



CPAs & BUSINESS ADVISORS

ADOH CLEAN ENERGY SHOP CLASS 101

August 2024

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PRESENTER



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TODAY'S AGENDA

The Climate Economy

Energy Credits & Exempt Organizations

Investment Credits

Bonus Amounts

Production Credits

Monetization

Planning Considerations



THE CLIMATE ECONOMY

THE CLIMATE ECONOMY

- Power Marketing Administration transmission borrowing authority
- Electric grid reliability and resilience research
- **CHIPS for America Fund**
- **CHIPS for America Defense Fund**
- **CHIPS for America International Technology Security and Innovation Fund**

- Formula funding
- Competitive grants
- eMobility
- Increased contract authority

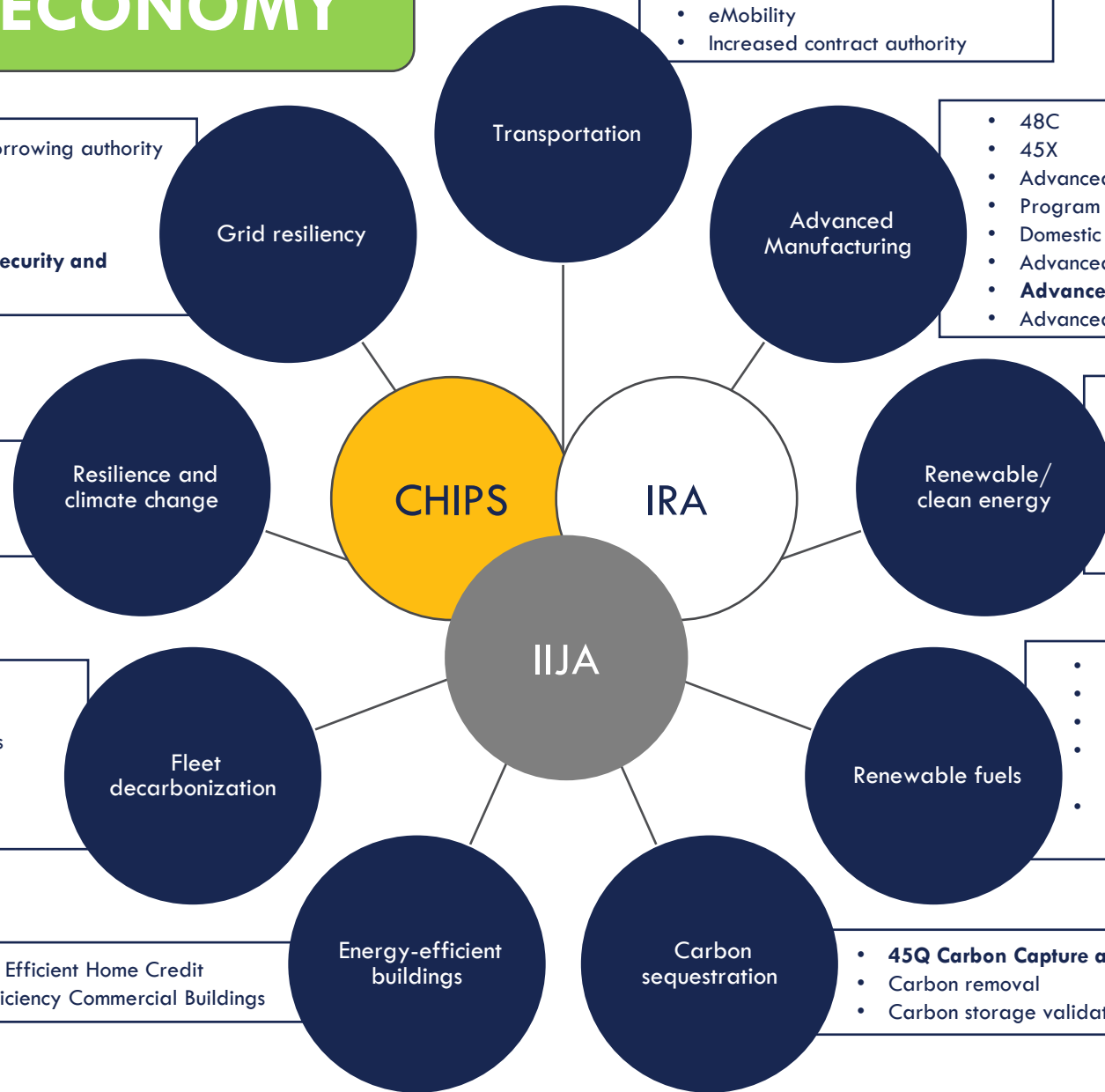
- 48C
- 45X
- Advanced Technology Vehicles Manufacturing Loan Program
- Domestic manufacturing conversion grants
- Advanced Industrial Facilities Deployment Program
- **Advanced Manufacturing Investment Tax Credit**
- Advanced energy manufacturing and recycling grants

- 45 Clean Energy Production Tax Credit (PTC)
- 45U Zero Emission Nuclear Power PTC
- 45V Hydrogen PTC
- 45Y Technology neutral PTC
- 48 Clean Energy Investment Tax Credit (ITC)
- 48E Clean Electricity Investment Credit

- 40A Biodiesel and Alternative Fuels Credit
- 40B Sustainable Aviation Fuel Credit
- 45Z Clean Fuel Production Credit
- Alternative Fuel and Low Emission Aviation Technology Program*
- Incentives for biodiesel, renewable diesel and alternative fuels*

- **45Q Carbon Capture and Sequestration Credit**
- Carbon removal
- Carbon storage validation and testing

- 45L New Energy Efficient Home Credit
- 179D Energy Efficiency Commercial Buildings



- Energy Infrastructure Act of 2021
- Army Corps of Engineers infrastructure priorities

- 30C Alternative Refueling Infrastructure
- 30D Clean Vehicle Credit
- 45W Qualified Clean Commercial Vehicles
- Clean Heavy-Duty Equipment and Vehicle Program
- Clean School Bus Program

COME TOGETHER

Leadership

Finance &
Accounting
Teams

Facility
Engineers &
Design Team

Sustainability
Planning

Accounting, Documentation &
Verification



ENERGY CREDITS

INFLATION REDUCTION ACT OF 2022 – CLEAN ENERGY ROADMAP

Clean electricity & reducing carbon emissions

Extending/modifying existing credits

- 45 – Production tax credit (PTC)
- 48 – Energy credit (ITC)
- 45Q – carbon capture

New credits

- 48 – increase ITC for solar in low-income communities
- 45U – Zero emission nuclear power PTC

Clean fuels

Extending/modifying existing credits

- 40, 40A, 6426, 6427 – biodiesel, alternative fuels
- 40(b)(6) – second generation biofuel

New credits

- 40B/6426/6427 – sustainable aviation fuel blender credit
- 45V – PTC – clean hydrogen

Manufacturing & energy security

Extending/modifying existing credits

- 48C – Advanced energy project credit – new credit allocation
- 179D Energy efficient commercial buildings

New credits

- 45X – Advanced manufacturing PTC

Clean energy incentives for individuals

Extending/modifying existing credits

- 25C – Nonbusiness energy (extend/increase/modify)
- 25D – Residential energy efficient property
- 45L – New energy efficient homes

Clean vehicles

Extending/modifying existing credits

- 30C – Alternative fuel refueling property
- 30D – Clean vehicles credit

New credits

- 25E – Used clean vehicles
- 45W – Commercial vehicles

Clean electricity and transportation

Below new incentives generally effective 1/1/2025

- 45Y – Clean Electricity PTC
- 48E – Clean Electricity ITC
- 45Z – Clean Fuel PTC
- Cost recovery for qualified facilities, property, and storage

Superfund excise tax

New tax

- 4611 – Reinstate hazardous superfund financing rate on crude oil and petroleum products

INFLATION REDUCTION ACT – MONETIZING CREDITS

Section 6417: Direct Pay

- Eligible for 1st 5 years:
 - 45V Clean Hydrogen
 - 45X Advanced Manufacturing Production
 - 45Q Carbon Oxide Sequestration
- Eligible Entities:
 - Tax-exempt
 - State or political subdivision
 - TN Valley Authority
 - Tribal Government
 - Alaska Native corporation
 - Rural Electrical Co-ops
 - Certain Partnerships and S Corporations

Section 6418: Transferability

- Everyone not listed in 6417
- Transfer for Cash, cannot be resold
- Buyer not eligible for direct pay
- Proceeds not includable as income or expense
- Passive vs Active treatment
- Risk on Transferee
- Consideration for tax insurance instrument



INVESTMENT CREDITS

ENERGY CREDITS

Clean Energy Investment Tax Credit (Section 48)



Investment in equipment that produces energy from alternative sources:

- Solar
- Wind
- Geothermal⁺
- Fuel cells
- Microturbines
- Combined heat and power systems
- Equipment that recovers waste energy
- Energy storage
- Biogas
- Microgrid controllers*
- Electrochromic glass*

⁺ = stays under 2035

* = doesn't generate electricity, no 1 mw, no 48E

SOLAR

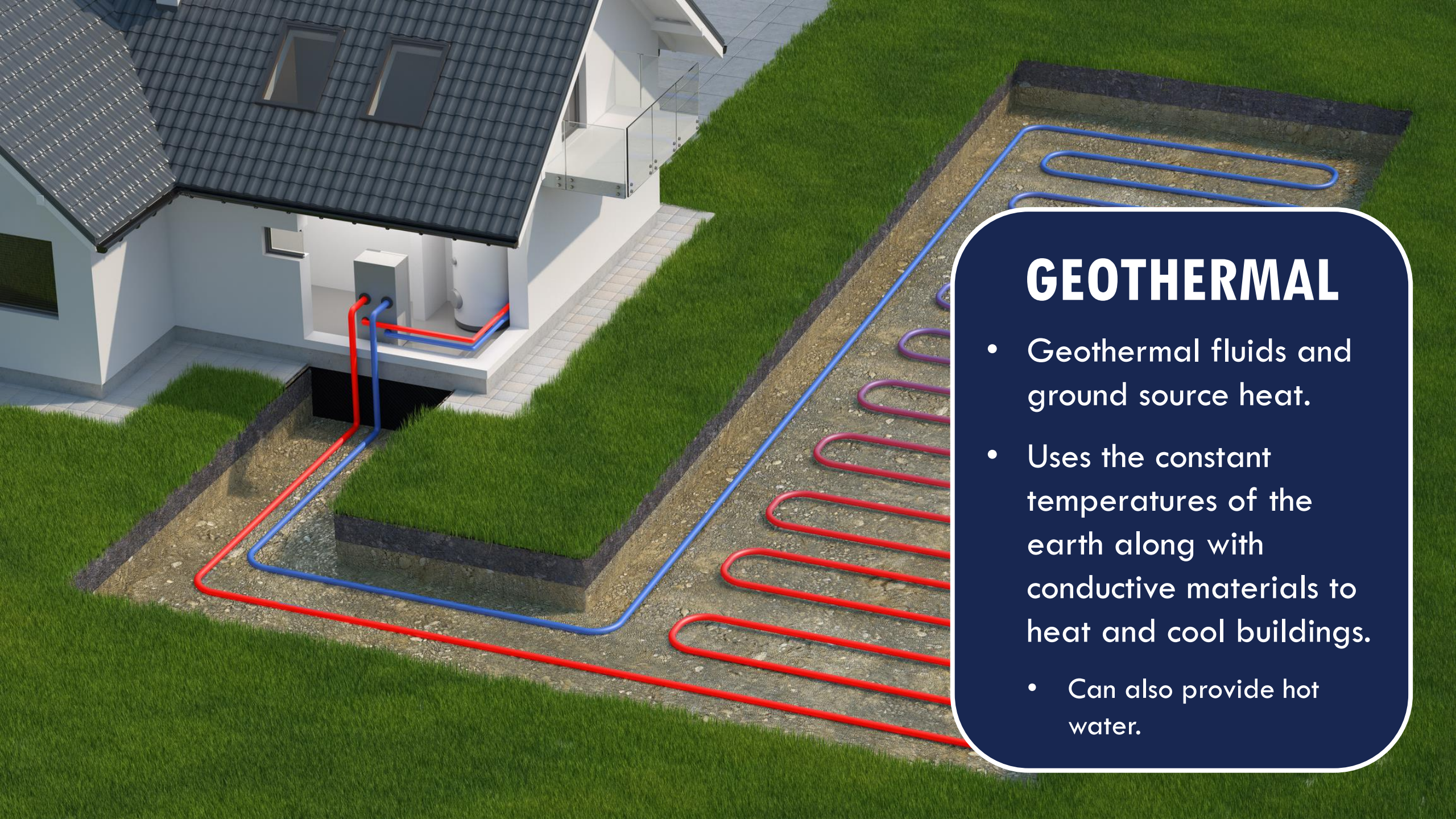
- Solar Eligibility:
 - Electrical Production
 - Water Heating
(EXCEPT for swimming pools)
 - Building Illumination





WIND ENERGY

**Onshore &
Offshore**



GEOTHERMAL

- Geothermal fluids and ground source heat.
- Uses the constant temperatures of the earth along with conductive materials to heat and cool buildings.
 - Can also provide hot water.



ENERGY STORAGE

- Batteries
- Thermal
- Hydrogen
- Mechanical



FUEL CELLS

- Fuel Cells:
 - Hydrogen + Oxygen + Catalyst = Electricity + Heat + Water
- Linear Generator:
 - Hydrogen + Ammonia » Magnets + Copper Coils » Electricity
- Eligibility:
 - Fuel cell stack assembly with capacity > 0.5kW
 - Linear generator assembly with capacity > 1kW

COMBINED HEAT & POWER (COGENERATION)

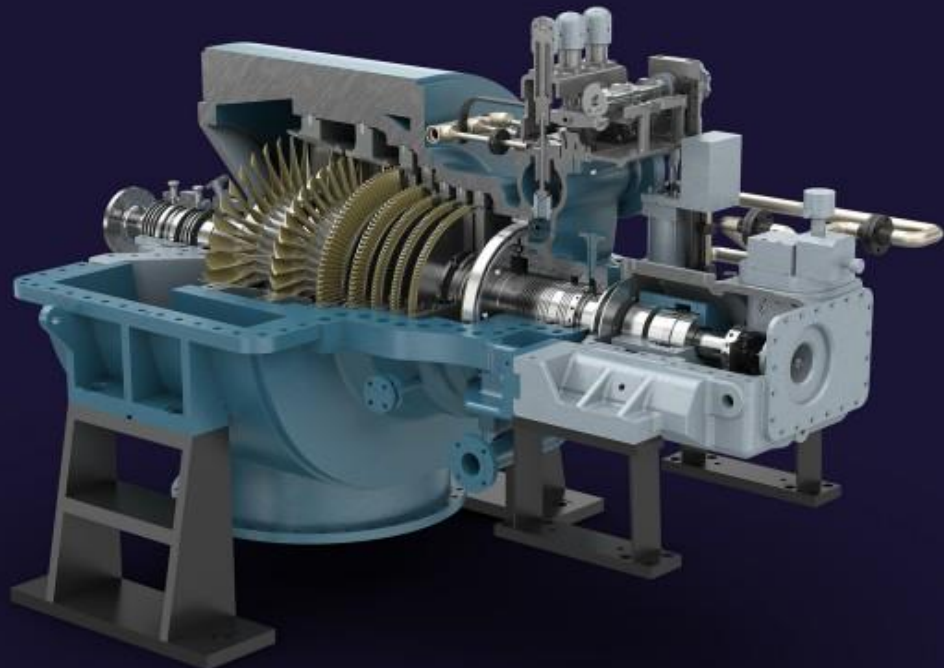
- Gas-fired or steam turbine produces electricity; waste heat/steam is recovered and used for heating/cooling.
- An energy efficiency standard of at least 60%.
- 20% or greater must be achieved by the nonprimary source.





WASTE ENERGY RECOVERY

- Converts waste energy (usually heat) into electricity:
 - Ovens, kilns, furnaces, boilers
 - Mechanical motors and engines
 - Exothermic chemical processes
- Typically, industrial applications
- Eligibility:
 - Capacity > 50 MW
- No efficiencies or power management systems required



ELECTROCHROMIC GLASS

- Uses solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight.
- Uses electricity to change light transmittance properties of glass.



MICROGRID CONTROLLERS

- Microgrid Controllers monitor and control the energy resources and loads on a Qualified Microgrid.
- Qualified Microgrid:
 - Generates between 4kW and 20MW.
 - Can operate both in connection with and independent from main grid.



ENERGY CREDITS

Clean Energy Investment Tax Credit

Credit Percentage

- Basic credit = 6%
- If wage rules met = 30%
- If domestic content = + 10%
- In energy community = + 10%
- Additional bonuses for solar and wind with an environmental justice allocation.

Basis Considerations

- Cost Segregation Needed
- Section 263A (UNICAP)
- Interconnected property
- Incremental costs
- Dual use property (TR 1.48-9)
- Basis reduction 50% of credit
- Tax-exempt bonds & Grants

QUALIFIED ENERGY PROPERTY

Clean Electricity Investment Tax Credit (Section 48E)

Investment in equipment that:

- Produces clean electricity
- Greenhouse Gas Emissions rate < 0
- Technology neutral

Investment in energy storage technology:

- Electrical
- Thermal
- Hydrogen

**Placed in service post 12/31/2024.*





BONUS AMOUNTS

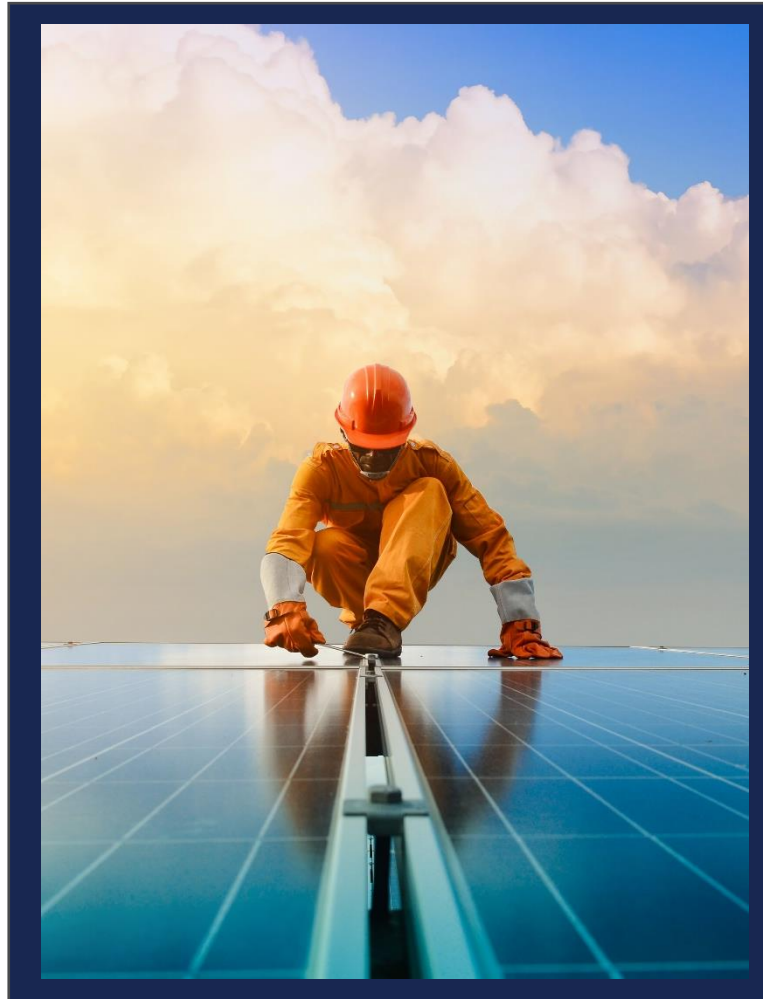
INFLATION REDUCTION ACT – *BONUS AMOUNTS*

- Wage and apprenticeship rules for clean energy credits (Notice 2022-61, Final Treasury Regulations);
- Energy community bonus credit (Notice 2024-30, Notice 2023-45, Notice 2023-47, and Notice 2023-29);
- Domestic content bonus credit (Notice 2023-38 and Notice 2024-41); and
- Low-income community energy investment credit (Rev. Proc. 2023-27, Rev. Proc. 2024-19, and T.D. 9979).
- Definitions of energy property and rules (Proposed regulations §1.48-13 and §1.48-14 (REG-132569-17)).

PREVAILING WAGE

PREVAILING WAGE

- Defined by Davis Bacon
- Continuity Requirement
- Maintained by Taxpayer
- Risk maintained by Taxpayer
- One Megawatt Exception
- Beginning of Construction Exception



DOCUMENTATION

- Name & ID Number
- WH Exemptions
- Work Classification
- Hours worked
- Rate of Pay, including Fringe Benefits
- Gross Amounts Earned
- Deductions
- Net Wages Paid

APPRENTICESHIP

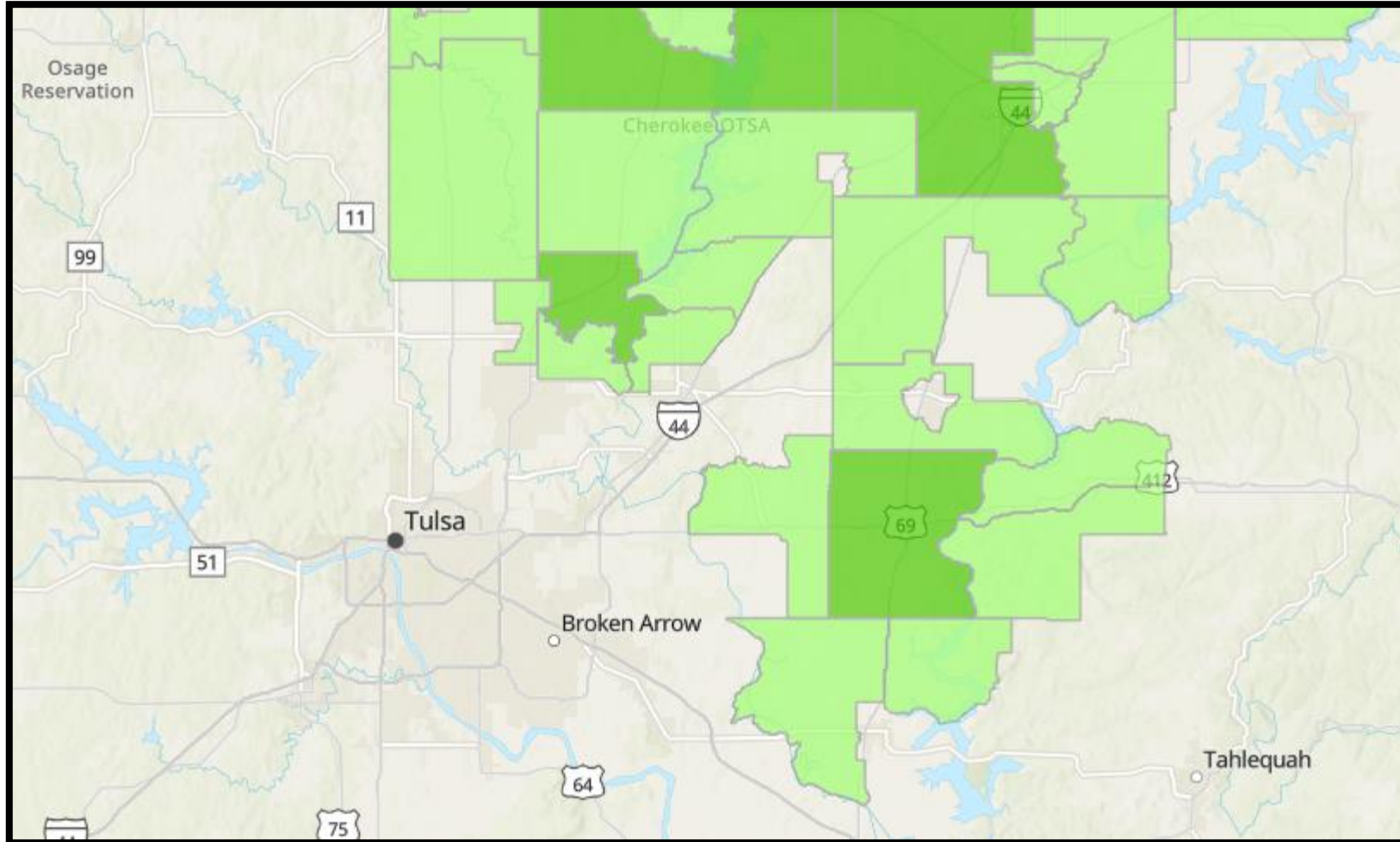
REGISTERED APPRENTICESHIP PROGRAM

Compliance:

- Participation Requirement:
 - 1 in 4 laborers.
- Labor Hours Requirement:
 - 10%-15%.
- Good Faith Effort:
 - Failed to respond within 5 days.
 - Denied Requests.
- Apprenticeship Cure Provision:
 - \$50 x labor hours needed.
 - \$500 if intentional disregard.



ENERGY COMMUNITY



[IRA Energy Community Tax Credit Bonus \(doe.gov\)](https://www.doe.gov)



- Census tract directly adjoining a census tract with a coal closure.
- Census tract with a coal closure.
- MSAs/non-MSAs that meet both the Fossil Fuel Employment (FEE) threshold and the unemployment rate requirement.

DOMESTIC CONTENT

- §45(b)(9), Notice 2023-38, Notice 2024-41.
- Timely certify to Treasury any “steel, iron, or manufactured product of a component...was produced in the U.S.”.
- **Manufactured Product of a Component:**
 - Must be a component of an applicable project.
 - At least 40% of the total of manufactured products are produced, mined, or manufactured in the U.S.
 - Potential safe harbors, subject to Federal Transit Authority’s analysis.
- Guidance mirrors Buy American Act, suggests similar documentation.
- New Safe Harbor for solar, land-based wind, and battery storage.



DOMESTIC CONTENT – PHASE OUT IRC §45(B)(10)

If taxpayer is making a 6417 election, the amount of the credit is 100% of the value of the credit, if the facility:

- Construction begins prior to January 1, 2024, and
- Meets the domestic content requirements under §45(b)(9), or
- Has a maximum net output less than 1 megawatt

The amount of the credit is 90% of the value of the credit, if the facility:

- Construction begins in calendar year 2024 or later
- Does not meet the domestic content requirements under §45(b)(9), or
- Has a maximum net output greater than 1 megawatt, or
- Meets an exception under 45(b)(10)(D).

Exceptions under 45(b)(10)(D)

- Increased Costs Exception - 25%
- Non-Availability Exception.



**CLEAN VEHICLES &
REFUELING
INFRASTRUCTURE**

ENERGY CREDITS & INCENTIVES

ELECTRIC COMMERCIAL FLEET

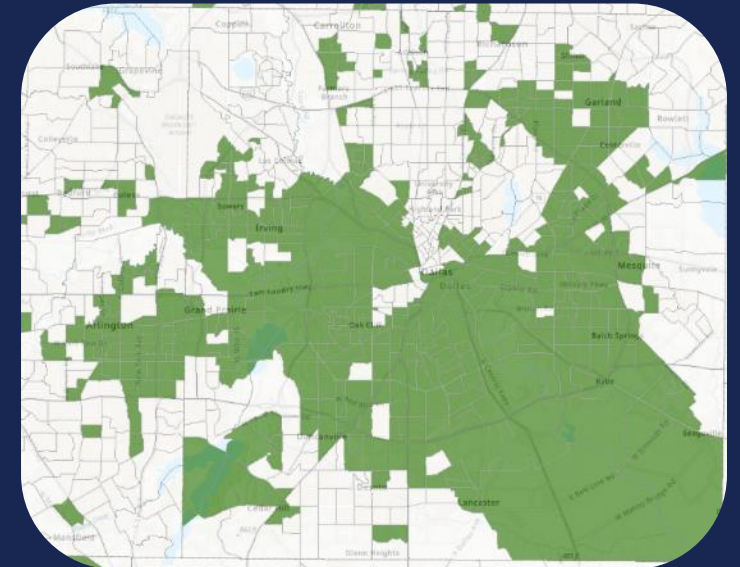
- Section 45W
- 30% of the basis (if not powered by gas/diesel)
OR
- Incremental cost of vehicle
- Under 14,000 lbs, up to \$7,500 per vehicle
- Over 14,000 lbs, up to \$40,000 per vehicle

EV INFRASTRUCTURE

- Section 30C
- Alternative fuel vehicle refueling and charging property
- Located in low-income and non-urban areas
- 6% or 30%
- Up to \$100,000 per charging unit

LOW INCOME AREAS

[30C Tax Credit Eligibility](#)
[Locator \(arcgis.com\)](#)





MONETIZATION

MONETIZING THE ENERGY CREDIT

- Registration Process
 - Placed in Service
 - 120 days before filing
- Annual Tax Filings
- Documenting timeline
 - Beginning of Construction
 - Placed in Service
- Recapture risk when energy credits are monetized:
 - Must hold the property for 5 years.





PLANNING CONSIDERATIONS

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DESIGN & PLANNING

1. Defining the scope of project, 30% designs.
2. Identify qualifying energy property and estimate potential incentives.
3. Review and advise on increased percentage requirements.
4. Review bids regarding prevailing wage and apprenticeship.
5. Collaborate with design team on approach to collect supporting data.
6. Understanding financing impacts.

UNDER CONSTRUCTION

1. Monitor increased percentage requirements.
2. Track and/or review prevailing wage and apprenticeship.
3. Assist with any foot faults on increase credit percentages and bonus amounts.
4. Review domestic content data.
5. Monitor changes to project scope and impacts on incentives.

MOSTLY COMPLETE

1. Cost componentization analysis.
2. Collect supporting data for increase credit percentage and bonus amounts.
3. Application and registration filings.
4. Calculations.
5. File and claim credits.

QUESTIONS?



THANK YOU!

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