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Inflation Reduction Act Green Energy Tax Credits

Background for Tax & Valuation Professionals

July 24, 2023

Introduction/Preview

Presentation will include:

1. **Brief introduction and summary of the IRA**
2. **Details of Green Energy Tax Credits**
3. **Practical information about stacking tax credits**
4. **Industry-specific impacts of the IRA's Green Energy Tax Credits**

Inflation Reduction Act

Introduction & Summary

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History of the Inflation Reduction Act

2020 Election

Build Back Better
Biden’s 3-Part Agenda
American Rescue Plan
American Jobs Plan
American Family Plan

March 2021

American Rescue Act Signed into Law
$1.9 trillion COVID reief

November 2021

Infrastructure & Jobs Act Passed and Signed
($1.2 trillion Bipartisan bill containing parts of American Jobs Plan)

November 2021

House Passes Build Back Better Act
(Revised $1.75 trillion spending package with parts of the American Family Plan)

December 2021

Build Back Better Act Stalls in the Senate
(Senator Manchin pulls out of negotiations on compromise bill)

Spring & Summer 2022

Start & Stop Negotiations in the Senate

July 2022

Deal on Inflation Reduction Act
(Senators Manchin & Schumer announce on July 27)

August 2022

IRA Passes in Both House & Senate

President signs on 8/16

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Top-Line Summary: Revenue & Savings

15% Corporate Minimum Tax	$222 billion
Medicare Drug Pricing Reforms	$265 billion
Increased Tax Enforcement	$124 billion (net)
1% Excise Tax on Stock Buybacks	$74 billion
Loss Limitation Extension	$52 billion

TOTAL REVENUE/SAVINGS: $737 billion

Topline Summary: Spending & Tax Credits

Extension of Expanded ACA Subsidies	$64 billion
Domestic Energy & Climate Change	$369 billion
Drought Relief	$4 billion

TOTAL SPENDING/TAX CREDITS: $437 BILLION

Topline Summary: Total Numbers

TOTAL REVENUE/SAVINGS: $737 billion

TOTAL SPENDING/TAX CREDITS: $437 billion

TOTAL DEFICIT REDUCTION:~**$300 billion** ($737B - $437B)

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Green Energy Tax Credits

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Green Energy Tax Credits: Summary

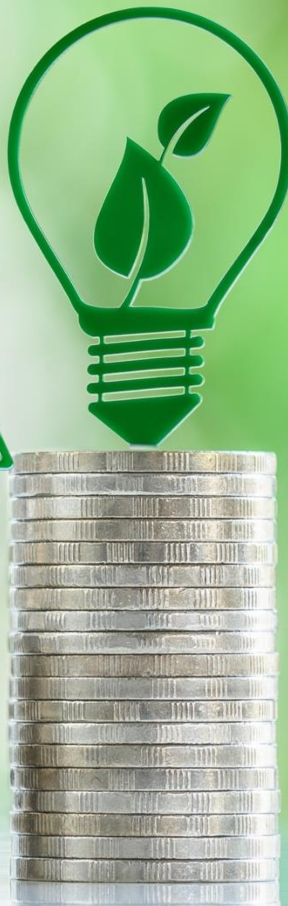
The green energy tax provisions fall into three main categories:

1. **Structural changes to renewable energy tax credit system**
    - **Two-tiered credits**
    - **Incremental additional credits**
    - **New ways to monetize credits**
2. **Changes to existing tax credits**
3. **New tax credits**

Two-Tiered Credit Structure

For most of the green energy tax credits, taxpayers can claim:

- **“Base” credit** – 20% of maximum credit
- **“Bonus” credit** – the other 80% of the maximum credit for meeting prevailing wage and apprenticeship requirements



Prevailing Wage Requirement

Companies must ensure that laborers and mechanics employed on the project – including contractors and subcontractors – are paid prevailing wages in the project locality.

Applies during construction AND any subsequent repairs or maintenance.

Note: Prevailing wages are set by DoL

Apprenticeship Requirements

Companies must ensure a certain percentage of total labor hours on project are performed by qualified apprentices.

Required percentages:

- 10% for projects that began construction before 2023
- 12.5% for those that begin in 2023 and
- 15% for projects beginning thereafter

Any contractor or subcontractor with four or more employees on an applicable construction project must employ at least one qualified apprentice.

New Structure: Impact on Assessments

New requirements are meant to create higher paying jobs in the renewable energy industry.

Other Potential Impacts:

- Increased construction and operational costs
- Contracting complexity

Bottom Line: New structure will require careful planning and negotiations, with special attention to risk allocation and compliance issues.

Incremental Credits

Taxpayers can qualify for incremental credits added on top ”base” and “bonus” credits.

Credits can be added when projects meet any of the following:

- **Domestic Content Requirements**
- **“Energy Communities”**
- **Low Income Communities**

Domestic Content Requirements

Companies can qualify for a **10% increase** to their “base” and “bonus” credits if steel, iron, or other manufactured products that comprise the project are produced in the U.S.

A product is considered “manufactured in the U.S.” if a certain % of the total cost of components can be attributed to products mined, produced, or manufactured in the U.S.

In most cases: 40% (requirement increases over time)

Energy Communities

Projects located in “energy communities” can qualify for **10% increase** to the “base” and “bonus” credits.

Three types of communities meet the requirements:

- Brownfield communities
- Communities that have historically relied on fossil fuel economy and have higher than average unemployment
- Census tracts where a coal mine closed after 1999 or a coal-fired electric generating unit was retired after 2009

Low Income Communities

A qualified solar or wind facility can receive:

- <u>**10% credit increase**</u> if it located in a “low-income” area or on “Indian land,”

OR

- <u>**20% credit increase**</u> if it is part of a qualified low-income residential building or economic benefit project.

Definition for this credit is limiting – low output and location requirements.

Note on Stacking Credits

Taxpayers can qualify for more than one green energy credit and incremental bonus.

IRA allows most credits to be stacked to let companies further decrease tax liability.

Will discuss later on.

New Ways to Monetize Tax Credits

IRA provides two new options for monetizing green energy tax credits:

- **Direct Pay Option**
- **Transferability or Third-Party Sales Option**

Direct Pay Option

Applicable entities can claim the equivalent amount of a tax credit in the form of a direct payment from the IRS.

For Direct Pay, “applicable entities” are those exempt from income tax, including:

- **State/local/tribal governments**
- **Publicly owned utilities**
- **Rural electric cooperatives and**
- **Nonprofits**

Direct Pay is available to taxable entities for three tax credits (through 2032):

- **Clean hydrogen production**
- **Carbon capture**
- **Advanced manufacturing**

Direct Pay Option (cont'd)

After 2024, new projects must either satisfy the domestic content requirement or have a maximum net output of less than 1 megawatt to be claim 100% of the direct payment.

Failure to adhere = 10% reduction for projects starting in 2024 and 15% in 2025.

From 2026 onward, entities failing to meet these requirements will forfeit the entire credit.

Transferability/Third Party Sales Option

For-profit taxpayers can monetize their tax credits by transferring them to other taxpayers for cash.

Option is available for almost all clean energy credits in the IRA.

Monetization Option: Impact on Valuation

Third-party sales option lets developers monetize their credits without having to secure tax equity investments.

Both options offer greater certainty for companies considering renewable energy projects.

Impact on valuations will ultimately depend on how markets price in these options and how companies allocate risk of future reduction or disallowance of tax credits.

Changes to Existing Credits

IRA makes changes to three existing clean energy tax credits:

- **Production Tax Credit (PTC)**
- **Investment Tax Credit (PTC)**
- **45Q tax credit for carbon capture, utilization, and sequestration**

Production Tax Credit

Before the IRA:

- Taxpayers could claim for 10-year period after project placed into service
- Credits for specified amounts per kilowatt hour of electricity generated.
- The PTC was unavailable for projects started after 2021

Production Tax Credit (Cont'd)

IRA Changes:

- Applied structural changes – Base/Bonus; Transferability/Direct Pay
- Retroactively extended through the end of 2024.
- Maintains the existing PTC of **1.5 cents per kilowatt hour (kWh)**

Note: The PTC is indexed to inflation, which means the full credit will be 2.6 cents per kWh for 2023.

Production Tax Credit

Before the IRA:

- Taxpayers claimed up to 30% of cost basis for projects that began construction before 2020
- Phased down to 26% for projects started from 2020 through 2022; 22% for projects started in 2022
- ITC was set to expire for most projects beginning construction after 2023 or placed into service after 2025

Production Tax Credit (Cont'd)

IRA Changes:

- Applied structural changes – Base/Bonus; Transferability/Direct Pay
- Extended – full 30% credit through the end of 2024
- Expanded the list of technologies eligible for the credit

Expiration/Replacement of PTC & ITC

Both the PTC and ITC are scheduled to expire or phase out at the end of 2024.

Both will effectively be replaced by new “technology neutral” clean energy credits.

PTC & ITC: Impact on Valuations

Extension of PTC/ITC will allow companies to reassess projects that were impacted to the impending expirations and phase-downs.

But modifications do create additional burdens – particularly the added requirements to get the full credit amount.

Changes could further complicate investments.

Full impact remains to be seen.

Section 45Q Credit for Carbon Oxide Sequestration

Before the IRA:

- Companies owning equipment used to capture qualified carbon oxide could claim up to $50 per metric ton captured for 12 years after the facility was placed into service

- Credits were set to expire for projects put into service before the end of 2025

Section 45Q Credit for Carbon Oxide Sequestration

IRA Changes:

- Applied structural changes – Base/Bonus; Transferability/Direct Pay

- Increased credit amounts:
  - $85 per metric ton - $17 base/$85 maximum – if captured CO_2 is sequestered
  - $60 per metric ton - $12 base/$60 maximum – if injected for enhanced oil recovery

- Bonus for "direct air capture" facilities:
  - $180 per metric ton - $36 base/$180 max – if CO_2 is sequestered
  - $130 per metric ton - $26/$130 max – if injected for enhanced oil recovery

- Reduced threshold of CO_2 captured to be eligible for the credit.

New Green Energy Tax Credits

IRA's New Green Energy Tax Credits:

- **Electricity Production**
- **Clean Transportation Fuels**
- **Clean Vehicles**
- **Manufacturing**

Clean Electricity Production Credits

For the production of green electricity, the IRA created:

- **“Technology Neutral” Credits to replace PTC and ITC**
- **Zero Emissions Nuclear Power Production Credit**

Technology Neutral Credits

Two “technology neutral” credits will effectively replace the PTC and ITC:

- Clean Electricity Production Credit (CEPTC)
- Clean Electricity Investment Credit (CEITC)

CEPTC will be the same two-tier, inflation-adjusted credit for electricity produced (for tax year 2023: 0.7 cent/kWh base/2.8 cent/kWh max)

CEITC will provide the same two-tiered credit – 6% base/30% max – toward the cost of a qualified facility.

Technology Neutral Credits (cont'd)

To qualify for either credit, the relevant facility must:

- Be used to generate electricity AND
- Have net zero greenhouse gas emissions

Both credits start phasing down for projects beginning construction:

- After 2032 OR
- Calendar year in which Treasury determines greenhouse gas emissions from electricity production are less than 25% of 2022 emission levels.

Tech Neutral Credits: Impact on Valuation

Conversion to new credits will likely have a significant impact on the economic value of many energy companies.

Companies will have to weigh cost of losing credits vs. reduction CO_2 emissions to zero.

Increased costs for production will likely also lead to increased energy prices for consumers and other industries.

Zero Emissions Nuclear Power Production Credit

Tax credit for electricity produced at qualified nuclear power plants.

Eligible recipients: Power plants in service at the time the IRA was enacted.

Credit amount: Two-tiered credit – 0.3 cents base/1.5 cents max per kWh, adjusted for inflation.

Clean Transportation Fuel Credits

IRA extends existing tax credits for biodiesel, renewable diesel, and alternative fuels through 2024.

Creates new fuel-related credits:

- **Clean Fuel Production Credit**
- **Clean Hydrogen Production Credit**
- **Sustainable Aviation Fuel Credit**

Clean Fuel Production Credit

Tax credit for the **domestic production of clean transportation fuels**, including sustainable aviation fuels.

Clean fuels = less than 50 kilograms of carbon dioxide equivalent per one million BTUs of energy produced.

Credit amounts:

- 20 cent base/$1 max per gallon produced for non-aviation fuel.
- 35 cent base/$1.75 max per gallon for aviation fuel.

Clean Hydrogen Production Credit

Tax credit for the **production of clean hydrogen** at qualified facilities.

Replaces the existing tax credit for liquified hydrogen, which expires at the end of this year.

Credit amount: 60 cent base/$3.00 max per kilogram produced multiplied by applicable percentage (range: 20% to 100%) depending on the project's lifecycle greenhouse gas emission rate.

Sustainable Aviation Fuel Credit

Tax credit for the **sale or use of sustainable aviation fuel (SAF)** that achieves a lifecycle greenhouse gas emission reduction of at least 50% vs. petroleum-based jet fuel.

Credit Amount: $1.25/gallon of SAF, with potential bonus credit of up to 50 cents/gallon

Clean Vehicle Credits

IRA includes several tax provisions meant to incentivize and support the deployment of more clean vehicles.

Those aimed at businesses include:

- Alternative Fuel Vehicle Refueling Property Credit
- Qualified Commercial Clean Vehicles Credit

Alternative Fuel Vehicle Refueling Property Credit

Tax credit for **alternative fuel vehicle refueling and charging property in low-income and rural areas.**

IRA extends existing credit through 2032 and modifies it to include different types of property.

Credit amount: 6% base/30% max of the cost basis, limited to $100,000 per item of property claimed.

Clean Commercial Vehicles Credit

Tax credit for businesses that purchase qualified clean commercial vehicles.

The amount of the credit is the lesser of:

- 15% of vehicle purchase cost – 30% for vehicles w/o internal combustion engines OR
- The amount the purchase price exceeds that of a comparable internal combustion vehicle.

Capped at $7,500 for vehicles weighing less than 14,000 lbs and $40,000 for all others.

Green Technology Manufacturing Credits

IRA includes several provisions boosting domestic manufacturing of clean energy tech.

Tax incentives include:

- Extension and expansion of the Advanced Energy Product Credit
- A new Advanced Manufacturing Production Credit

Advanced Energy Project Credit

Allocated investment credit: $10 billion - $4 billion for “energy communities” – allocated by Treasury to eligible applicants.

To be eligible, projects must re-equip, expand, or establish:

- A manufacturing facility for the production or recycling of clean energy equipment and vehicles
- A manufacturing facility with equipment designed to reduce greenhouse gas emissions by at least 20 percent; OR
- An industrial facility for the processing, refining, or recycling of critical materials.

Advanced Manufacturing Production Credit

Production tax credit for domestic manufacturing of components for wind energy, inverters, battery components, and critical minerals.

Base credit amount varies by the type of technology being manufactured.

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Tax Credits in Practice – Stacking

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Credit Stacking Basics

General Rule: Taxpayers eligible for both a production and investment tax credit can only claim one.

They can select their production or investment credit and then stack the incremental benefits – assuming they qualify – on top of them.

Stacking Demonstration: Hypothetical Solar Array

Hypothetical: We built a qualifying solar array. Construction cost: $1 million

"Low Income Community" (up to 20%)	$200,000
Energy Community (10%)	$100,000
Domestic Content Requirements (Add 10%)	$100,000
ITC (30% of Production Cost)	$300,000

Total Credit:

$400,000

(40% of project cost)

Stacking: ITC vs. PTC

Hypothetical: We built a qualifying solar array.

"Low Income Community" (up to 20%)	$20,000
Domestic Content Requirements (Add 10%)	$10,000
Energy Community (10%)	$10,000
PTC (per kWh credit)	$100,000

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Industry Impact

Industry-Specific Impacts

Impact of the IRA will be felt throughout the economy.

Today, we'll look at these industries:

- **Oil/Gas**
- **Power/Utilities**
- **Green Energy Tech**
- **Airlines**

IRA Impact: Oil & Gas

Natural Gas: Potential for lowered demand from power sector due to increased competition from alternative energy sources

Both Oil & Gas: Increased production/demand for cleaner fuels could also lower demand for fossil fuels generally.

In the near term, effects likely limited to domestic markets. Demand for fossil fuels is still increasing overseas.

IRA Impact: Power/Utilities

IRA will likely impact Power and Utilities in two major ways:

- Increased demand from electrification
- New energy supply and infrastructure from IRA clean electricity investments.

A new wave of demand could increase revenue, but added pressure could threaten reliability of the grids.

Aging grids could also suffer with more diverse and intermittent sources of electricity.

IRA Impact: Green Energy Tech

IRA is a big win for industry previously plagued by headwinds like aging grids, supply chain issues, trade barriers, and financing difficulties.

Industry leaders expect a dramatic increase in private-sector investment – some evidence it's happening already.

Too soon to tell whether industry can live up to the promise behind the IRA, but there is good reason to think the predicted sea changes could come to pass.

IRA Impact: Airlines

Airline industry was broadly supportive of IRA's incentives for sustainable aviation fuel.

But, both insiders and observers agree that it won't be nearly enough to get the industry to its goal of having zero emissions by 2050.

Direct Pay financing for non-taxable entities – like airports – could also have a significant, but indirect, benefit for the airline industry.

Questions?