

# Public Building Incentives

Inflation Reduction Act



## Clean Energy Tax Incentives: Elective Pay Eligible Tax Credits

The Inflation Reduction Act of 2022 ("IRA") makes several clean energy tax credits available to businesses, tax-exempt organizations; state, local, and tribal governments; other entities; and individuals. The IRA also enables entities to take advantage of certain clean energy tax credits through its elective pay provision (also colloquially known as direct pay). Elective pay allows several types of entities, such as tax-exempts and governments, to treat the amount of certain credits as a payment against tax on their tax returns and as a result receive direct payments for certain clean energy tax credits.

Energy Generation & Carbon Capture

Tax Provision	Description
<b>Production Tax Credit for Electricity from Renewables</b> (§ 45, pre-2025)	<b>For production of electricity from eligible renewable sources</b> , including wind, biomass, geothermal, solar, small irrigation, landfill and trash, hydropower, marine and hydrokinetic energy. <b>Credit Amount (for 2022):</b> 0.55 cents/kilowatt (kW); (1/2 rate for electricity produced from open loop biomass, landfill gas, and trash); 2.75 cents/kW if Prevailing Wage and Apprenticeship (PWA) rules are met <sup>1,2,3,7</sup>
<b>Clean Electricity Production Tax Credit</b> (§ 45Y, 2025 onwards)	<b>Technology-neutral tax credit for production of clean electricity.</b> Replaces § 45 for facilities that begin construction and are placed in service after 2024. <b>Credit Amount:</b> Starts in 2025, consistent with credit amounts under section 45 <sup>1,2,3,6,7</sup>
<b>Investment Tax Credit for Energy Property</b> (§ 48, pre-2025)	<b>For investment in renewable energy projects</b> including fuel cell, solar, geothermal, small wind, energy storage, biogas, microgrid controllers, and combined heat and power properties <b>Credit Amount:</b> 6% of qualified investment (basis); 30% if PWA requirements met <sup>1,4,5,6,8</sup>
<b>Clean Electricity Investment Tax Credit</b> (§ 48E, 2025 onwards)	<b>Technology-neutral tax credit for investment in facilities that generate clean electricity</b> and qualified energy storage technologies. Replaces § 48 for facilities that begin construction and are placed in service after 2024 <b>Credit Amount:</b> 6% of qualified investment (basis); 30% if PWA requirements met <sup>1,4,5,6</sup>
<b>Low-Income Communities Bonus Credit</b> (§ 48(e), 48E(h)) <b>Application required</b>	<b>Additional investment tax credit for small-scale solar and wind (§ 48(e)) or clean electricity (§48E(h)) facilities</b> (<5MW net output) on Indian land, federally subsidized housing, in low-income communities, and benefit low-income households. Allocated through an application process. <b>Credit Amount:</b> 10 or 20 percentage point increase on base investment tax credit <sup>7</sup>
<b>Credit for Carbon Oxide Sequestration</b> (§ 45Q)	<b>Credit for carbon dioxide sequestration</b> coupled with permitted end uses in the United States. <b>Credit Amount:</b> \$12-36 per metric ton of qualified carbon oxide captured and sequestered, used as a tertiary injectant, or used, depending on the specified end use; \$60-\$180 per metric ton if PWA requirements met. <sup>1,7</sup>
<b>Zero-Emission Nuclear Power Production Credit</b> (§ 45U)	<b>For electricity from nuclear power facilities.</b> Facilities in operation prior to August 16, 2022. <b>Credit Amount (for 2023):</b> 0.3 cents/kWh (reduced rate for larger facilities); 1.5 cent/kWh if PW req's met <sup>1,7</sup>

<https://www.irs.gov/pub/irs-pdf/p5817g.pdf>

Laundry list from the IRS of the Tax Credits found in the Inflation Reduction Act

Manufacturing

<b>Advanced Energy Project Credit</b> (§ 48C) <b>Application required</b>	<b>For investments in advanced energy projects.</b> A total of \$10 billion will be allocated, not less than \$4 billion of which will be allocated to projects in certain energy communities. <b>Credit Amount:</b> 6% of taxpayer's qualified investment; 30% if PWA requirements are met <sup>1</sup>
<b>Advanced Manufacturing Production Credit</b> (§ 45X)	<b>Production tax credit for domestic clean energy manufacturing</b> of components including solar and wind energy, inverters, battery components, and critical materials. <b>Credit Amount:</b> Varies by component

Vehicles

<b>Credit for Qualified Commercial Clean Vehicles</b> (§ 45W)	<b>For purchasers of commercial clean vehicles.</b> Qualifying vehicles include passenger vehicles, buses, ambulances, and certain other vehicles for use on public streets, roads, and highways. <b>Credit Amount:</b> Up to \$40,000 (max \$7,500 for vehicles <14,000 lbs) <sup>9</sup>
<b>Alternative Fuel Vehicle Refueling Property Credit</b> (§ 30C)	<b>For alternative fuel vehicle refueling and charging property</b> , located in low-income and non-urban areas. Qualified fuels include electricity, ethanol, natural gas, hydrogen, and biodiesel. <b>Credit Amount:</b> 6% of basis for businesses and can increase to 30% if PWA is met.

Fuels

<b>Clean Hydrogen Production Tax Credit</b> (§ 45V)	<b>For producing clean hydrogen</b> at a qualified, U.S.-based clean hydrogen production facility. <b>Credit Amount:</b> \$0.60/kg multiplied by the applicable percentage (20% to 100%, depending on lifecycle greenhouse gas emissions), amount increases if PWA is met <sup>1,7</sup>
<b>Clean Fuel Production Credit</b> (§ 45Z, 2025 onwards)	<b>Technology neutral tax credit for domestic production of clean transportation fuels</b> , including sustainable aviation fuels, beginning in 2025* <b>Credit Amount:</b> \$0.20/gallon (\$0.35/gal for aviation fuel) multiplied by CO2 "emissions factor"; \$1.00/gallon (\$1.75/gal for aviation fuel) multiplied by CO2 "emissions factor" if PWA is met <sup>1,7</sup>

# Which ones are most relevant to public buildings?

## Investment Tax Credit for Energy Property (§ 48, pre-2025)

**For investment in renewable energy projects** including fuel cell, solar, geothermal, small wind, energy storage, biogas, microgrid controllers, and combined heat and power properties

**Credit Amount:** 6% of qualified investment (basis); 30% if PWA requirements met <sup>1,4,5,6,8</sup>

## Clean Electricity Investment Tax Credit (§ 48E, 2025 onwards)

**Technology-neutral tax credit for investment in facilities that generate clean electricity** and qualified energy storage technologies. Replaces § 48 for facilities that begin construction and are placed in service after 2024

**Credit Amount:** 6% of qualified investment (basis); 30% if PWA requirements met <sup>1,4,5,6</sup>

## Low-Income Communities Bonus Credit (§ 48(e), 48E(h)) Application required

**Additional investment tax credit for small-scale solar and wind (§ 48(e)) or clean electricity (§48E(h)) facilities** (<5MW net output) on Indian land, federally subsidized housing, in low-income communities, and benefit low-income households. Allocated through an application process.

**Credit Amount:** 10 or 20 percentage point increase on base investment tax credit <sup>7</sup>

- Perhaps some might have some interest in
  - 45W – Qualified Commercial Vehicle Tax Credit
  - 30C – Alternative Fuel Refueling Property Credit

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

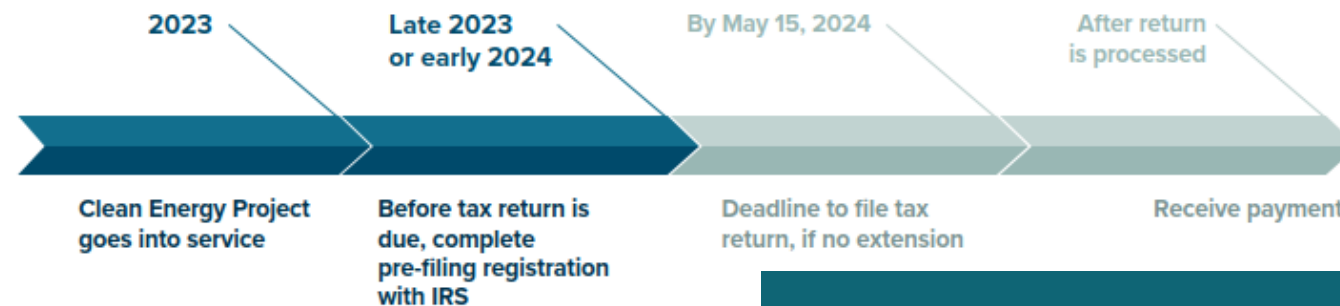
Electricity
Fuels
Vehicles
Manufacturing

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

# Some of the Particulars

- Tax Credit 48/48E
  - 6% → 30% - Must use Davis Bacon Wages and have a qualified apprentice program
  - 30% → 40% - Must be located in an energy community ([Home - Energy Communities](#))
  - 40% - 50% - Must have Domestic Content (100% of iron and steel, 40-55% of all 'manufactured products')
  - Bonus Credit 10% - Competitive Basis – low-income community or Tribal lands
- Other Grants and Credits can be grouped with the Tax Credit up to the value of the full installation
- Direct Pay or Elective Pay (same thing, two different names)
  - Complete Project
  - Pre-register
  - File Form 990-T
  - Receive payment

Figure 2: Direct Pay Timeline

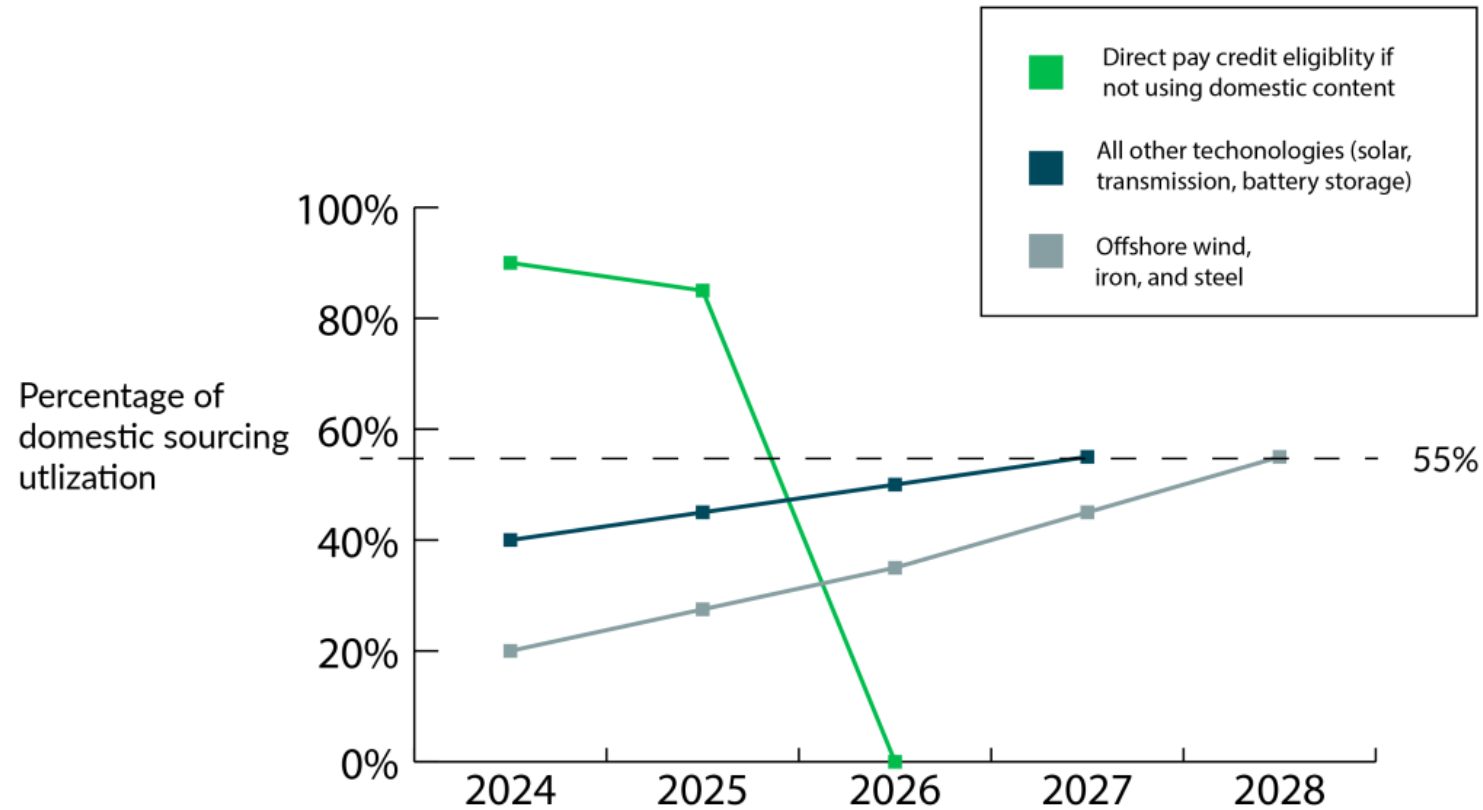


Source: ROADMAP TO NAVIGATING FEDERAL FUNDING FOR PUBLIC BUILDINGS  
BGA-MUSH-Report\_FINAL.pdf  
([bluegreenalliance.org](http://bluegreenalliance.org))



# Direct Pay for Public Buildings

Figure 2: Timing of Direct Pay and Domestic Sourcing Utilization



Source:  
[BlueGreen Alliance | Making Clean Energy Tax Credits Deliver for the Public: A User Guide for Governments, Schools, and Nonprofits](#)

# 179d

- Public buildings may assign the payment to the 'Designer' of a qualified project
  - Possibly in return for negotiated savings
- \$2.50/sq. foot for savings of 25%
- Additional \$0.10/sq ft for each percentage above 25% - for a maximum of \$5.00/sq ft
- Two methods of certification
  - Energy model the entire building (vs. ASHRAE 90.1 Baseline)
  - Energy use intensity reduction (vs. prior state of the building) – Qualified retrofit plan
    - Allows a retrofit baseline
    - Building must be 5 years or older
    - Professional Engineer or Architect required to create the plan
    - Can only be claimed after 1 year in service and results of plan verified

## 179D pre/post IRA Changes review

### Pre-2023

- Maximum \$1.88/square foot
- Individual systems can qualify
- Special Rule for Governments only
- One time deduction
- Certified vs. ASHRAE 90.1-2007 Baseline

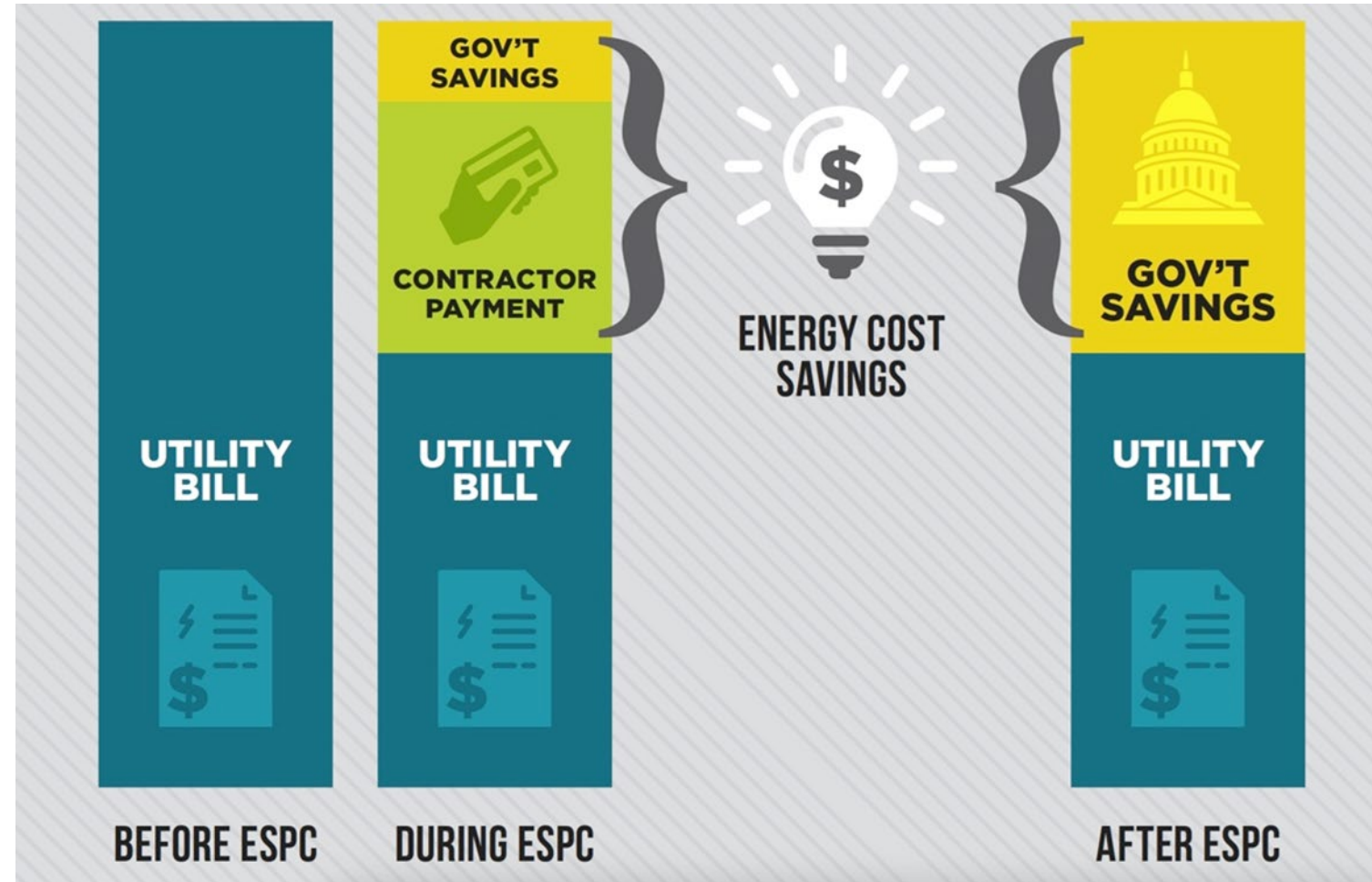
### 2023 and Beyond

- Maximum \$5.00/square foot
- Whole building must qualify
- Special Rule for Govts/Nonprofits/Tribal
- Deduction reset
  - 3 years - Commercial
  - 4 years – Govt/Nonprofit/Tribal
- Certification:
  - Updated ASHRAE 90.1, or
  - Same building savings via Qualified Retrofit Plan

# Leverage the funding with an ESCO

## HVAC Retrofit

- ESCO – Energy Service Company
- ESPC – Energy Savings Performance Contract
- Each state has a unique process for the procurement of an ESPC – often managed by the state energy office
- Payback drives the ability to fund building retrofits
- HVAC Retrofits can often provide funding to pay for the improvements
- However, some more comprehensive retrofits may need additional funding





# Leveraging the funding with an ESCO

## HVAC Retrofit

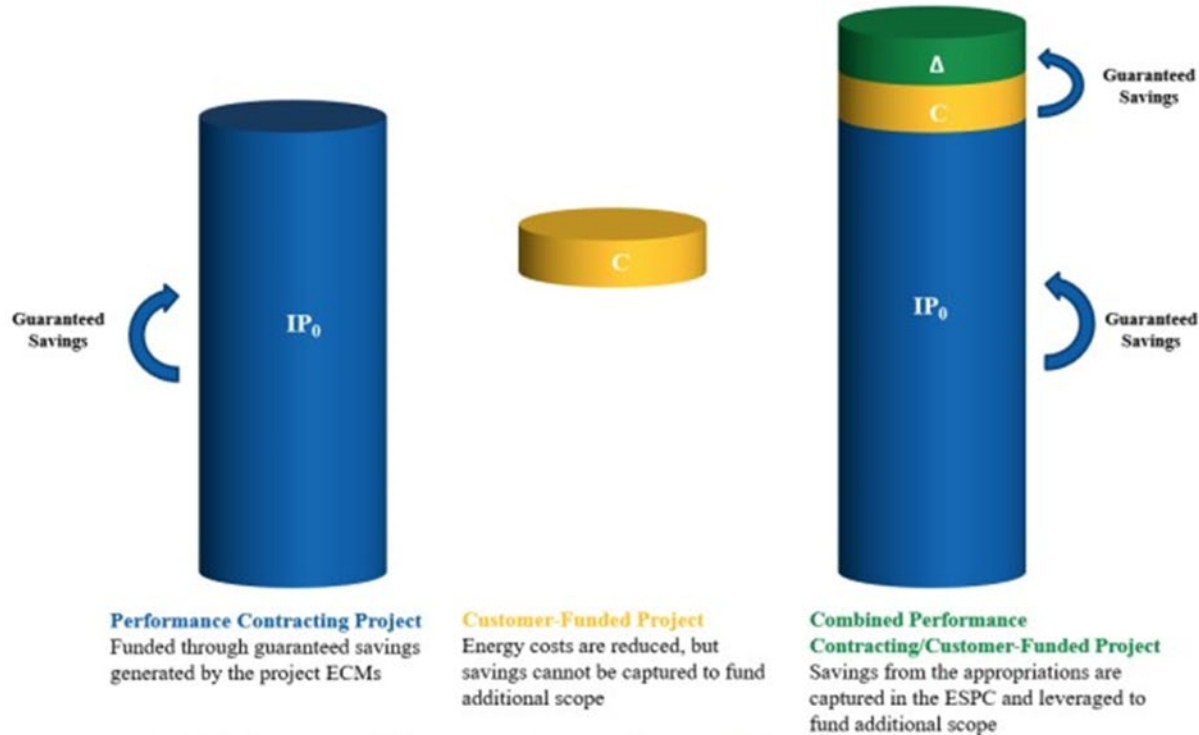


Figure 2: Energy savings can only be capitalized and leveraged to incorporate additional ECMs when available customer funding is incorporated into a performance contract.

- Since some HVAC Retrofit items do not cover the cost, LEVERAGING the funds becomes critical
- This figure is repeated from the prior webinar
- Capital funds, Tax Credits, 179d Deductions, etc.
- Boilers, Chillers, Rooftop units often need help in meeting payback requirements.
- Building controls, some air-side changes can meet payback requirements.
- Outside air considerations have a significant impact on payback.
- Baseline is critical to understanding the impact and ability to fund using this method.

# Leverage the funding with an ESCO

## HVAC Retrofit

- Retrofit vs. replacement -
- When do I think a building initiates an HVAC Retrofit project
  - Something has broken
    - Get it fixed now – central chiller/boiler fails, principal’s rooftop unit fails, pipe breaks and floods the building
    - We can limp through until a solution is found – a unit ventilator fails, controls are quirky, leaking condensate
  - Occupants complain about temperatures/comfort
  - Facility manager makes case with building admin – who then carry the case to leadership
  - Wealthy donor makes a large contribution to building for HVAC system retrofit
- Things to consider on this measure
  - Energy use reduction goals
  - System operational ability – staff
  - Contractor installation and repair skillset and availability
  - Decarbonization
- An ESCO will consider these and more – as they must be responsible for the system for 10-20 years

# Leveraging the funding with an ESCO

## Solar Installation

- Several Considerations:
  - Ownership of the solar asset
  - Integration with the local utility
  - Location of the solar asset (rooftop, field/ground based, parking canopy, etc.)
  - Size and purpose of the solar asset (demonstration, viewable, power production)
- How to pay for a Solar Installation
  - Energy Savings Performance Contract
  - Tax Credits / Local Incentives
  - Do I buy it or do I buy its output?
  - Do I own it or do I lease the land/space to a third party?
- To leverage, you must integrate with other measures – solar can provide additional savings, depending on your location and utility rates.

### **Some Terms you May Hear:**

Energy Savings Performance  
Contract (ESPC)

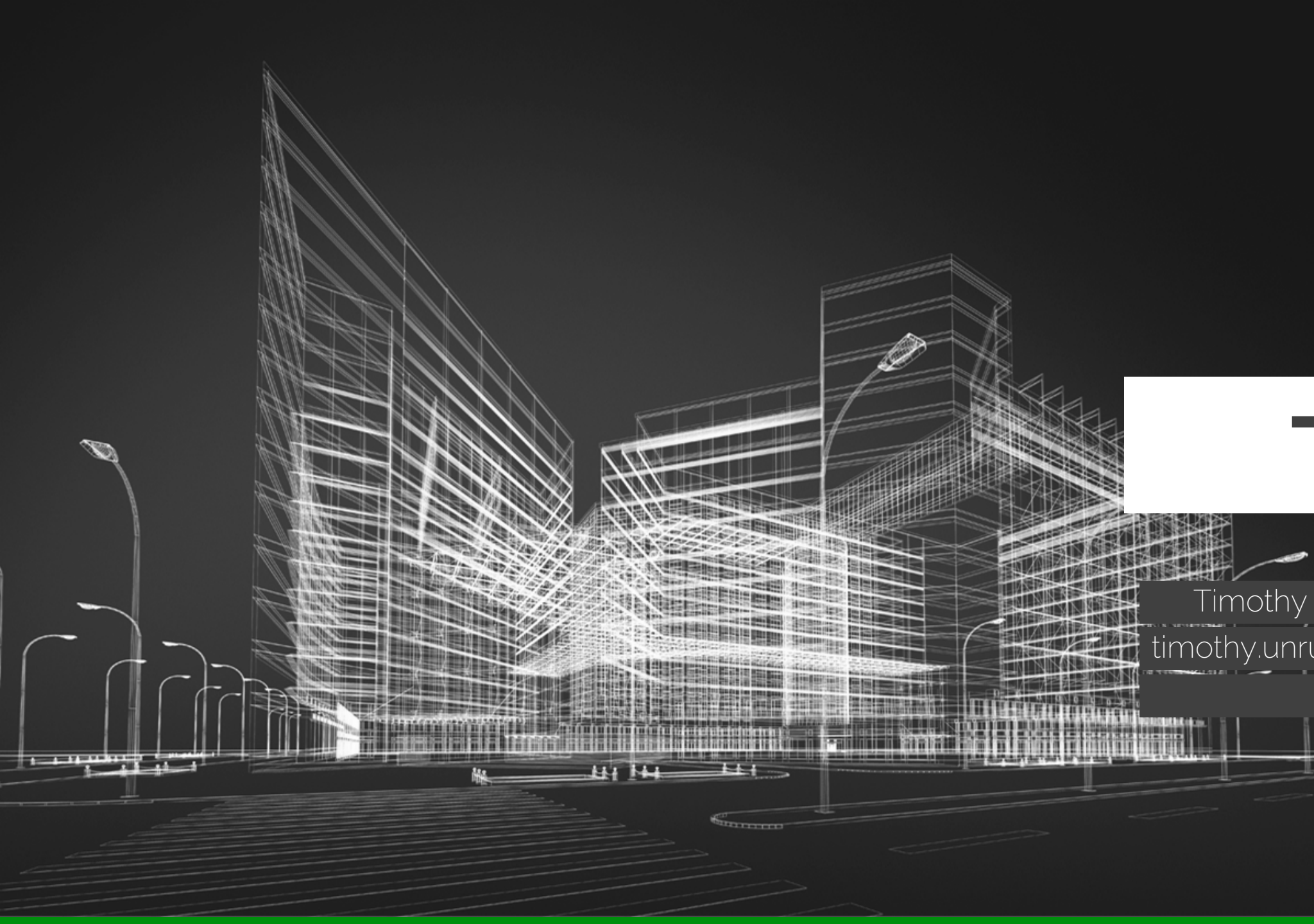
Design-Build Own Operate Maintain  
(DBOOM)

Power Purchase Agreement (PPA)

Energy Services Agreement (ESA)

Energy as a Service (EaaS)

Concession agreement



# Thanks.

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