incentive that would be neutral and flexible between clean electricity technologies.
- Taxpayers are able to choose between a PTC under section 45Y or an ITC under section 48D, which is provided based on the carbon emissions of the electricity generated – measured as grams of carbon dioxide equivalents (CO₂e) emitted per kWh generated.
- Any power facility of any technology can qualify for the credits, so long as the facility's carbon emissions are at or below zero.
- The Treasury Department is directed to publish emission rates for similar technologies each year for taxpayers to use for purposes of determining their eligibility.

Phase Out: The credits are set to phase out the latter of 2032 or when emission targets are achieved: when the electric power sector emits 75 percent less carbon than 2022 levels, the incentives will be phased out over 3 years. For the phase out, facilities will be able to claim a credit at 100 percent value in the first year, then 75 percent, then 50 percent, and then 0 percent.

Credit rate: PTC is 0.53 cents per kilowatt hour and the ITC is 6%. If labor requirements are met, project is eligible to receive elevated credits of 2.6 cents per kilowatt hour or 30 percent.

Labor requirements apply in the same manner as for the section 45 PTC and section 48 ITC.

Bonuses: Investments in clean electricity or energy storage property in energy communities and comply with certain domestic content requirements. These rules apply in a similar manner to those applied to sections 45 and 48. The elevated credits are generally equal to a 10% increase to the value of the PTC or a 10 percentage point increase to the value of the ITC.

Labor Requirements for Tax Credits

- An additional “bonus credit” of a total 5 times the base credit for the PTC and 30% for ITC is tied to a project complying with the labor requirements.
- The prevailing wage and apprenticeship requirements are automatically met for all projects beginning construction *until 60 days* after Treasury publishes guidance on these requirements—i.e., full credit value regardless as to whether a project meets these requirements.
- Under the prevailing wage requirements, a taxpayer must ensure that *any laborers and mechanics are paid prevailing wages during the construction of a project and, during the relevant credit period, for the alteration and repair of such project.*
- Subject to certain exceptions, the apprenticeship requirements require a taxpayer to ensure that no less than the applicable percentage of total labor hours for the construction of the project are performed by qualified apprentices.
- There are cure options in the event of failure to satisfy either requirement.

Labor Requirements for Tax Credits: Details

Prevailing Wage

- For any laborers and mechanics employed by the taxpayer or any contractors and subcontractors in the *construction* of such facility (or for 10 years for the PTC and *5 years for the ITC after the facility is placed in service*) must be paid wages at rates *not less than the prevailing rates* for the construction, alteration, or repair of a similar character in the locality as determined by the Secretary of Labor, in accordance with the Davis Bacon Act.
- In the event a taxpayer fails to satisfy the requirements, the taxpayer may cure the discrepancy by paying a penalty to the Treasury equal to \$5,000 multiplied by the total number of laborers and mechanics for which the requirements are not satisfied.
- In the event the taxpayer fails to satisfy paying prevailing wages, the taxpayer has 180 days from the date of the determination to cure the discrepancy by compensating each worker the difference between wages paid and the prevailing wage, plus interest, in addition to paying a \$5,000 penalty to the Treasury for each worker paid below the prevailing wage during the taxable year.

Apprenticeship

- Must maintain a qualified apprenticeship program with respect to the construction of the facility.
- For projects beginning construction before 2023, *10% of total hours must be performed by qualified apprentices*; for projects beginning construction in 2023, 12.5% of total hours; and for projects beginning construction after 2023, 15% of total hours. The taxpayer and any contractor or subcontractor that employs four or more individuals to perform construction on a qualifying project must employ at least one qualified apprentice to perform such work.
- An exemption from the apprenticeship requirement for taxpayers demonstrating a lack of availability of qualified apprentices and a good faith effort to comply.
- Taxpayer deemed to have satisfied the requirements if it receives no response from an apprenticeship program within 5 business days after the receipt of such request.
- Requires that each contractor and subcontractor who employs 4 or more individuals to perform construction on an applicable project shall employ at least one qualified apprentice to perform such work.

Labor Requirements for Tax Credits: Details

Credit	Threshold	Years of Requirement after Facility is Placed in Service
PTC	1 MW	10 years
ITC	1 MW	5 years
Energy Storage	1 MW	5 years
Hydrogen PTC	All	10 years
Tech-Neutral	Similar to PTC/ITC	Similar to PTC/ITC

Safe Harbor

- The Act does not alter the guidance issued by the IRS regarding the beginning of construction. The notices issued by the IRS regarding the physical work test, 5% safe harbor, and other applicable rules would remain in place unless and until modified by the IRS.
- Currently, safe harbor has been extended for projects for which construction began in 2016 through 2020:
 - For projects for which construction began under the Physical Work Test or the Five Percent Safe Harbor in 2016, 2017, 2018, or 2019, the Continuity Safe Harbor is satisfied if the project is placed in service by the end of a calendar year that is no more than 6 calendar years after the calendar year during which construction began; and
 - For projects for which construction began under the Physical Work Test or the Five Percent Safe Harbor in calendar year 2020, the Continuity Safe Harbor is satisfied if the project is placed in service by the end of the calendar year that is no more than 5 calendar years after the calendar year during which construction began.

Bonus: Domestic Content

- Bonus: From 2023 on, projects that meet the domestic content requirements will receive a **10% bonus** higher value PTC (e.g., 2.75 cents per kilowatt hour, rather than 2.5 cents if labor requirements are met) or **ITC (40% rather than 30%)**.
- Steel and iron requirement: Applied in a manner consistent with section 661.5 of title 49, Code of Federal Regulations, which requires **100% of steel or iron structural products used in construction of a project to be produced in the U.S.**
- Manufactured product requirement: Phased Domestic Content Requirement—**If construction began before January 1, 2024, 100 percent**; if construction began in calendar year 2024, 90 percent; if construction began in calendar year 2025, 85 percent; and if construction began after December 31, 2025, 0 percent.
- Treasury is given authority to provide exceptions (i.e., waivers) to the domestic content requirements if the inclusion of domestic products increases the cost of the project by more than 25 percent or the relevant manufactured projects are not produced in the U.S. in sufficient and available quantities or of a satisfactory quality.
 - Waivers are only available for purposes of meeting direct pay but not receiving the bonus.

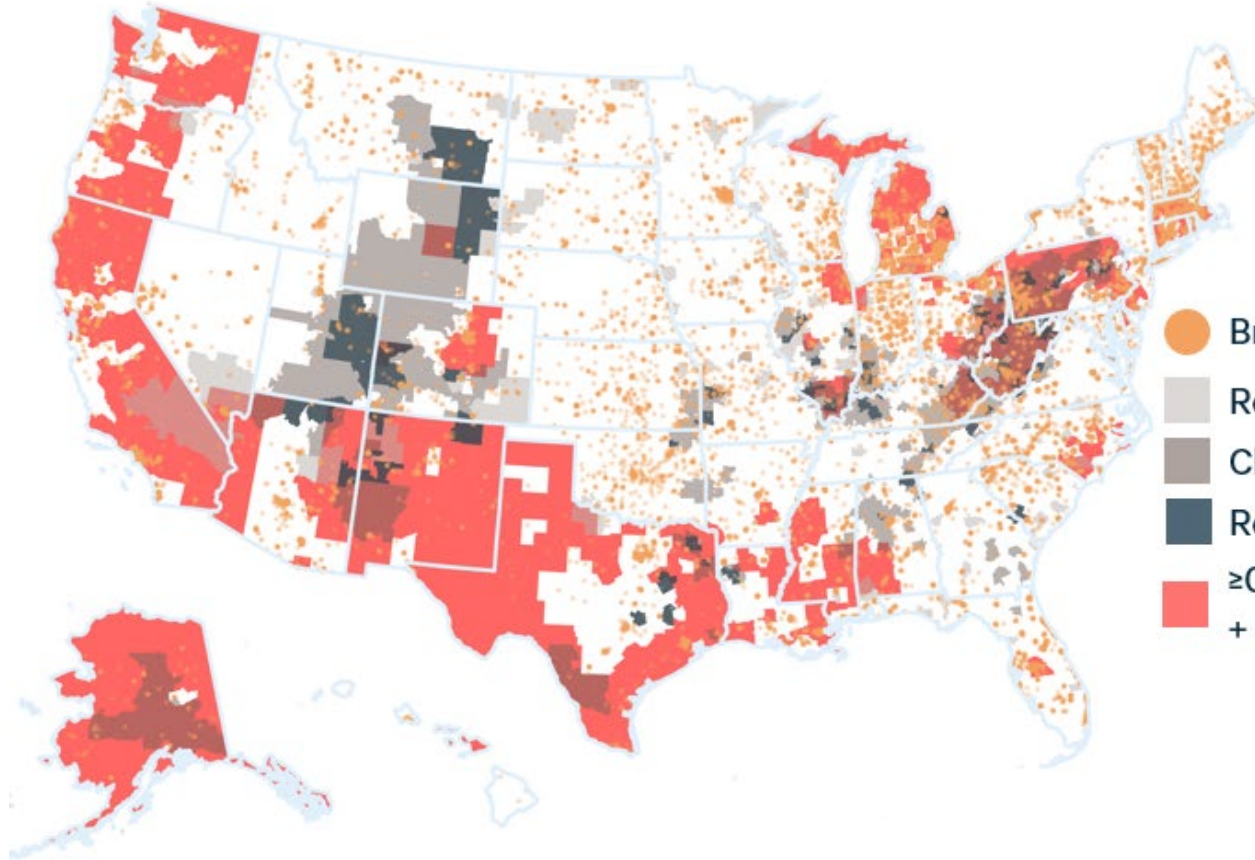
Manufactured Product Adjusted Percentage

- Ensures that not less than the adjusted percentage of the total cost of all components and subcomponents of a manufactured product (e.g., solar panels or batteries) used in a project are mined, produced, or manufactured in the U.S.
 - Appears that manufactured products with steel and iron that are not structural construction materials will be treated as manufactured products for purposes of calculated domestic content percentage.
 - If a solar power plant is determined to be the end product, then 40% of the total cost of all components must be U.S. origin, excluding components made primarily of iron or steel. A component is considered U.S. origin if it is manufactured in the United States regardless of the origin of its subcomponents. The manufacturing process must alter the form or function of subcomponents in a manner adding value and transform the subcomponents so they represent a new end product beyond mere assembly. Treasury will need to provide guidance on what qualifies as the end product, component, and subcomponent and qualifying U.S. manufacturing processes for specific components.
- For all projects except offshore wind, the adjusted percentage starts at **40% before 2025**. After Dec. 31, 2024, and before Jan. 1, 2026, 45%; after Dec. 31, 2025, and before Jan. 1, 2027, 50%; and after Dec. 31, 2026, 55%.

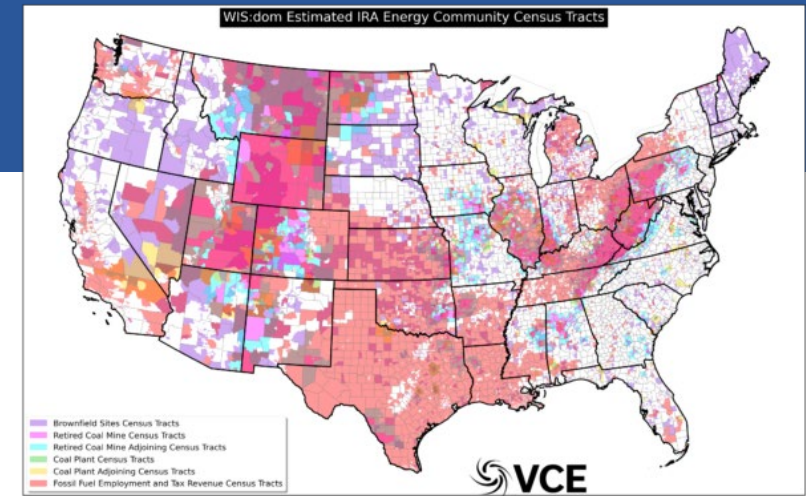
Bonus: Energy Community

- 10% bonus for electricity produced in energy communities.
- An energy community is defined as a:
 - Brownfield site;
 - A metropolitan statistical area/non-metropolitan statistical area which has (or, at any time after December 31, 2009, had) 0.17 percent or greater direct employment or 25 percent or greater local tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas, and has an unemployment rate at or above the national average unemployment rate for the previous year; or
 - A census tract or any immediately adjacent census tract in which, after December 31, 1999, a coal mine has closed, or, after December 31, 2009, a coal-fired electric generating unit has been retired.

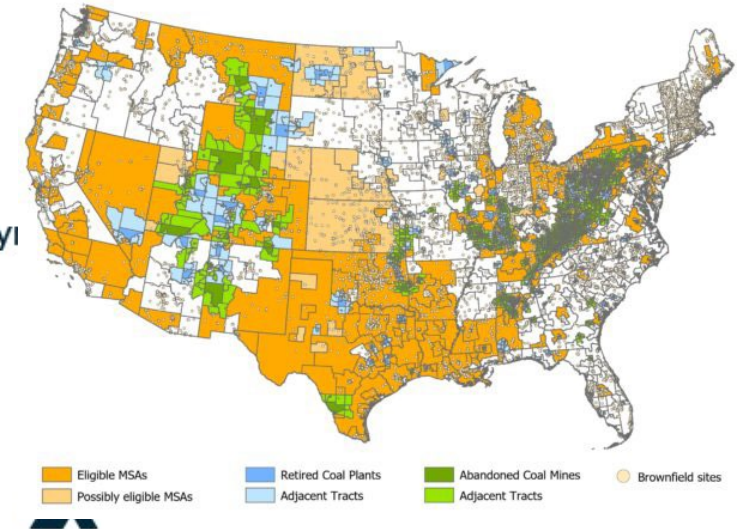
Energy Community: Varying Interpretations



- Brownfield
- Retired coal plant
- Closed coal mine
- Retired plant + closed mine
- $\geq 0.17\%$ fossil fuel employment + higher-than-average unemployment



Inflation Reduction Act Energy Communities

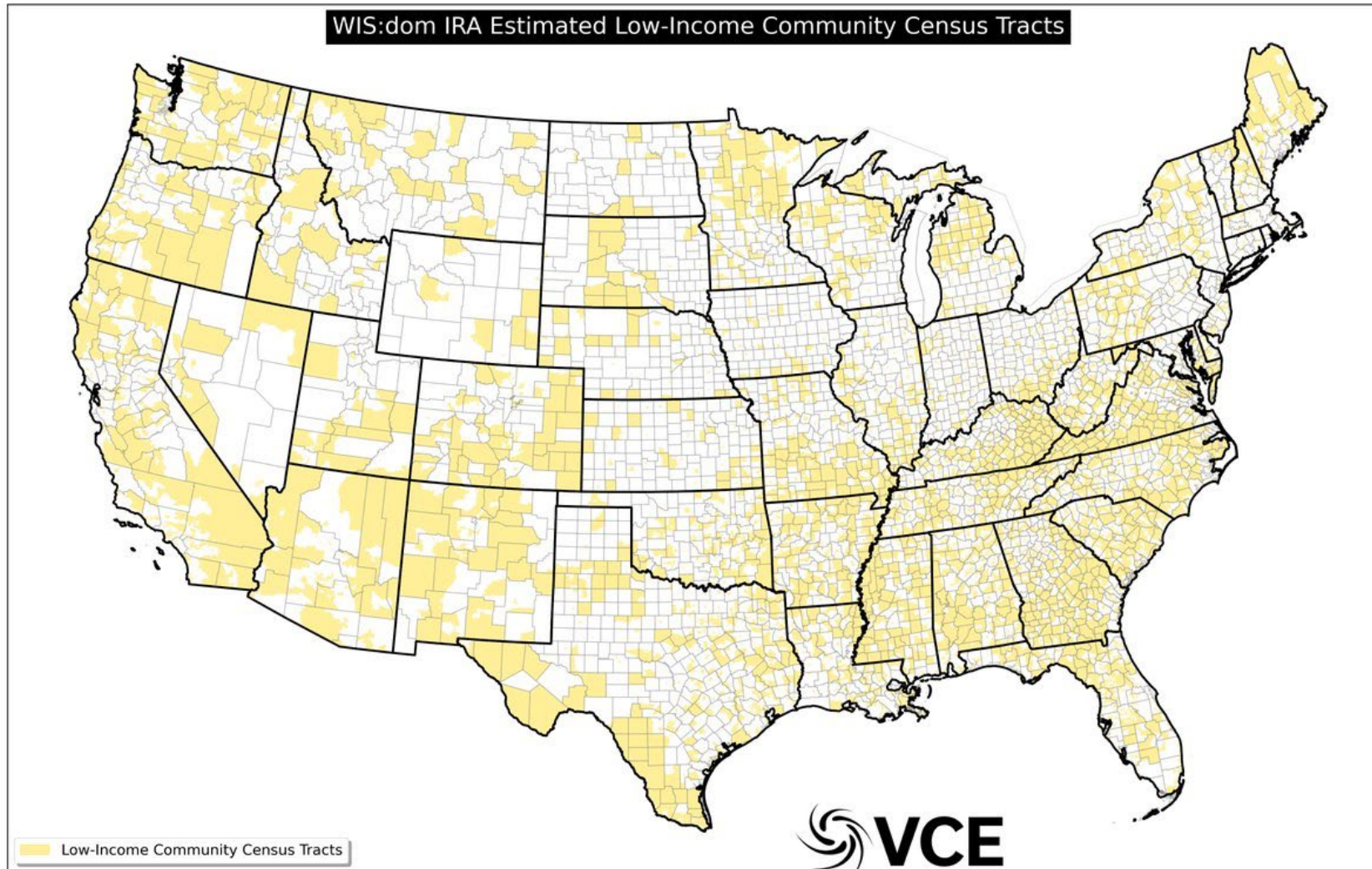


Source: <https://www.resources.org/common-resources/what-is-an-energy-community/> and <https://pv-magazine-usa.com/2022/10/20/inside-the-ira-what-is-an-energy-community/>

Bonus: Low-Income Communities

- Bonus for wind, solar, and storage combined with solar projects of less than 5 MWs:
 - 10 percent adder if located in a low-income community or on Indian land; or
 - 20 percent adder if energy generation is part of a qualified low-income residential building project or a qualified low-income economic benefit project.
- The amount that may be allocated is limited to an annual capacity limitation of 1.8 gigawatts for each of calendar year 2023 and 2024 (zero for calendar years thereafter).
 - Any unused allocations are carried over, increasing the capacity limit for the following year. Any excess capacity limitation after 2024 is carried over to the annual capacity limitation under section 48D, the clean electricity investment tax credit.
- Facilities receiving an allocation would be required to have the facility placed in service within four years.
- This section is not effective until January 1, 2023; the Secretary has 180 days to establish implementing procedures after enactment of the IRA.

Low-Income Community



Source: <https://pbs.twimg.com/media/Fd6a6Q1XoAA0WTu.jpg>

Direct Pay

- Allows a limited set of organizations to treat certain tax credit amounts as payments of tax. Payments in excess of tax liability can be refunded to these organizations, allowing the credits to be received as “direct pay.”
- Direct pay is only available for an “applicable entity,” which generally only includes a tax-exempt entity, a State or local government, the Tennessee Valley Authority, an Indian Tribal Government, any Alaska Native Corporation, or any corporation operating on a cooperative basis which is engaged in furnishing electric energy to persons in rural areas (Rural Electric Cooperatives).
- Direct pay election is made on a facility-by-facility basis and generally must be made in the year the facility is placed in service and applies for the entire credit period relating to the facility.
- Ability to elect direct pay for certain credits is tied to achievement of the domestic content requirements.
- Beginning in fiscal year 2023 and each fiscal year thereafter, the portion of any payment made to a taxpayer pursuant to an election under direct pay shall be *increased by 6.0445 percent*.

Transferability

- Under current law, clean energy tax credits generally are not transferable, subject to a narrow exception for the investment tax credit.
- The IRA expands transferability to the ITC, the PTC, the technology neutral ITC (48D) and PTC (48Y), the clean hydrogen credit, and the advanced manufacturing credit PTC.
- For taxable years beginning after December 31, 2022, taxpayers may elect to transfer certain credits to an unrelated taxpayer, including to multiple taxpayers.
- Does not allow for the transfer of tax losses that can be generated by accelerated depreciation deductions available for most renewable projects.
- Compensation received by the transferor in connection with the transfer would not be taxable and no deduction would be permitted to be taken by the transferee with respect to amounts paid.
- In the case of partnerships and S corporations, the election would be made at the entity level rather than the owner level, but the tax-exempt treatment of income from the sale of the tax credits would pass-through to owners.
- A tax-exempt entity may not transfer credits.
- The election to transfer the credits is made on a facility-by-facility basis, and for credits available over an extended period, for each year in which the credit is available.
- Credits that could be transferred would also be given extended carryback and carryforward periods. The carryback period for these credits would be extended from 1 to 3 years, and the carryforward period extended from 20 to 22 years.

Advanced Manufacturing Production Tax Credit: 45X

- Creates a new production tax credit that could be claimed for the domestic production and sale of qualifying clean energy component, such as solar, wind, and battery components.
- The credits are provided for eligible components produced and sold before Jan. 1, 2030. For components sold after that date, the credit is reduced by 25% each year, and is unavailable for components sold in 2033 and beyond.
- This phaseout does not apply to the credits for critical minerals.
- Appears to allow a taxpayer to sell components to a related person and have them be deemed to have been made to an unrelated person.
- The credit cannot be claimed for components produced at a facility for which a credit was claimed under Section 48C.

Advanced Manufacturing PTC

Solar/Inverters

Thin PV cells	4c/watt
Inverters	applicable amount with respect to such inverter
Crystalline PV cell	4c/watt
PV wafer	\$12 per square meter
Solar grade polysilicon	\$3/kg
Solar module assembly	7c/watt
Torque tube and longitudinal purlin	87c/kg
Structural fastener	\$2.28/kg
Central inverter	2.5c/watt
Utility inverter	1.5c/watt
Commercial inverter	2c/watt
Residential inverter	6.5c/watt
Microinverter	11c/watt

Wind

Blade	2c/watt
Nacelle assembly	5c/watt
Tower	3c/watt
Offshore wind foundation	Fixed 2c/watt and floating 4c/watt
Offshore wind vessel	10% of sales price

Batteries/Minerals

Battery Modules	\$10 per kWh for each
Battery Cells	\$35 per kWh for each
Critical Mineral	10% of total cost of production

Summary

- IRA has a new set of tax credits available for multiple technologies including solar, solar+storage, and standalone storage
- Treasury guidance not yet finalized
- Domestic content bonus will be hard to achieve given current limited US suppliers
- Area bonuses (low-income, qualified energy community, etc.) are tied to the where that project is located
- Basis of project cost can include ancillary equipment
 - Consider addition of e.g., EV charging infrastructure, etc. as qualified energy property

Case Studies

Simplified Example Considering the IRA Impact

- Hypothetical system:
 - 1.25 MWdc roof mount solar array
 - Cost of \$2.06M (\$1.65/W)
 - Initial year energy production of 1,625,000 kWh (1,300 kWh/kWdc)
- Grid power costs of \$0.110/kWh increasing at 2.5% per year
 - Solar offsets 85% of these costs (\$0.094/kWh)
- Running with pre-IRA 26% ITC through post-IRA 30% through 60%

Example: Effect of ITC

	Example with Pre-IRA 26%	Example with Post-IRA 30% ITC	Example with Post-IRA 40% ITC	Example with Post-IRA 50% ITC	Example with Post-IRA 60% ITC
Annual kWh	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Average Cost per kWh	\$0.1100	\$0.1100	\$0.1100	\$0.1100	\$0.1100
Solar Array Type	Roof Mount	Roof Mount	Roof Mount	Roof Mount	Roof Mount
Solar Size (kWdc)	1,250	1,250	1,250	1,250	1,250
Solar Size (kWac)	1,000	1,000	1,000	1,000	1,000
Initial Year Energy	1,625,000	1,625,000	1,625,000	1,625,000	1,625,000
Solar % of Consumption	33%	33%	33%	33%	33%
Total Cost	\$2,062,500	\$2,062,500	\$2,062,500	\$2,062,500	\$2,062,500
Total Cost per W	\$1.650	\$1.650	\$1.650	\$1.650	\$1.650
Investment Tax Credit (ITC) %	26%	30%	40%	50%	60%
ITC Amount	\$536,250	\$618,750	\$825,000	\$1,031,250	\$1,237,500
Net Cost After ITC	\$1,526,250	\$1,443,750	\$1,237,500	\$1,031,250	\$825,000
Returns					
Initial Year Energy Cost Savings	\$151,938	\$151,938	\$151,938	\$151,938	\$151,938
Simple Payback (Years)	10.0	9.5	8.1	6.8	5.4
25-Year IRR	10.3%	10.8%	12.4%	14.3%	16.6%

- Based on example project roof mount solar project with yields typical for Midwest states
- Grid power costs increasing at 2.5% per year, solar offsets 85% of the grid power costs
- Return calculations assume savings of the average cost per kWh, does not factor in potential reduction in savings associated with tariffs, etc.
- Return calculations look at upfront cost, receipt of ITC, and energy cost savings only; does not include effect of accelerated depreciation
- Does not include operations & maintenance costs, etc.

Example: Domestic Content Example

	Example with Post-IRA 30% ITC	Example with Domestic Content and Higher Cost
Annual kWh	5,000,000	5,000,000
Average Cost per kWh	\$0.1100	\$0.1100
Solar Array Type	Roof Mount	Roof Mount
Solar Size (kWdc)	1,250	1,250
Solar Size (kWac)	1,000	1,000
Initial Year Energy	1,625,000	1,625,000
Solar % of Consumption	33%	33%
Total Cost	\$2,062,500	\$2,268,750
Total Cost per W	\$1.650	\$1.815
Investment Tax Credit (ITC) %	30%	40%
ITC Amount	\$618,750	\$907,500
Net Cost After ITC	\$1,443,750	\$1,361,250
Returns		
Initial Year Energy Cost Savings	\$151,938	\$151,938
Simple Payback (Years)	9.5	9.0
25-Year IRR	10.8%	11.3%

- Domestic content with 10% higher cost
- IRR and simple payback better due to higher ITC

- Based on example project roof mount solar project with yields typical for Midwest states
- Grid power costs increasing at 2.5% per year, solar offsets 85% of the grid power costs
- Return calculations assume savings of the average cost per kWh, does not factor in potential reduction in savings associated with tariffs, etc.
- Return calculations look at upfront cost, receipt of ITC, and energy cost savings only; does not include effect of accelerated depreciation
- Does not include operations & maintenance costs, etc.

Model Details

				Example with Pre-IRA 26%	Example with Post-IRA 30% ITC	Example with Post-IRA 40% ITC	Example with Post-IRA 50% ITC	Example with Post-IRA 60% ITC
Year	Energy Production (kWh)	Grid Power Cost Savings (85% of grid power costs, Escalating at 2.5%)	Grid Power Cost Savings	Mini Proforma with 26% ITC	Mini Proforma with 30% ITC	Mini Proforma with 40% ITC	Mini Proforma with 50% ITC	Mini Proforma with 60% ITC
IRR				10.3%	10.8%	12.4%	14.3%	16.6%
0				-\$2,062,500	-\$2,062,500	-\$2,062,500	-\$2,062,500	-\$2,062,500
1	1,625,000	\$0.094	\$151,938	\$688,188	\$770,688	\$976,938	\$1,183,188	\$1,389,438
2	1,616,875	\$0.096	\$154,957	\$154,957	\$154,957	\$154,957	\$154,957	\$154,957
3	1,608,791	\$0.098	\$158,037	\$158,037	\$158,037	\$158,037	\$158,037	\$158,037
4	1,600,747	\$0.101	\$161,178	\$161,178	\$161,178	\$161,178	\$161,178	\$161,178
5	1,592,743	\$0.103	\$164,381	\$164,381	\$164,381	\$164,381	\$164,381	\$164,381
6	1,584,779	\$0.106	\$167,649	\$167,649	\$167,649	\$167,649	\$167,649	\$167,649
7	1,576,855	\$0.108	\$170,981	\$170,981	\$170,981	\$170,981	\$170,981	\$170,981
8	1,568,971	\$0.111	\$174,379	\$174,379	\$174,379	\$174,379	\$174,379	\$174,379
9	1,561,126	\$0.114	\$177,845	\$177,845	\$177,845	\$177,845	\$177,845	\$177,845
10	1,553,321	\$0.117	\$181,379	\$181,379	\$181,379	\$181,379	\$181,379	\$181,379
11	1,545,554	\$0.120	\$184,984	\$184,984	\$184,984	\$184,984	\$184,984	\$184,984
12	1,537,826	\$0.123	\$188,661	\$188,661	\$188,661	\$188,661	\$188,661	\$188,661
13	1,530,137	\$0.126	\$192,410	\$192,410	\$192,410	\$192,410	\$192,410	\$192,410
14	1,522,486	\$0.129	\$196,234	\$196,234	\$196,234	\$196,234	\$196,234	\$196,234
15	1,514,874	\$0.132	\$200,135	\$200,135	\$200,135	\$200,135	\$200,135	\$200,135
16	1,507,300	\$0.135	\$204,112	\$204,112	\$204,112	\$204,112	\$204,112	\$204,112
17	1,499,763	\$0.139	\$208,169	\$208,169	\$208,169	\$208,169	\$208,169	\$208,169
18	1,492,264	\$0.142	\$212,306	\$212,306	\$212,306	\$212,306	\$212,306	\$212,306
19	1,484,803	\$0.146	\$216,526	\$216,526	\$216,526	\$216,526	\$216,526	\$216,526
20	1,477,379	\$0.149	\$220,829	\$220,829	\$220,829	\$220,829	\$220,829	\$220,829
21	1,469,992	\$0.153	\$225,218	\$225,218	\$225,218	\$225,218	\$225,218	\$225,218
22	1,462,642	\$0.157	\$229,695	\$229,695	\$229,695	\$229,695	\$229,695	\$229,695
23	1,455,329	\$0.161	\$234,260	\$234,260	\$234,260	\$234,260	\$234,260	\$234,260
24	1,448,052	\$0.165	\$238,916	\$238,916	\$238,916	\$238,916	\$238,916	\$238,916
25	1,440,812	\$0.169	\$243,664	\$243,664	\$243,664	\$243,664	\$243,664	\$243,664

Questions

How we can help you



- Enerlogics and Centurion are part of the solution
- We can help you understand your needs by baselining your current electricity usage and costs before evaluating options
- We can deploy technologies such as solar, energy storage, and related energy projects can reduce your operating costs, stabilize your energy costs, and achieve sustainability targets while leveraging significant tax credits



Resources

- American Clean Power: <https://cleanpower.org/>
- SEIA: <https://www.seia.org/research-resources/impact-inflation-reduction-act>
- Get started with Enerlogics: <https://enerlogics.com/services/leap/>

Want to know more?



Scott Ameduri, President
Enerlogics Networks, Inc.
Office: 216.362.3000 x303
Mobile: 602.361.1395
sameduri@enerlogics.com



Kraig S. Kutschbach
Centurion Technologies, LLC
Office: 419.425.0324
Mobile: 419.722.7782
kkutch@centuriontechnologies.com