

BAiP GREEN ENERGY TALK

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Stewart Pravda

stew04frog@icloud.com

718.928.8529

Agenda

WELCOME!

CLIMATE CHANGE

OVERVIEW OF THE ELECTRIC GRID

LOCAL LAW 97 (LL97)

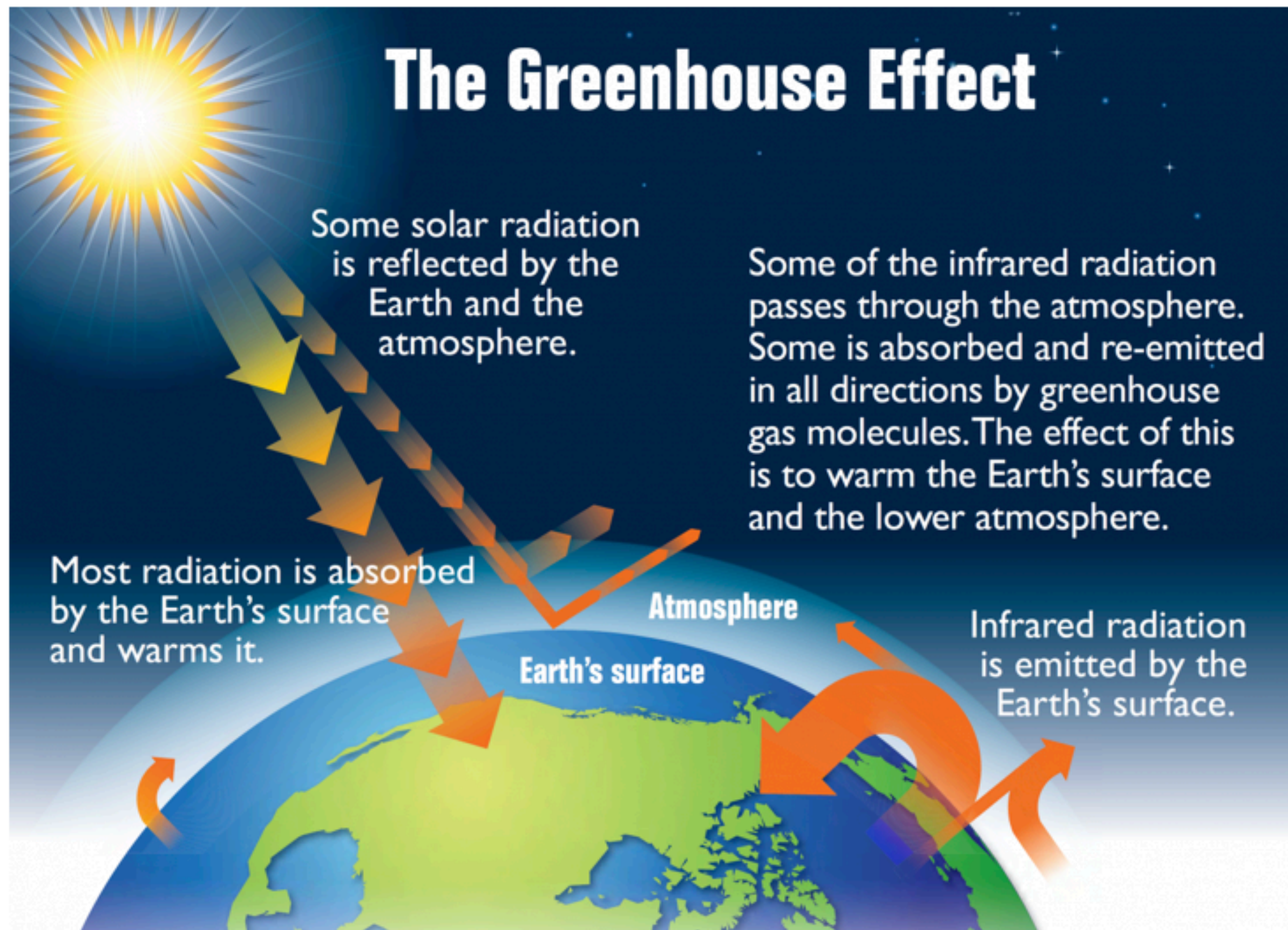
GREEN POWER

COMMUNITY SOLAR

OTHER ACTIONS - DEMAND REDUCTION

BRIGHT SPOTS

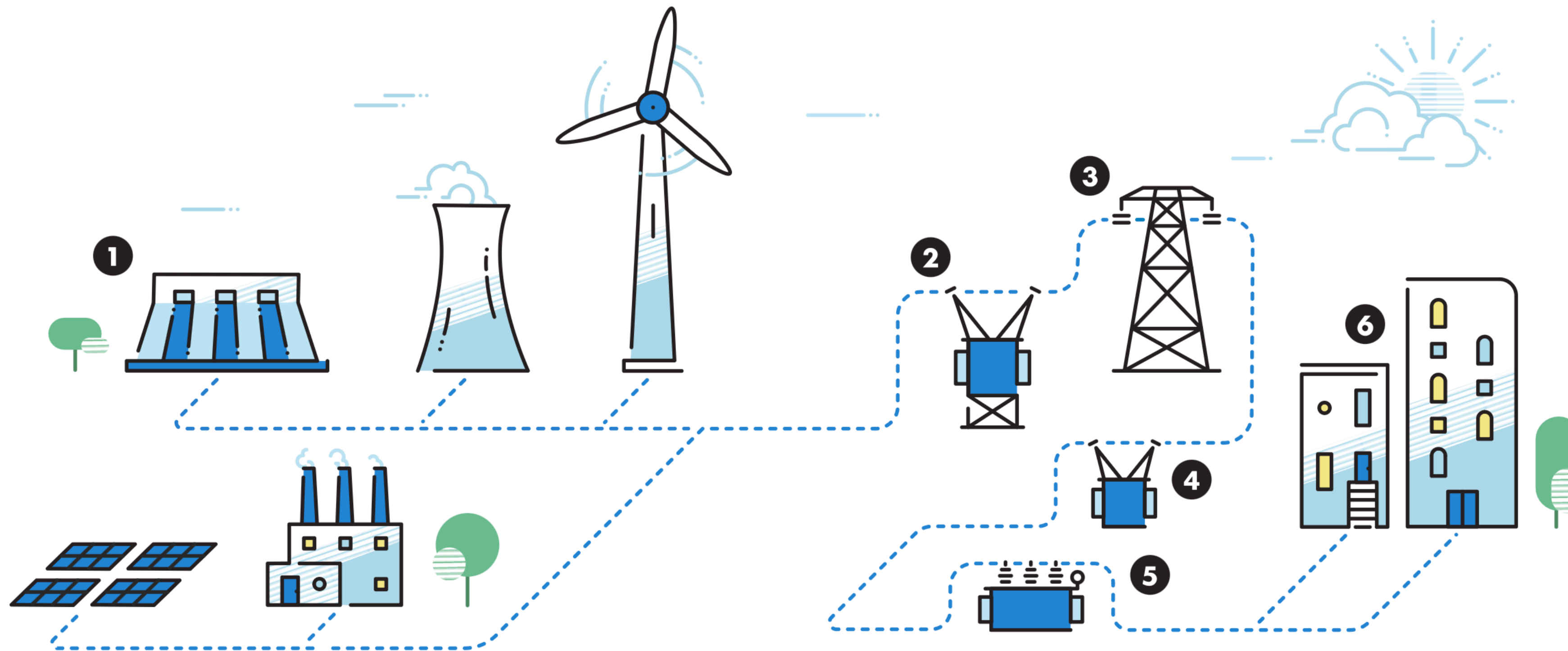
SUMMARY



The greenhouse effect helps trap heat from the sun, which keeps the temperature on earth comfortable. But people's activities are increasing the amount of heat-trapping greenhouse gases in the atmosphere, causing the earth to warm up.

Climate Change

- Great Climate Overview Google 'xkcd Earth Temperature Timeline' by Randall Monroe
- To find out the CO₂ that your electric usage emitted, use a tool available from: www.epa.gov/eGRID/power-profiler#/NYCW
- NOTE: This hasn't been updated since 2023. Surprised it is still available
 - Input your monthly/yearly kWh
- My wife and I used 3,000kWh last year which emitted 2,707 pounds of CO₂
- As a short cut you can use 1kWh=.86 pounds of CO₂ for your usage



1 SOURCE

We source electricity from all over New York, whether it's from solar, wind, or generating stations.

2 TRANSMISSION SUBSTATION

Then, we step up the voltage for transmission over wires.

3 TRANSMISSION LINES

Nearly 128,000 miles of cables carry your electricity throughout the sourcing process.

4 AREA SUBSTATION

The voltage is stepped down for distribution.

5 TRANSFORMERS

The voltage is stepped again in preparation for its final stop at your home or business.

6 YOUR HOME OR BUSINESS

Finally, the power makes its way to you, all with no delay, despite the journey.

FUEL SOURCES CON ED 2024

BAT <1%

BIOMASS <1%

COAL 3%

HYDRO 2%

NATURAL GAS [METHANE] 60%

NUCLEAR 25%

OIL <1%

RENEWABLE BIOGAS [METHANE] <1%

SOLAR 5% NOTE UP FROM <1% IN 2021!

SOLID WASTE 3%

WIND 2%

LOCAL LAW 97

Local Law 97 (LL97)

- 70% of CO2 emissions in NYC are from buildings
- Most buildings over 25,000 square feet (~ 50,000 buildings) are required to meet new energy efficiency and greenhouse gas emissions limits as of 2024
- Goal: Reduce the 2024 baseline emissions by 40 percent by 2030 and reach net zero by 2050
- Benchmarking of the building energy use / emissions requires a Professional Engineer or Registered Architect to certify energy use (reduces mistakes/cheating)

LL97 drives buildings to:

- reduce direct fossil fuel use
- move to electrify
- reduce energy demand

Penalties are for emissions over baseline. Fines are \$268/metric ton CO2 above permitted amounts.

Unit-owners energy use also counts and unit-owners & renters can take steps to reduce energy demand and fossil fuel use.

Types of Power

As defined by the US Environmental Protection Agency

- Green Power = Electricity produced from solar, wind, geothermal, biogas, eligible biomass and low impact small hydro
- Green Power must also have a relatively small impact on the environment
- Renewable energy is a larger category that includes large hydro and municipal solid waste
- Conventional power includes coal, oil, natural gas [methane] and nuclear

ESCO Power

- Energy Service Company (ESCO) is an alternative to Con Ed utility power
- ESCO's may or may not offer Green power
- The NY Public Service Commission has issued warnings to consumers to carefully review contract terms and conditions
- Prices may be fixed for a period of time or variable
- You may pay more or less than staying on utility power

Community Solar Basics

What is it?

- An outside organization sets up solar panels with access to your 'local' electricity grid
- The group gets individuals to subscribe to a share of the power equal to their yearly usage
- Projects are 'full' when all the power from the panels are subscribed to

How it works

- Using your Con Ed history the organization estimates your yearly power usage
- Con Ed buys the solar power and you receive a credit, roughly equal to the contract discount %

Community Solar via NYSERDA a NYS Gov't Agency

How to subscribe

Go to:

<https://www.nyserda.ny.gov/All-Programs/NY-Sun/Solar-for-Your-Home/Community-Solar>

- Be patient it will eventually load a map of NY State with all available projects.
- Choose Consolidated Edison in the 'Select a Utility' drop down box.
- 'Available' firms appear however this isn't always accurate
- You will have to click on each of the companies and enter your Con Ed account number to be able see the details you need to choose a plan.
- Call 518-862-1090 to speak with NYSERDA

Current Potential Vendors

This list can go stale quickly!

- Solar Simplified - This vendor is small but responsive
- Nextamp - Must set up an account before getting information
- Solstice - Must set up an account before getting information
- Perch Energy - No current availability but you can get on the waiting list
- Ampion - Must set up an account before getting information
- PowerMarket is a middleman for a number of vendors. Informative Website but we have had problems with their customer service and response times

Contract Terms for Community Solar

What to look for

- To meet LL97 rules Provider must source power from Area J (NYC and Westchester)
- Length of subscription term - Longer is generally better
- The discount % for the length of the subscription
- If rates are included in the subscription, promotional - fixed or variable, those rates could change or increase over time. Avoid contracts with these offers
- Don't take contracts that have fees, including cancellation fees. (However ignore the CDG fee, it is not really a fee)
- Use providers that offer 'One Bill' from Con Ed which incorporates the bill from Community Solar.

Community Solar Downsides

Part I (sigh)

- Vendors websites don't provide enough information to allow you to determine if the vendor's offerings are right for you
- Many sites require you to set up an account and provide your Con Ed account number before you can see the details on the offer
- You MUST read the contract carefully
- After signing a contract it can take months to actually get the power. Supplies are limited and new sources take a long time to get on-line.
- The actual discount off the total bill will be less than the contract amount. The discount is off of something called CDG credits. But you will still save \$.
- Many vendors have income or geographical limits, Community Solar was originally aimed for low to moderate income people but is now more widely available

Our Experience

- It took months to move from a signed contract to actually getting Community Solar power. While new projects are being built it is a slow process.
- The calculation and application of the discount is a 'black box'. We would have spent \$1,047 in 2025 but with the discount we paid \$974, saving \$73 or ~7%. Our contract is for a 10% discount but the determination of that is not obvious. We are happy to save some \$ and protect the environment.

Demand Reduction

- Simple actions: be mindful and shut off lights, keep temperatures comfortable, wash clothes in cold water, run full dishwasher loads, place foam insulation behind outlets that face outside walls, switch to LED lighting.
- More involved actions: Use smart strips to have one master shutoff button to eliminate 'vampire' power such as TV, speakers, set top boxes, computers etc.
- Advanced/professional solutions when you update your apartment: Get a free home energy audit, replace old appliances with high Energy Star models, replace a gas stove with an induction stove, replace a gas dryer with a heat pump dryer or an electric one, weatherization such as new windows. Upgrade your electrical panel and home wiring as required.

Demand Reduction

- There are incentives from Federal, State, Local gov't and utilities.
- You must verify with the program if you are eligible for an incentive (rebates, tax credits, grants/loans or other programs)

Check with your tax professional!

There are programs from the New York State Energy Research and Development Authority (NYSERA) such as:

- Residential Energy Assessments.
- Finding a contractor.
- Residential financing.

As well from Con Ed <https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-residential-customers/smart-usage-rewards> on saving money and energy.

There are many other programs - See the Resource List at the end of this presentation for some websites.

Demand Reduction

Beyond the home

- Walk or take public transit instead of a taxi/car
- Eat less red meat
- Buy less stuff
- Compost (reduces CO₂ emissions from landfills)

Resources

- Great Climate Overview, Goole: [xkcd Earth Temperature Timeline](#)
- EPA tool for CO2e usage: www.epa.gov/eGRID/power-profiler#/NYCW/
- Find Green Energy plans: documents.dps.ny.gov/PTC/home
- Find Community Solar: www.nyserda.ny.gov/All-Programs/NY-Sun/Solar-for-Your-Home/Community-Solar
- NYS Energy Efficiency Programs: www.nyserda.ny.gov/All-Programs/Home-Energy-Efficiency-Upgrades
- Residential Energy Assessments: www.nyserda.ny.gov/Contractors/Find-a-Contractor/Residential-Energy-Assessment
- Financing Programs www.nyserda.ny.gov/All-Programs/Residential-Financing-Programs
- Con Ed <https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-residential-customers/smart-usage-rewards>

Good News

- While the US is backsliding, the world is moving forward
- Wind and solar are cheaper and quicker to implement than conventional power
- In 2024 90% of new energy comes from solar and wind
- Electric vehicles are gaining market share and new technologies from China have increased range to almost 1,000 miles and recharge times down to a few minutes
- Balcony solar is gaining acceptance and legal status especially in Europe but also in a few states here
- 'BESS' is energy storage and it is being installed as part of new solar and wind projects
- CHPE will go live on June 1, 2026 and deliver 1,250MW of renewable energy from Canada to NYC
- Con Edison's electric grid is well-poised to support the transition to heating electrification. The system handles 13,000MW summer peak demand. By contrast current winter peaks range up to about 8,000MW. Planning to support higher peaks in both seasons is a standard part of a utilities job.

Contact Me

Feel free to contact me with any questions or if you need assistance:

Stewart Pravda

stew04frog@icloud.com

718.928.8529