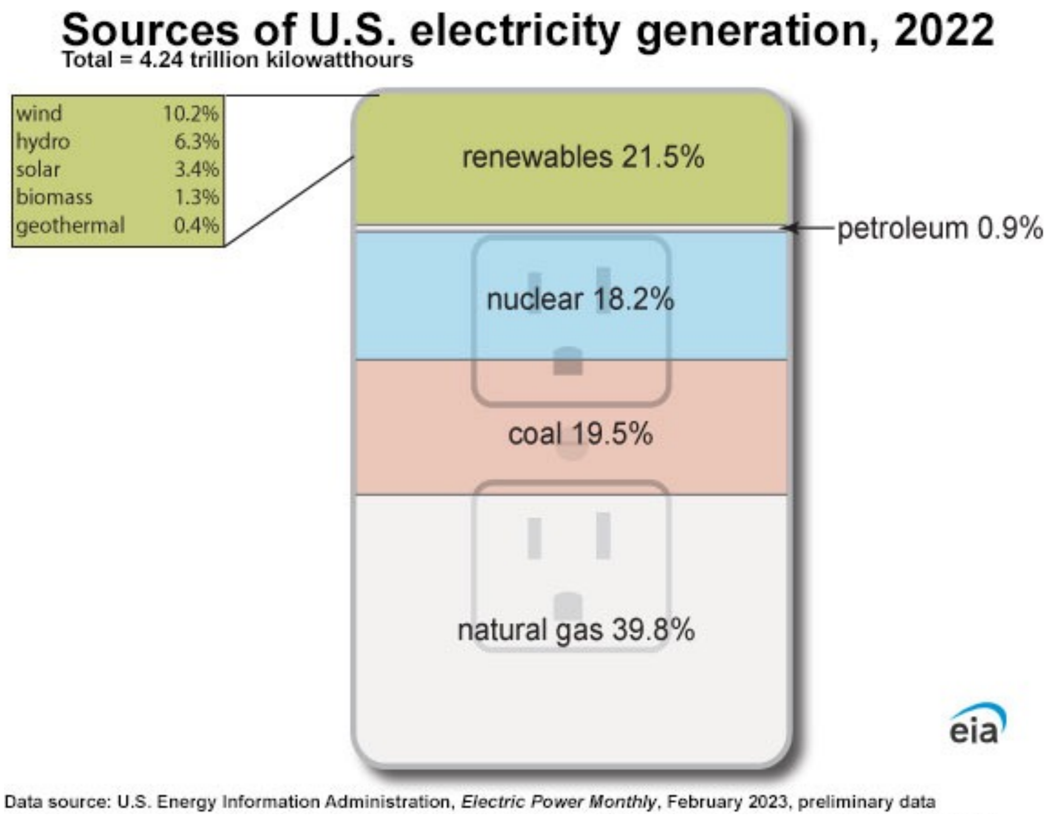
# The Inflation Reduction Act

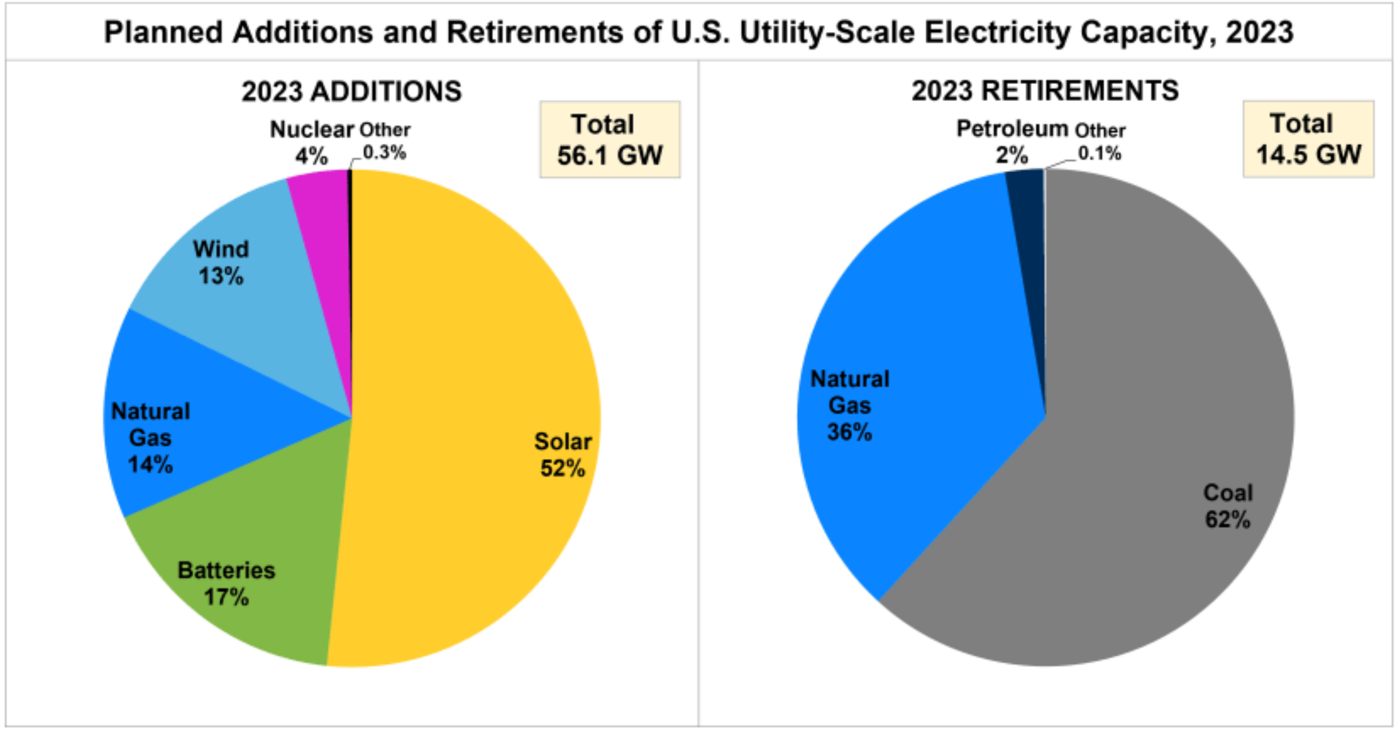
Seattle City Light

WE POWER SEATTLE

# Nationally a Greener Grid is Coming



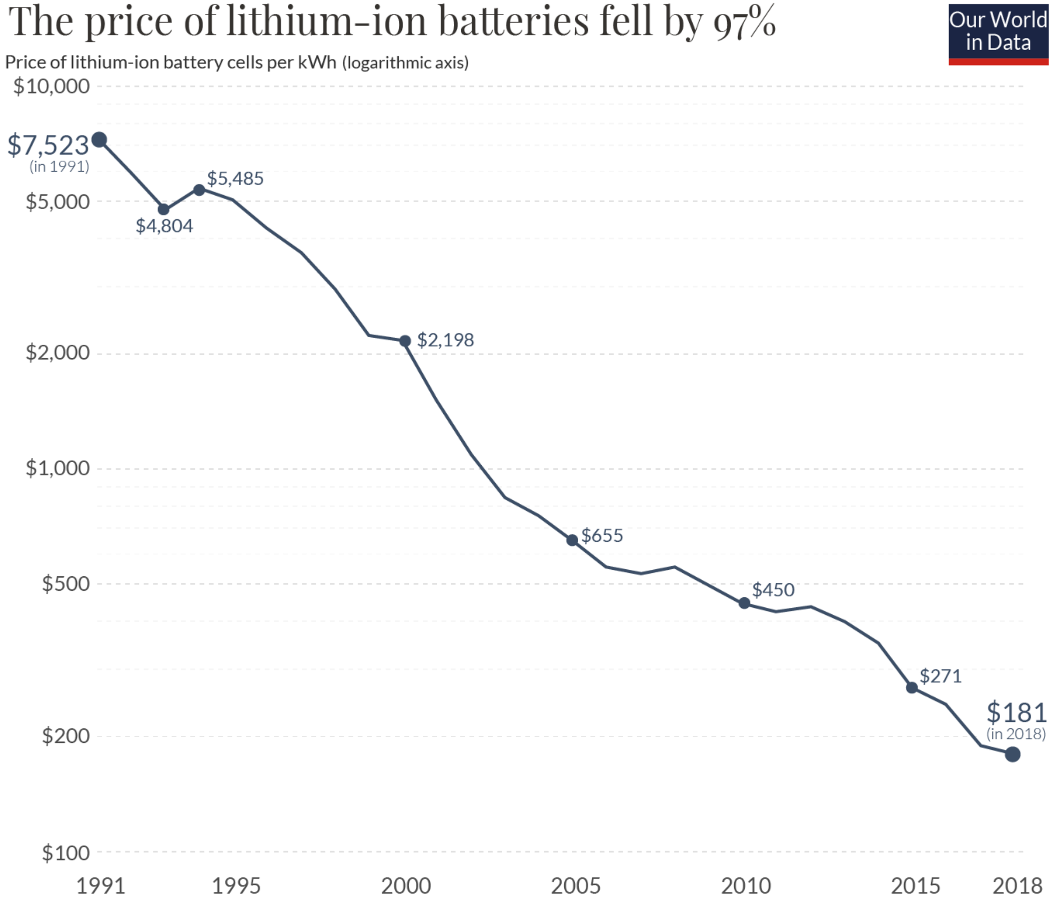

*Source: DOE*



# Accelerate Pre-existing Trends

## The price of lithium-ion batteries fell by 97%

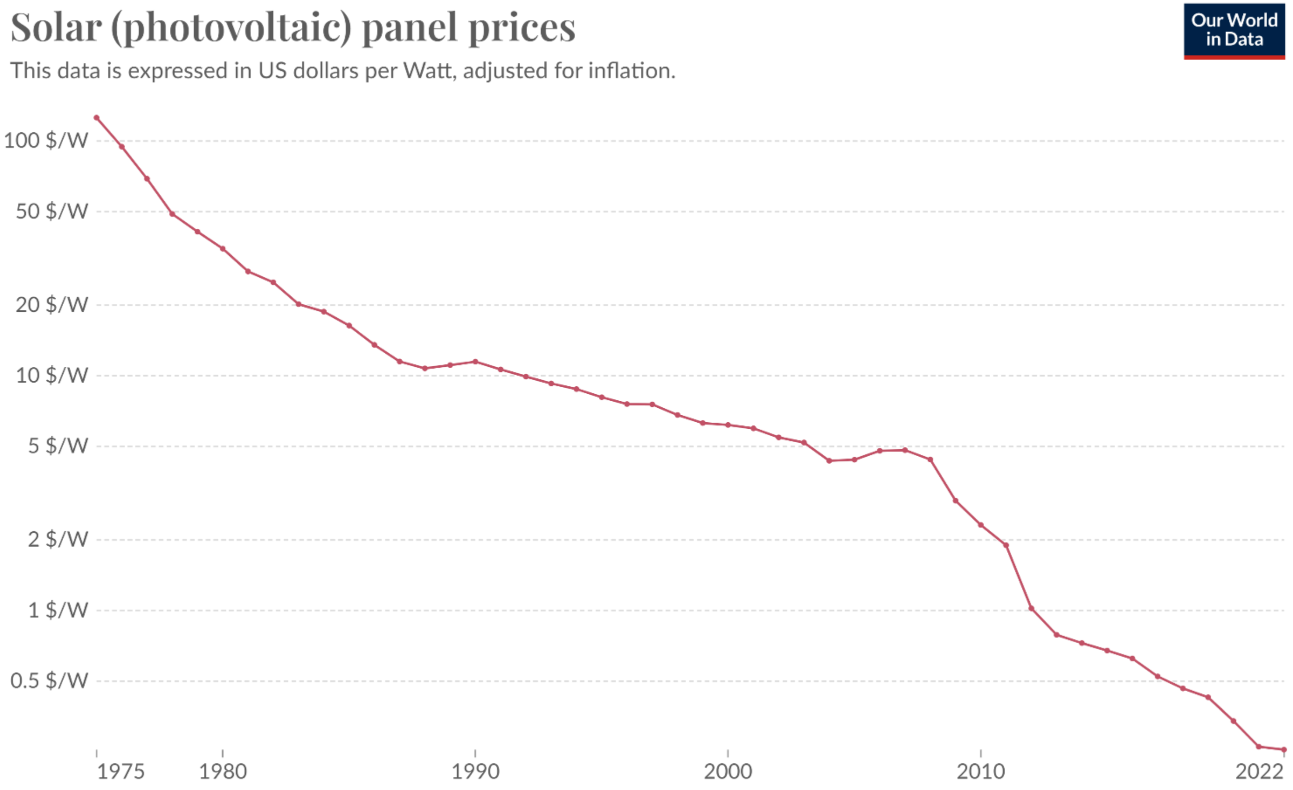
Price of lithium-ion battery cells per kWh (logarithmic axis)




Prices are adjusted for inflation and given in 2018 US-$ per kilowatt-hour (kWh).
Source: Micah Ziegler and Jessika Trancik (2021). Re-examining rates of lithium-ion battery technology improvement and cost decline.
OurWorldinData.org – Research and data to make progress against the world's largest problems. 

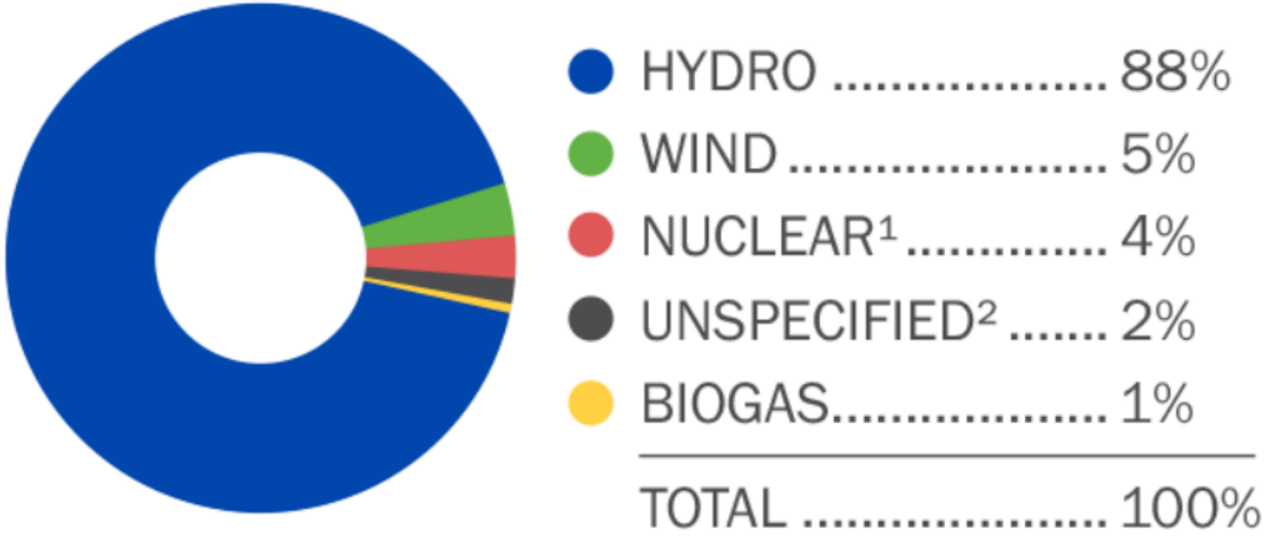
## Solar (photovoltaic) panel prices

This data is expressed in US dollars per Watt, adjusted for inflation.



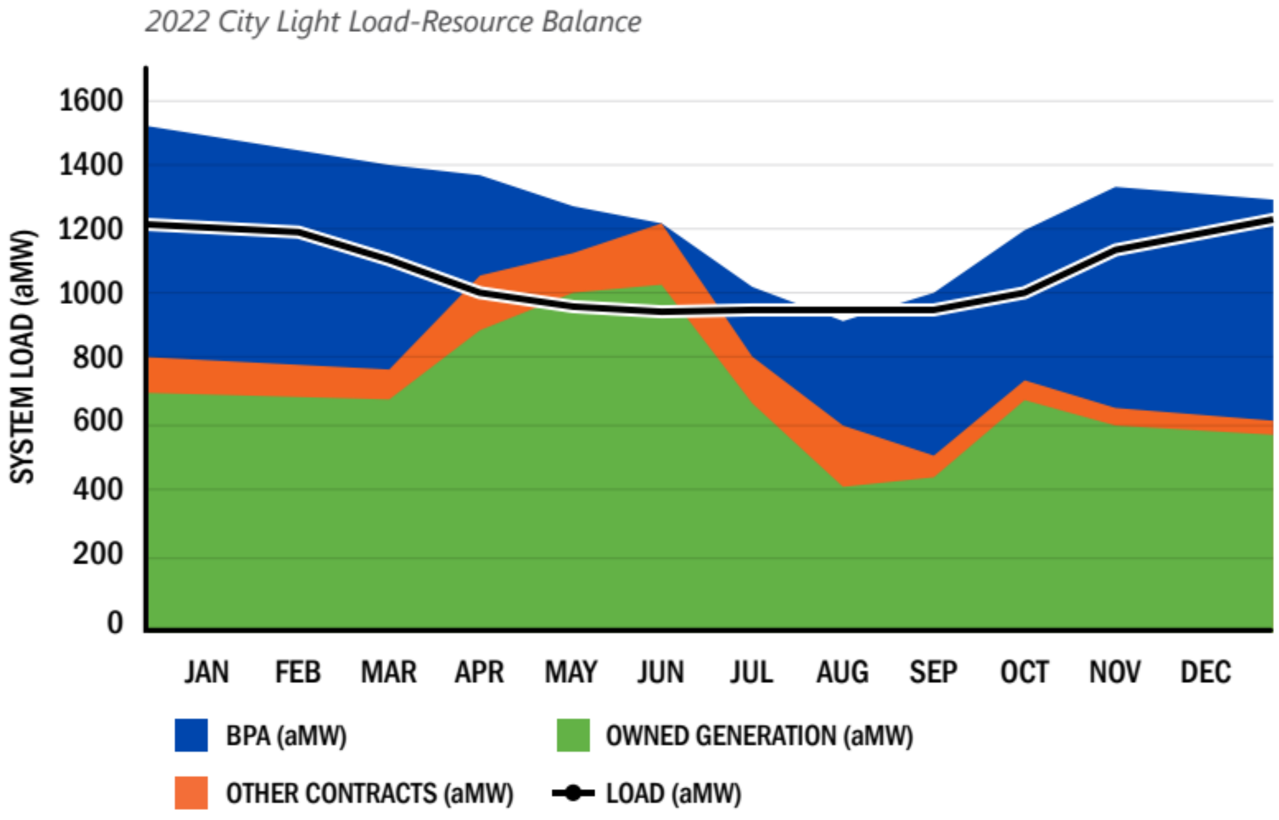

**Data source:** International Renewable Energy Agency (2023); Nemet (2009); Farmer and Lafond (2016)
**Note:** Data is expressed in constant 2022 US$ per Watt.
OurWorldInData.org/energy | 

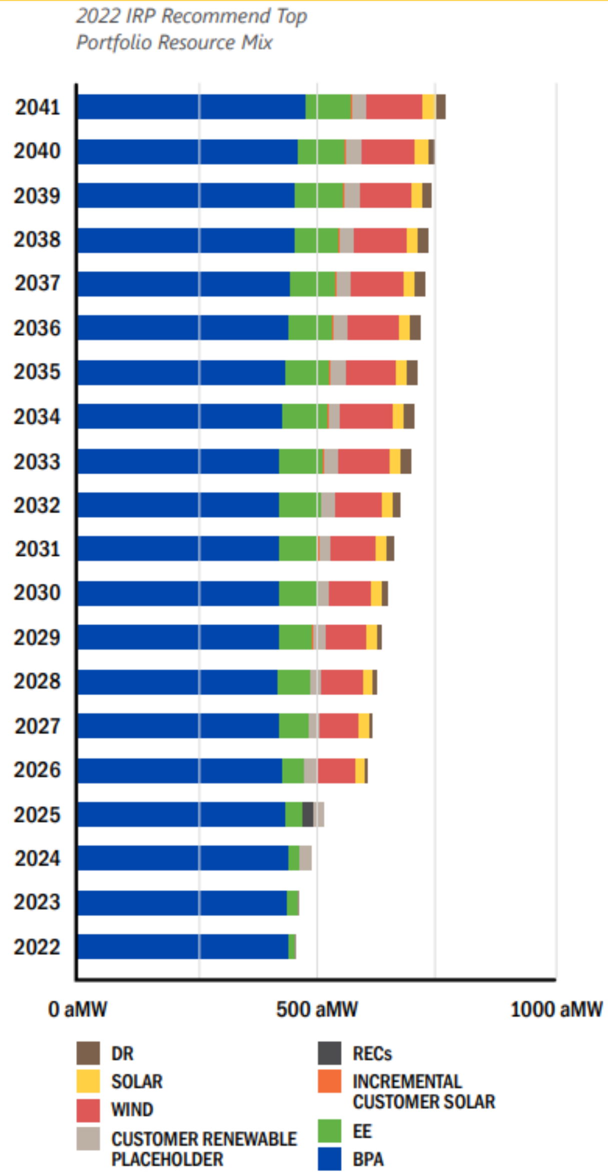
# Seattle City Light Energy Resources


*Source: Seattle City Light*

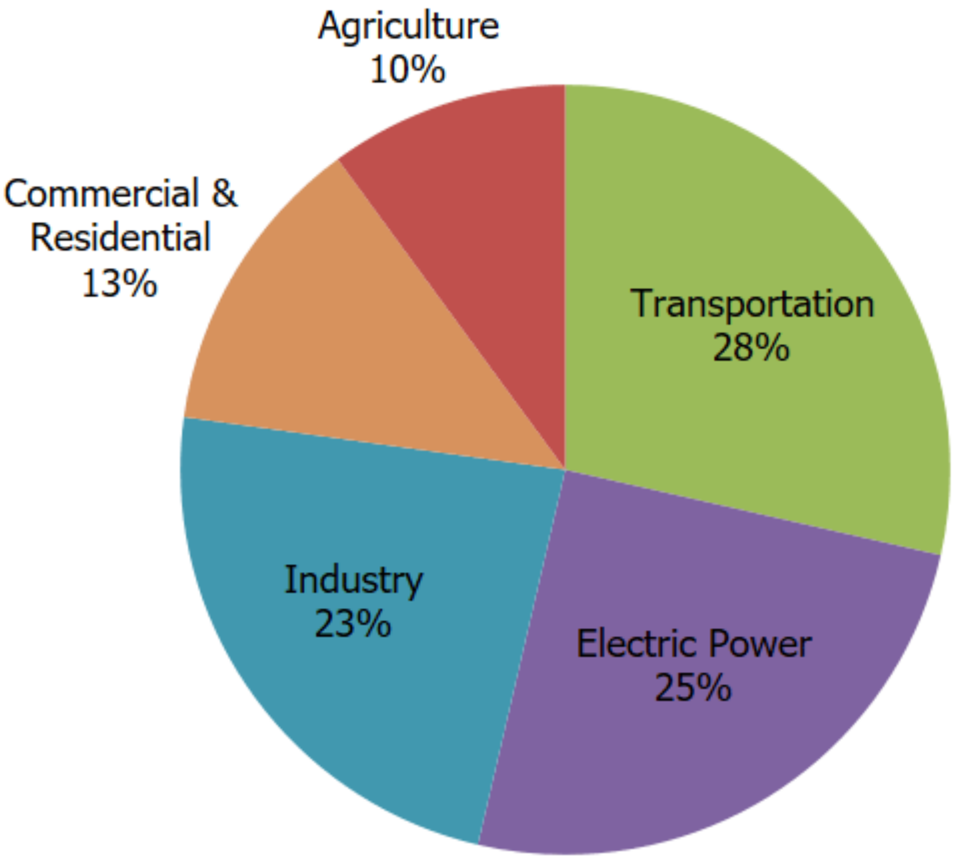
# The Role of Solar in Seattle

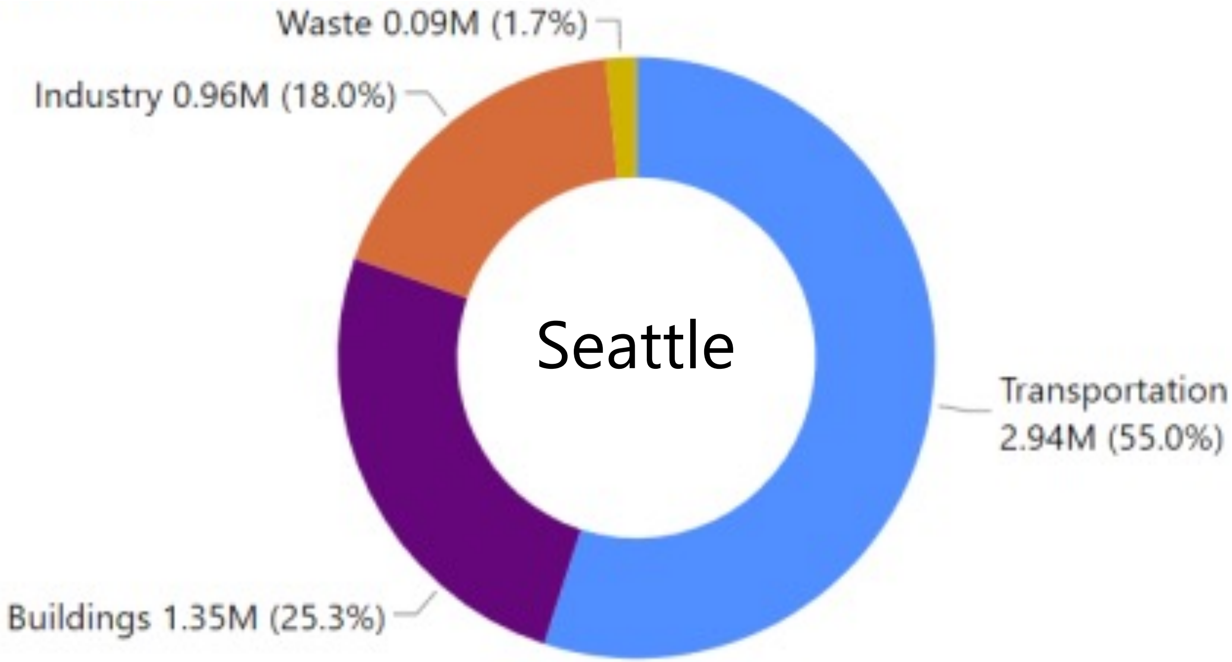



Source: Seattle City Light

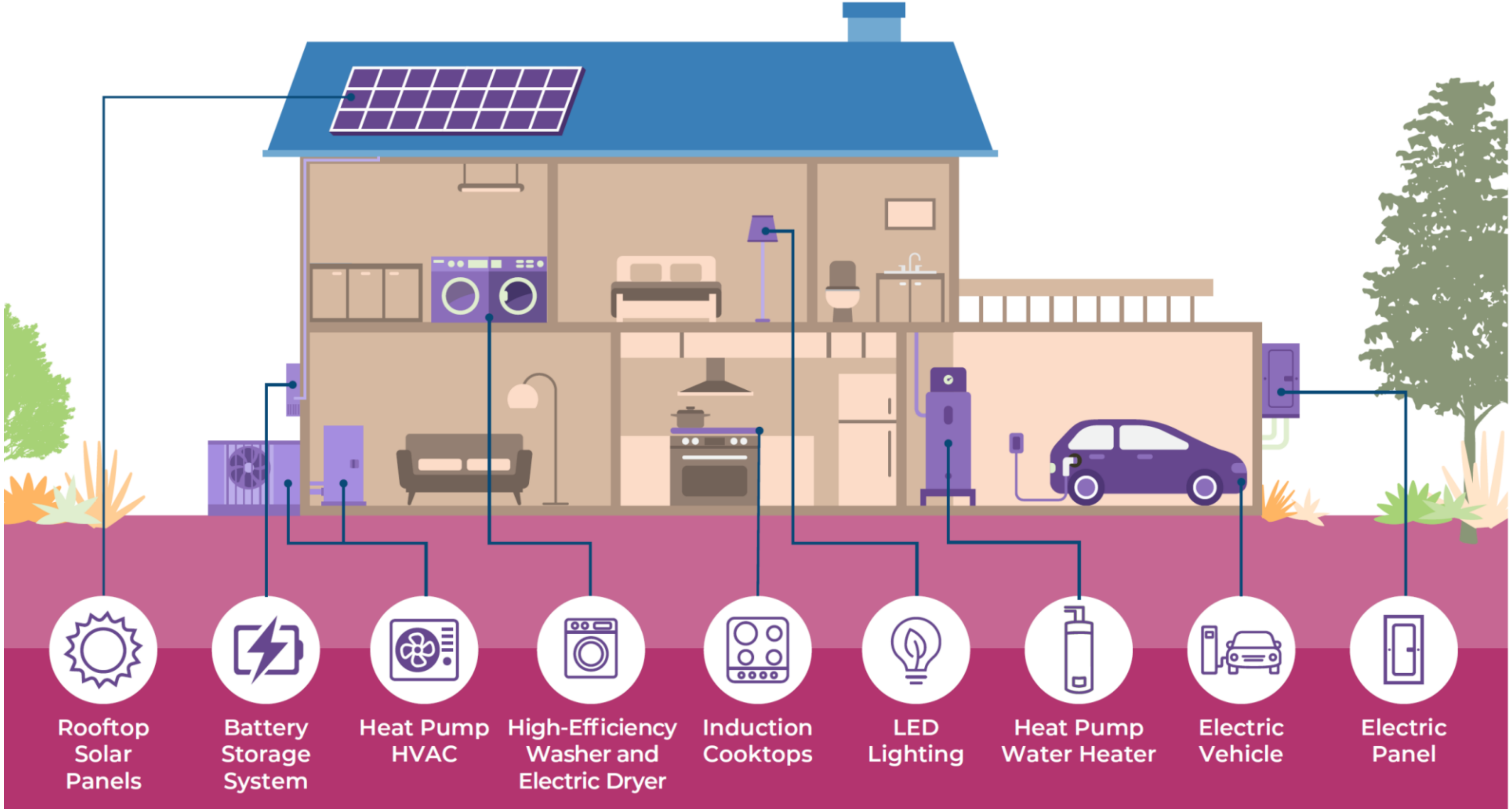
# What do we emit?




*Source: DOE*

# What is Electrification

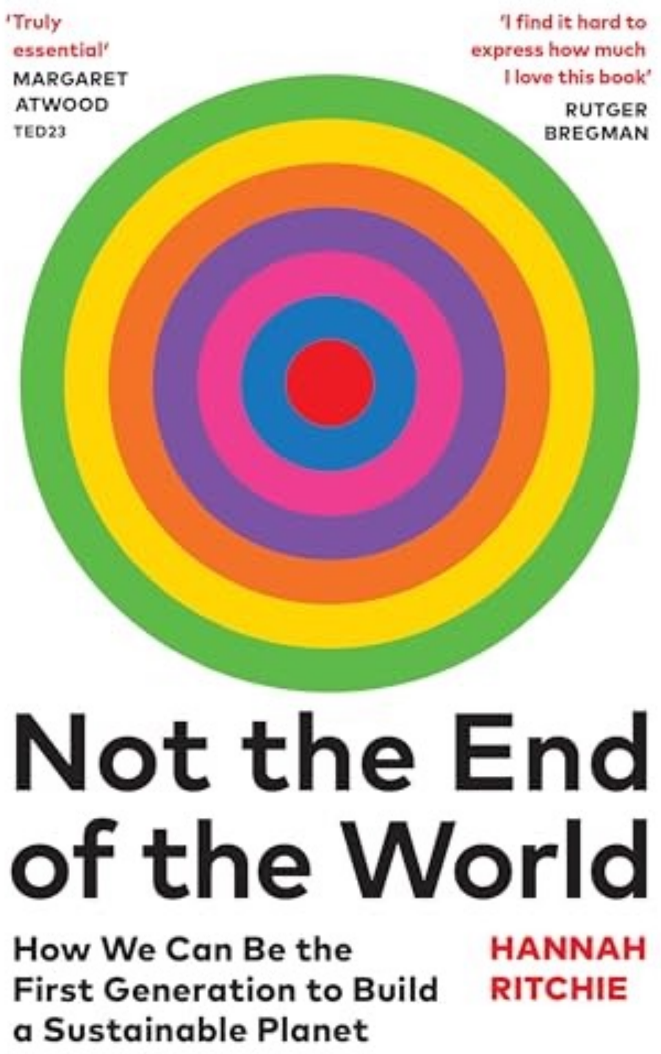


# Benefits of Solar

- Reduce utility bill
- Reduce grid impacts
- Reduce urban heat island
- Increased resiliency
- Contributing to a clean future

*Source: Solar Power World*

# Mining Needs for the Transition




"The world extracts around 15 BILLION tonnes of coal, oil, and gas every year. The International Energy Agency projects that the world will need around 28 to 40 MILLION tonnes of minerals for low carbon technologies in 2040, at the height of the energy transition"

"Put simply: moving to low carbon technologies will mean less mining, not more"

# Inflation Reduction Act

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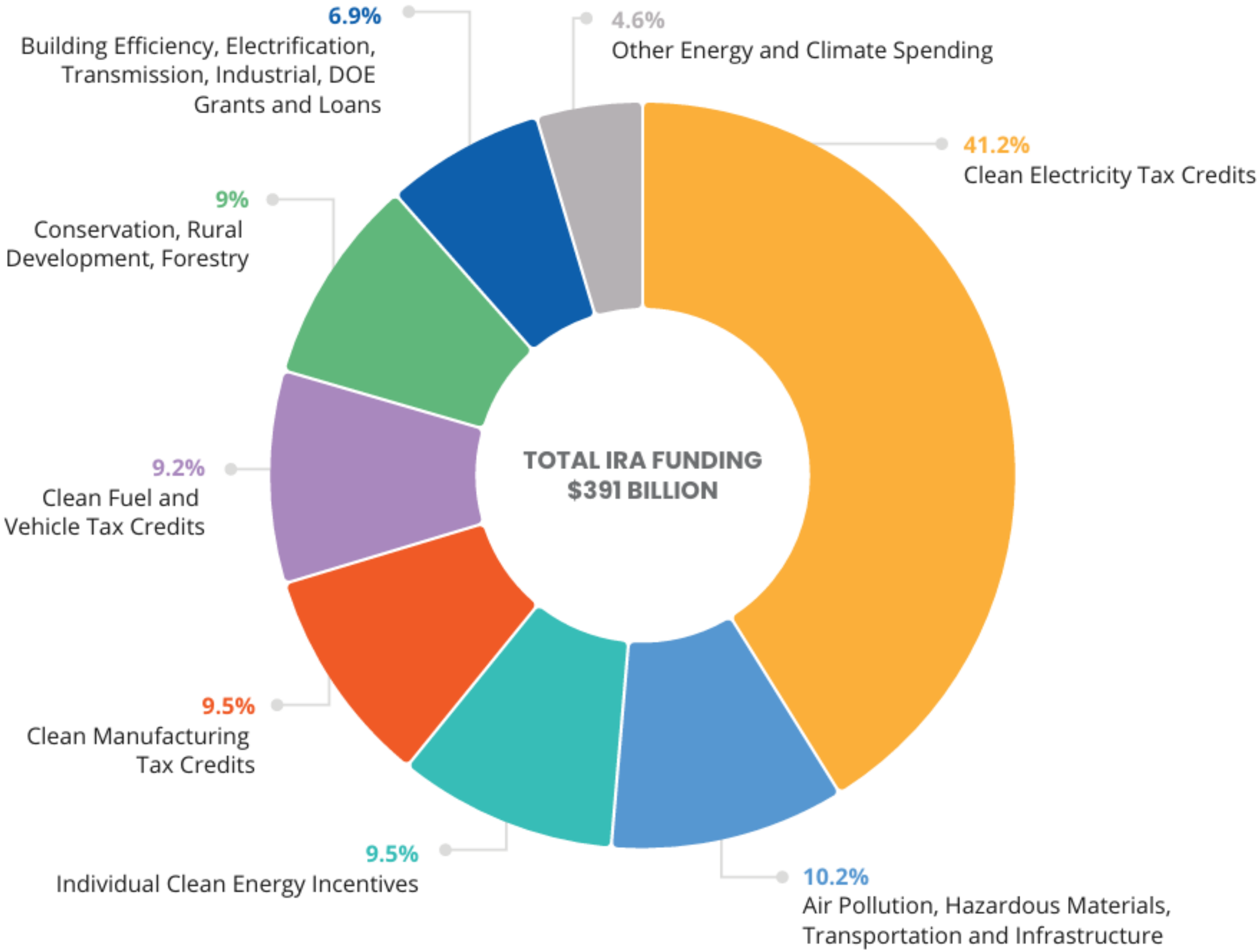
At $390 billion, the Inflation Reduction Act (IRA) represents the largest investment in efforts to reduce greenhouse gas emissions by providing **incentives directly to consumers and manufacturers** to hasten the transition away from fossil fuels.

# Broad scope




*Source*: Congressional Budget Office 2022

# Push-Pull Industrial Policy

- Subsidize US clean energy tech manufacturing and incentivize American-made purchases to reduce emissions and boost the economy.
- Since the IRA was passed solar module manufacturers have announced three dozen capacity additions. These additions would increase US solar manufacturing from 10.6 GW to 108.5 GW by 2026

US solar PV installations and forecasts by segment, 2014-2028


Source: Wood Mackenzie

# Incentives

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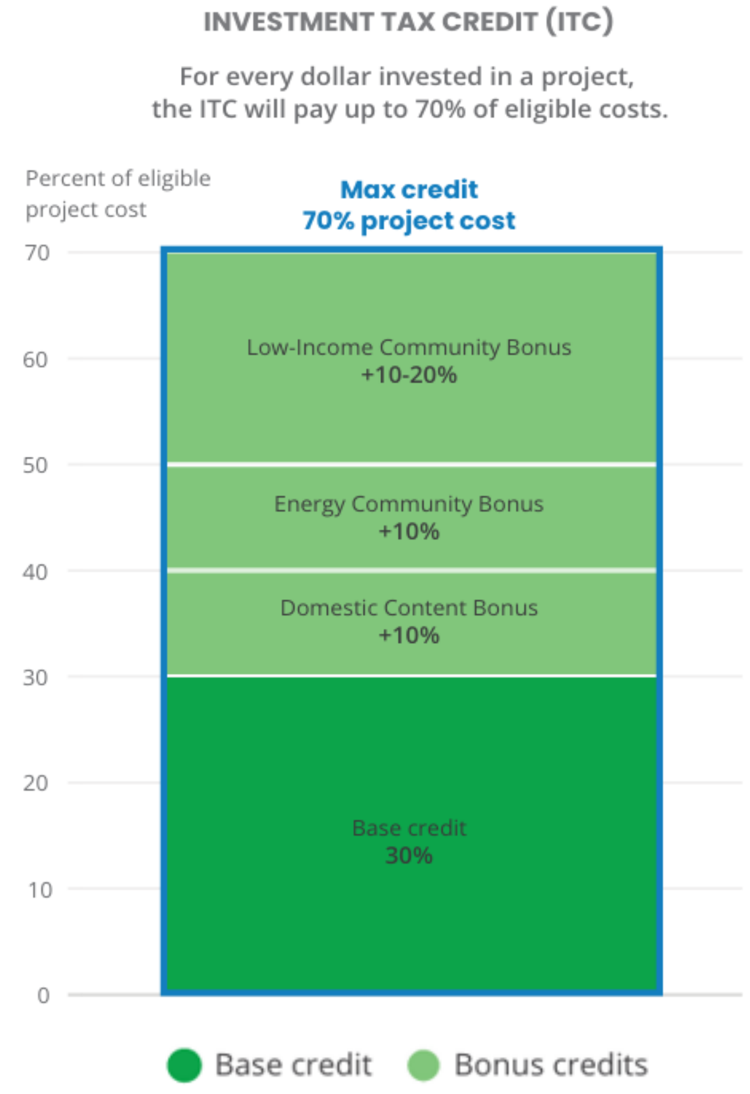
# Investment Tax Credit

- The Investment Tax Credit (ITC) is a tax credit for a percentage of the cost of a solar system installed during the tax year.
- 30% Base Credit
- Energy storage can be included as long as it is charged by no less than 50% of the eligible energy project
- Standalone storage project may also use credits
- Credits will remain available until 2032 or until US power sector emissions drop by 75%, whichever comes first.




*Source:* WRI author summary of the Inflation Reduction Act, Pub. L. No. 117-169.

# Direct Pay and Bonuses

- Credits now have a direct option for non-profits and local governments.
- Payment can be expected the following tax year after the project is completed
- Base Credit is 30% with adders for projects located in/on:
  - Low-income residential buildings
  - Low-income communities
  - Brownfield sites

**List of tax credits and their eligibility under the Inflation Reduction Act**

Electricity | Fuels | Vehicles | Manufacturing

| Category | Code | Credit | Eligible for transferability | Eligible for direct pay |
|---|---|---|---|---|
| Electricity | 45, 45Y | Clean electricity production tax credit | ✓ | ✓ |
| Electricity | 48, 48E | Clean electricity investment tax credit | ✓ | ✓ |
| Electricity | 45U | Zero-emission nuclear power production credit | ✓ | ✓ |
| Electricity | 45Q | Credit for carbon oxide sequestration* | ✓ | ✓ |
| Fuels | 45Z | Clean fuel production credit | ✓ | ✓ |
| Fuels | 45V | Clean hydrogen production tax credit* | ✓ | ✓ |
| Vehicles | 30C | Alternative fuel vehicle refueling property credit | ✓ | ✓ |
| Vehicles | 45W | Credit for qualified commercial clean vehicles | N/A | ✓ |
| Manufacturing | 48C | Advanced energy project credit | ✓ | ✓ |
| Manufacturing | 45X | Advanced manufacturing production credit* | ✓ | ✓ |

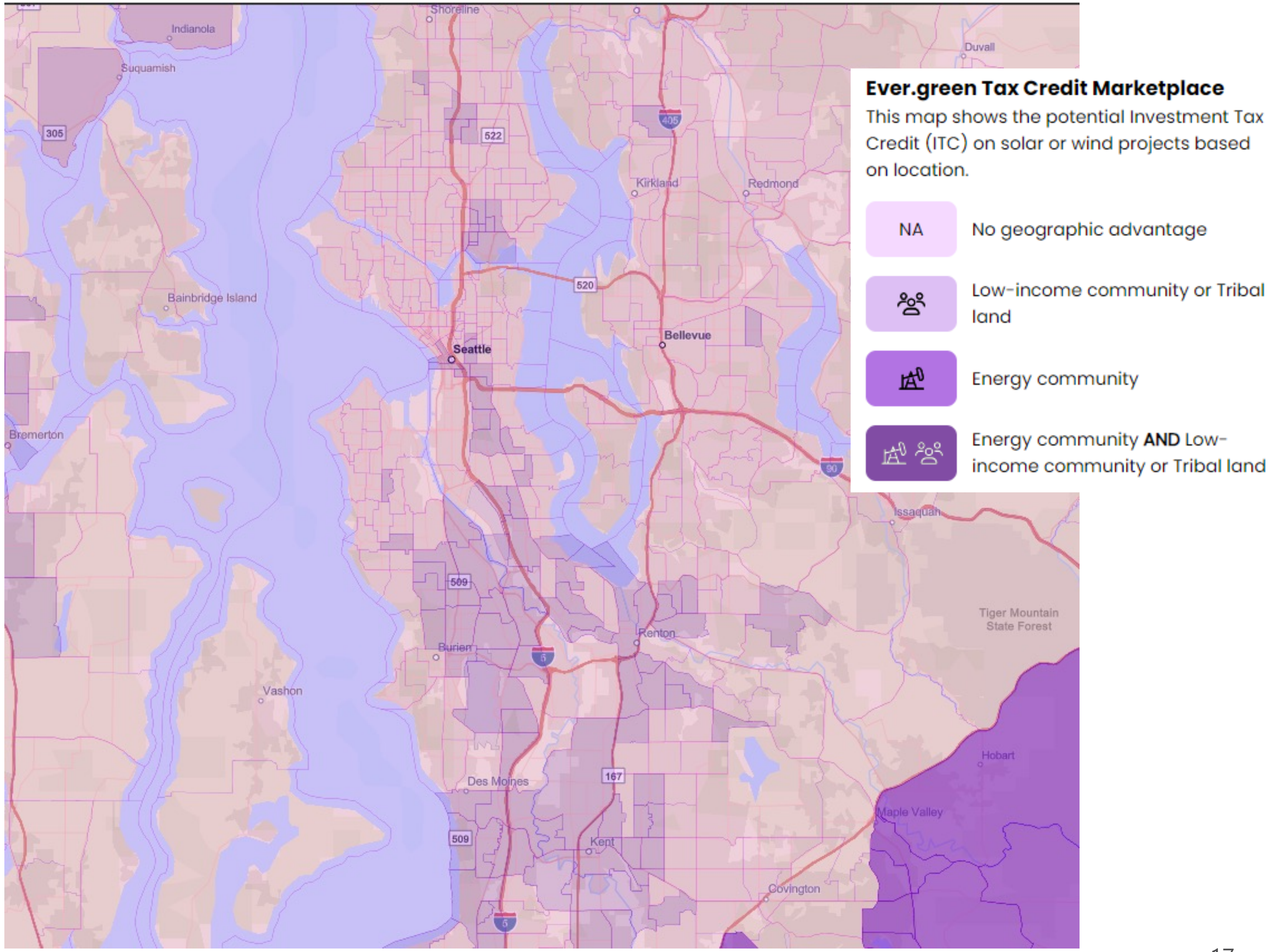
** Note: Direct payments for these credits are available to taxable entities for five years.*

Source: Source: Legal Information Institute, "26 U.S. Code § 6417 - Elective payment of applicable credits," available at https://www.law.cornell.edu/uscode/text/26/6417 (last accessed May 2023).

Table: Center for American Progress

# Credit Bonuses

| Bonus Category | Projects over 1 MW |
|---|---|
| Domestic Content Minimums (% attributable to U.S. Manufactured Products) | +10% |
| Siting in Energy Community ex. Brownfield site, area related to mining operations) | +10% |
| Siting in Low-Income Community or on Indian Land (<5 $MW_{AC}$) | +10% |
| Qualified Low-Income Residential Building Project or Economic Benefit Project | +20% |




Source: marketplace.ever.green

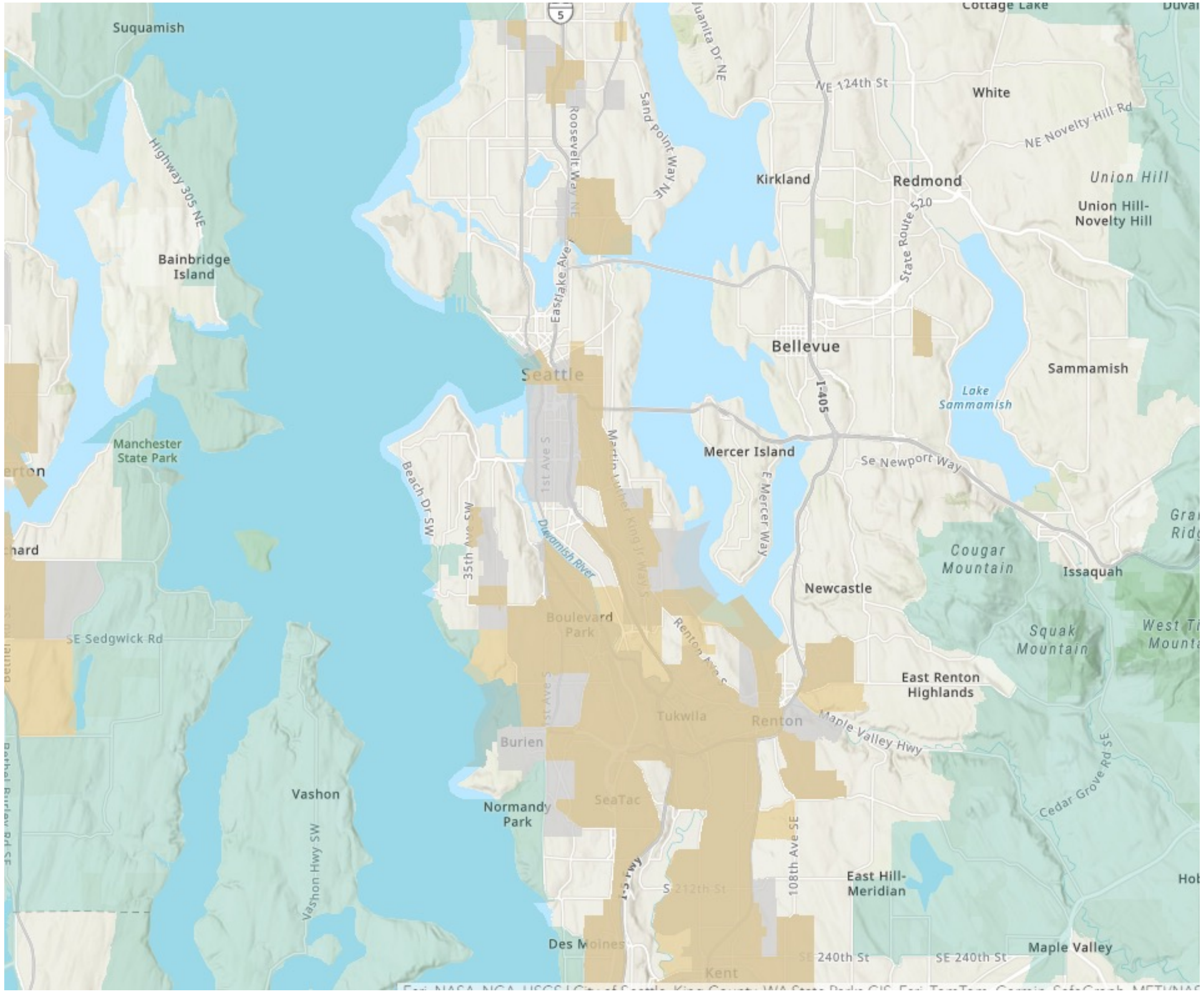
# 30C Alternative Fuel Vehicle Refueling Credit

- 30% of charger cost up to $100,000
- Open to:
  - State & local governments
  - Non-profits
  - Commercial entities
- Direct payment option available to state, local governments, non-profits
- Commercial entities have the option to sell the credits for upfront financing
- Further guidance is pending

# 30C Credit Eligibility Locations

Credits are only available to projects located within low-income or rural census tracts.

Areas colored with are locations where the credit can be used locations



# 179D Deduction

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# 179D

The CARES Act of 2020 made the 179D a permanent deduction and the IRA extended the update structure tell 2032.

- Increase in Maximum Available Deduction
- New Prevailing Wage and Apprentice Requirements
- Updates to Modelling Standards
- Alternative Deduction Calculation (Guidance Pending)
- Removal of Deduction Cap
- Triennial Reset of Deduction
- Expanded Number of Building Types Covered

# 179D Eligibility

- **Applies to Projects that Include**:
  - Interior lighting systems
  - HVAC and hot water systems
  - Building envelope
  - Projects must use the ASHRAE 90.1-2007 modeling standard. This will likely change in 2027.
  - Multifamily or Commercial with at least 4 floors
  - Available to either Building Owners or Tenants

- **Elimination of Partial Allowance**
  - Building Systems Cannot Be Modelled Separately
  - No Provision for Interim Lighting or Analyze Garages

- **25% Savings Minimum:** Projects must meet a minimum of 25% energy reduction to qualify

- **Upgrades Must Be Part of a Qualified Retrofit Plan**
  - Written Plan to Reduce Energy Intensity as Part of a Renovation
  - Must Be Certified by a Licensed Architect or Engineer

- **Labor Requirements**
  - Contractors must pay prevailing wages to their employees, as verified by the project.
  - 15% of the project manhours must be performed by an apprentice

# Deduction Amounts

**Deduction**: Sliding scale of $2.50 Sqft for savings of 25% and up to $5.00 Sqft for savings of 50% or greater

To reach the total deduction amount projects must meet prevailing wage and apprenticeship requirements.

The deduction cannot amount exceed the total capitalized cost of the energy efficiency project

| Energy Saved | Deduction Amount per Sqft | | Energy Saved | Deduction Amount per Sqft | | Energy Saved | Deduction Amount Per Sqft |
|---|---|---|---|---|---|---|---|
| 25% | $2.50 | | 34% | $3.40 | | 43% | $4.30 |
| 26% | $2.60 | | 35% | $3.50 | | 44% | $4.40 |
| 27% | $2.70 | | 36% | $3.60 | | 45% | $4.50 |
| 28% | $2.80 | | 37% | $3.70 | | 46% | $4.60 |
| 29% | $2.90 | | 38% | $3.80 | | 47% | $4.70 |
| 30% | $3.00 | | 39% | $3.90 | | 48% | $4.80 |
| 31% | $3.10 | | 40% | $4.00 | | 49% | $4.90 |
| 32% | $3.20 | | 41% | $4.10 | | 50% | $5.00 |
| 33% | $3.30 | | 42% | $4.20 | | | |

# 179D Expansion

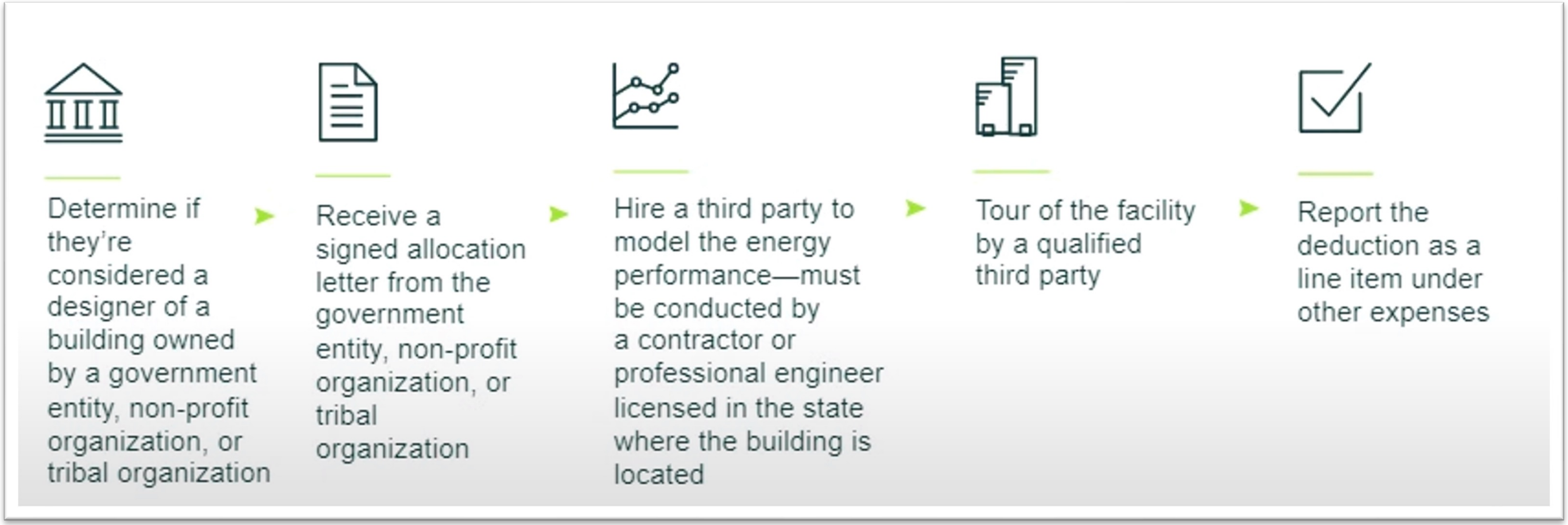
- Deduction may now be used every 3 years. With the 25% minimum required each year.
- Deduction May be Transferred to Architectural and Engineering Firms or the Energy Designer of the project
  - Governmental Buildings
  - 501 c3’s Owned Buildings
  - Tribal Governments
  - Non-Profit Hospitals
  - Real Estate Investment Trusts

# 179D Max Deduction

| Building Examples | Building SQFT | Pre-IRA Deduction | Post-IRA Deduction |
|---|---|---|---|
| Office/Elementary | 50,000 | $90,000 | $250,000 |
| High School/Multistory Residential | 100,000 | $180,000 | $500,000 |
| Hospital/Warehouse | 500,000 | $900,000 | $2,500,000 |

Source: *Moss Adams*

# Claiming 179D: Designers




Source: *Moss Adams*

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seattle.gov/city-light