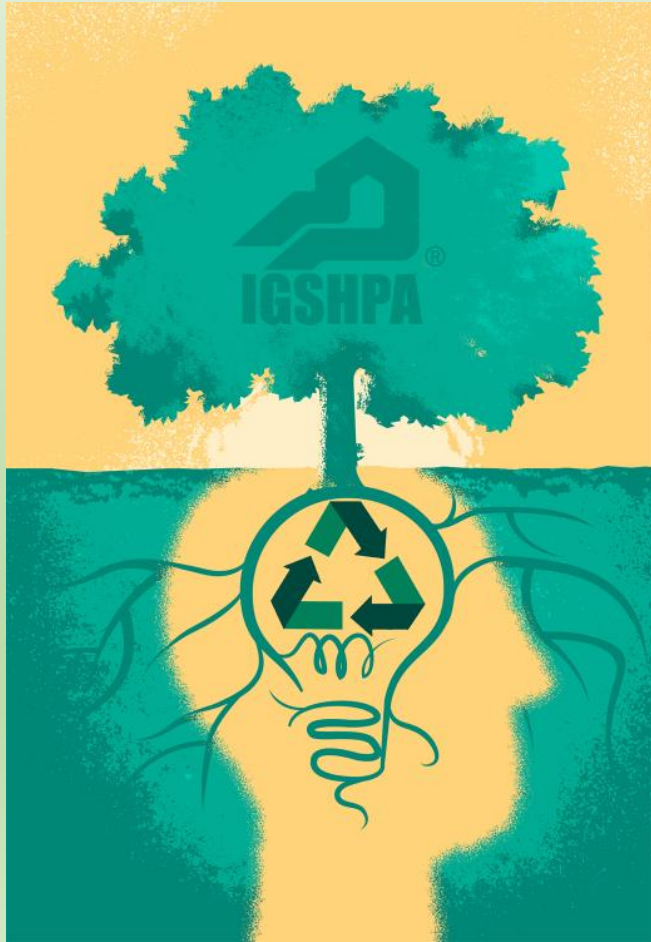


# The Inflation Reduction Act

## A game changer for the geo industry



## Geothermal: The Genius Renewable

Live at Groundwater  
Week in partnership  
with NGWA



Las Vegas, NV  
December 5-7, 2023

WHITE HOUSE

## Biden signs sweeping climate and health care bill into law

In August of 2022, the Inflation Reduction Act was passed and makes major changes to federal law.



# Residential Clean Energy Credit (IRC Sec. 25D)

- Formerly known as the Residential Energy Efficient Property Credit
- Section 25D includes credits for geothermal heat pumps, solar panels, solar thermal systems, fuels cells, small wind systems, biomass heaters, and for the first time beginning in 2023, battery storage systems.
- The bill extends the credit for all Section 25D technologies at the following rates:
  - 26% (2021)
  - 30% (2022-2032)
  - 26% (2033)
  - 22% (2034)
  - 0% (2035)
- These credits are not refundable. The credit can be carried forward for a maximum of ten years. Distribution equipment such as ductwork or radiant flooring are not eligible for the credit.
- Multiple residences are eligible.

# Residential Energy Efficiency Tax Credit (IRC Sec. 25C)

- Energy efficiency upgrades (Windows, Doors, Insulation)
- Doors
  - 30% capped at \$250 for single door and/or \$500 for multiple doors
- Windows, Insulation
  - 30% capped at \$600
- Windows, Doors, Insulation, cannot exceed \$1,200 per year
- Must be existing primary home (new construction is not eligible)

# Home Energy Performance-Based, Whole House Rebate Program (aka HOMES)

- New Program (\$4.3 billion) – State must apply, implement, and manage program.
- This program is for retrofit homes only and new homes are not eligible (for HVAC improvements and other efficiency projects that meet the energy savings)
- Based on Energy Savings: 20%-35% above baseline, 50% of the project cost, up to \$2,000 / 35% or greater up to \$4,000
- Up to \$8,000 if household has low to moderate income (80% AMI)
- Multifamily building owners are eligible, and the rebate amounts are based on the savings the upgrades give (\$2,000-\$4,000 per unit, \$200,000 - \$400,000 per building)
- This rebate program may not be combined with the High-Efficiency Electric Homes Rebate but can be combined with the Residential Clean Energy Credit & the Residential Energy Efficient Tax Credit.

## Modeled Energy Savings

Projects must achieve modeled energy savings of at least **20 percent** to qualify for rebates.

Larger rebates are available for projects achieving modeled energy savings of at least **35 percent**.

Rebates **double** for low- and moderate-income individuals.

## Measured Energy Savings

Portfolios of projects must achieve measured energy savings of **15 percent** across the portfolio to qualify for rebates.

Payment rate is per kWh and equal to **\$2,000** for a 20% reduction of energy use for the average home in the state.

Rebates **double** for low- and moderate-income individuals.

# High-Efficiency Electric Home Rebate Program

- New Program (\$4.5 billion) - State must apply, implement, and manage program
- Rebate is means tested at 150% of AMI (Area Median Income) to be eligible
- Household at 80-150% are eligible for rebates of 50% of project cost, up to caps. Households less than 80% AMI can get 100% of project costs up to caps
- Covers HVAC (GSHP), panel upgrades, wiring, insulation and electric appliance upgrades
- \$8,000 for geothermal heat pumps
- Total cap of \$14,000
- Applies to multifamily buildings
- Can't be combined with the HOME Program, but can be combined with the Residential Clean Energy Credit & Residential Energy Efficiency Tax Credit

# Savings Scenario

## Efficiency Upgrades

## IRA Savings

• 4 Ton GSHP	\$28,000	IRC Sect. 25D	\$8,400
• Attic Insulation	\$2,000	IRC Sect. 25C	\$600
• New Windows	\$2,500	IRC Sect. 25C	\$600
		HOMES Rebate	\$2,000
		(20-35% efficiency increase)	
		Utility Rebates (\$750/ton)	\$3,000
• Total Upgrade Cost:	\$32,500	Total IRA & Utility Savings:	\$14,600



# New Energy Efficient Home Credit (IRC Sec 45L)

- Existing tax credit for home builders selling qualified energy-efficient new homes – Increased the credits
- Homes sold after 2021 can get \$2,500 if it meets certain Energy Star standards

*A building must earn an ENERGY STAR score of 75 or higher on EPA's 1 – 100 scale, indicating that it performs better than at least 75 percent of similar buildings nationwide.*

- If the home is certified as “zero-energy ready” it can qualify for \$5,000

*A DOE Zero Energy Ready Home is a high-performance home that is so energy efficient that a renewable energy system could offset most or all the home's annual energy use.*

# New Energy Efficient Home Credit (IRC Sec 45L)

- 2024 it will apply to multi-family homes as well.
  - \$1000/unit if Energy Star Standards are met
  - \$5000/unit if “Zero-Energy Ready” standards are met and project is using prevailing wage
- For more information go to <https://www.energy.gov/eere/buildings/45l-tax-credits-zero-energy-ready-homes>

# Investment Tax Credits (Commercial - Sect. 48)

- 10% (2021)
- 6% base (2022) – There is ability to get bonuses that add to the base amount.
  - Bonus #1 – 30% (increases base 5x)
  - Bonus #2 – 10%
  - Bonus #3 – 10%
- Base and Bonus Phase Out
  - 30% bonus / 6% base (2023-2032)
  - 26% bonus / 5.2% base (2033)
  - 22% bonus / 4.4% base (2034)

# Commercial Provisions – (Sect. 48)

## #1 Bonus - Project Size - 30%

- Requirements
  - Under 1MW threshold defined as 284 tons or “the maximum thermal output that the entire project is capable of delivering to a building or buildings at any given moment.”
  - OR, “*meet prevailing wage and apprenticeship requirements*”
- If either requirement is met, you get 5x the base rate of 6% = 30%.

# Commercial Provisions – (Sect. 48)

**#2 Bonus – Domestic Content- 10%** (or 2% for projects over 1 MW that don't meet prevailing wage/apprenticeship requirements)

- Requirements – USA Made
  - Manufactured products are deemed to have been manufactured in the United States if the adjusted percentage of the total cost of the components and subcomponents of the project is attributable to components that are mined, produced, or manufactured in the United States. The adjusted percentage is:
    - 40% for projects that begin construction before 2025
    - 45% for project that begin construction in 2025
    - 50% for projects that begin construction in 2026
    - 55% for projects that begin construction thereafter.

# Commercial Provisions – (Sect. 48)

**#3 Bonus – Energy Community - 10%** (or 2% for projects over 1 MW that don't meet prevailing wage/apprenticeship requirements)

- Energy Communities are defined as:
  - A brownfield site
  - A city with a certain population employed in or tax revenues derived from extraction, processing, transport, or storage of coal, oil, and natural gas with unemployment rates above the national average
  - A census tract (or adjoining census tract) with a coal mine that has closed since 2000 or a coal-fired power plant that has closed since 2010.
  - <https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?id=a2ce47d4721a477a8701bd0e08495e1d>
  - <https://energycommunities.gov/>

# Commercial Provisions – (Sect. 48)

- Direct Payment
  - Tax-exempt organizations (churches, schools, fire stations, etc...)
  - State or local government (or political subdivision thereof)
  - Tennessee Valley Authority
  - Indian tribal government
  - Alaskan Native Corporations
  - Rural Electric Cooperatives

# How Does Direct Payment Work?

- Choose what tax year the project will be filed in.
- Complete the project and be in operation within the chosen tax year.
- File for a project registration number from the IRS
  - This should be done as soon as you have the proper information.
  - You can't file for the payment unless you have this number.
- Fill out the appropriate form and file with your taxes.
- <https://www.irs.gov/credits-deductions/elective-pay-and-transferability>



# Energy Efficient Commercial Buildings Deduction (IRC Sec. 179D)

- Allows a deduction on a per square foot basis for energy-saving improvements to a commercial building. Eligible improvements can be for:
  - Interior lighting
  - Heating, Cooling, ventilation, or hot water system
  - Building envelope; windows, doors, insulation
- A qualifying building must increase its efficiency relative to a reference baseline by 25%. The reference standard cited in the law is ASHRAE 90.1-2007. Retrofits must increase efficiency by 25% compared to original performance.
- Base rate deduction is \$.50 per square foot and is increased by \$.02 for each percentage point increase in energy savings above the minimum 25% improvement over the baseline. The max deduction is \$1.00 per square foot.

# Energy Efficient Commercial Buildings Deduction (IRC Sec. 179D)

- There is a bonus rate for projects that meet prevailing wage and apprenticeship requirements. The deduction is raised to \$2.50 per square foot and is increased by \$.10 for each percentage point increase. The max deduction is \$5.00 per square foot.
- Tax-exempt building owners can allocate the deduction to the project designer
- Good for new or existing buildings.
- Can be combined with the Commercial Investment Tax Credit (IRC Sec 48)
- Can claim every three years with qualifying upgrades.

# Rural Energy for America Program (REAP)

- Provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or to make efficiency improvements.
  - Eligible areas are rural areas with populations of 50,000 residents or less.  
<https://eligibility.sc.egov.usda.gov/eligibility/welcomeAction.do?pageAction=0NERD>

# Rural Energy for America Program (REAP) - continued

- Eligible Projects:
  - Renewables (Biomass, Geothermal for electric generation or direct use, hydropower, hydrogen, wind generation, solar generation, ocean generation)
  - High Efficiency heating, ventilation and air conditioning (HVAC) --- Geothermal!
  - Building Envelope (insulation, doors, windows)
  - Lighting
  - Replacement of energy-inefficient equipment

# Rural Energy for America Program (REAP) - continued

- Available Funding
  - Loan guarantees on loans up to 50% of total eligible project costs.
  - Grants for up to 50% of total eligible project costs.
  - 2 Billion in funding is available

<https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy/mo>

# Rural Energy for America Program (REAP) - continued

- How to apply for a REAP loan or grant
  - Determine if the project will be submitted as an energy efficient upgrade or as a renewable energy project --- geothermal heat pumps qualify for both.
  - Gather information on the system performance, ROI, and efficiency
  - Submit form before deadline date.

# Accelerated Depreciation of Energy Property

- Qualified energy property is classified as a 5-year property in section 168(e)(3)(B)(vi) of the Internal Revenue Code. For depreciated purposes, the cost basis must be reduced by one-half of the energy tax credit.
- There is a one-time bonus depreciation in addition to the accelerated depreciation.
  - 2023 – depreciate 80% of the cost in the first year.
  - 2024 – the rate goes to 60% and gets reduced each year until eventually 0% in 2027.

# Savings Scenario

**GSHP Cost**

**\$975,000**

**Tax Rate 30%**

**EPAAct 179D - \$5.00/sqft**

## **Tax Incentives**

- 30% Tax Credit (Sect. 48) \$292,500
  - Value of 80% Bonus \$187,200
  - Value of 5 Yr. MACRS \$21,060
  - Value of EPAAct 179D Deduction \$300,000
- 
- Total Savings: \$800,760



# A new wrinkle to iron out

- On Nov. 17, Treasury issued proposed rules on the definition of “energy property”
- Clarifies 1MW threshold as 284 tons or “the maximum thermal output that the entire project is capable of delivering to a building or buildings at any given moment.”
- Seemingly prohibits split system ownership
- Comments due January 22 – GeoExchange leading effort to correct final rule

# For More Information

<https://www.irs.gov/inflation-reduction-act-of-2022>

Thank you for your time!

Jeremiah Strode

[Jeremiah@geoexchange.org](mailto:Jeremiah@geoexchange.org)

(573) 819-5900