

Ten Year Energy Plan



Overarching Goals:



(Lifted from St Pete's Clean Energy Pathway)

Goals	Metrics
#1: Advance Energy Efficiency In Existing Buildings	___% Reduction in Energy Demand of existing buildings by _ (25/10) All City Bldgs Energy Star Gold in ___ Years (10)
#2: Build Infrastructure that is Efficient AND Renewables Ready	All New buildings ___% more efficient than Code All new buildings Solar Ready All New City Buildings, Green Building Certified Gold with Solar.
#3: Create and Procure Renewable Energy through Collaboration	Set Renewable Portfolio Goals: ___% by ___ (30% City by 30) ___% by ___ (100/2050)
#4: Develop a Smart, Reliable, and Resilient Energy System	Driven by KES: Smart grid and microgrids, centralized energy plants
#5: Enhance and Electrify Transportation	___% mode shift to electric vehicles OR ___% reduction in transportation emissions (Transportation Ten Year Plan underway)

Year 1 (FY20/21)

City Government

Policy: All City upgrades: Energy Star

Policy: All new City Bldgs:
Gold & Solar

Policy: Energy Fund

Data: Quarterly Energy Reports

Projects: Fire Station 1, Solid Waste Transfer Station, Wastewater Treatment Plant, Public Works

Policy: 10 Year Transportation Plan



Energy	Fund
1st Year	75% of Savings
2nd Year	50% of Savings
3rd Year	25% of Savings
4th +	0% of Savings



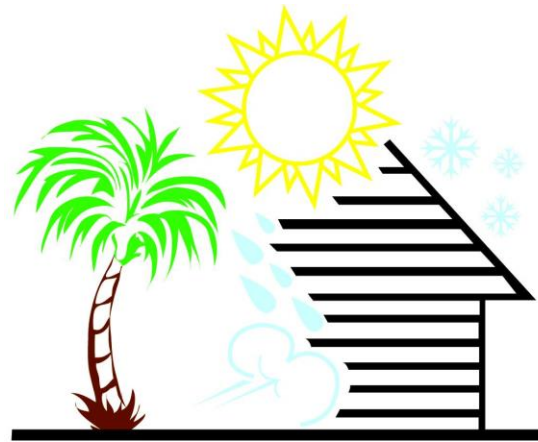
Wind Retrofits:

- Impact Doors
- Impact Windows
- Roofs



Year 1 (FY20/21)

Top	10 ROI
1	Programable Thermostat
2	CFLs / LEDs
3	Smart Power Strips
4	Water Heater Blanket
5	High E Shower Head
6	Seal Duct Leaks
7	Energy Star Dishwasher
8	Window Upgrades
9	Skylights
10	Insulate Walls



*Weatherization Works
in Florida*



Residential and Commercial

Policy: All new and renovations: High Efficiency

Project: LED Street Lights

Project: Energy Use Map

Ed: Rebates, Audits,
Weatherization, Top 10
Return on Investments

Year 2 (FY21/22)

City Government

Policy: Solar Streamlining

Ed: Green Building Certification

Data: Walk through
evaluation of all City Occupied
Buildings

Data: Renewables Research

Project: 5 Highest ROI Buildings

Solar: New Fire Station 3

Solar: Douglass Gym Expansion

Collab: All Partners



5 types of
renewable
energy sources

Solar Energy

Solar energy comes from the sun, and is harvested with several technologies, including solar panels.



Wind Power

Wind turbines capture the wind's power as they spin and convert it to electricity.



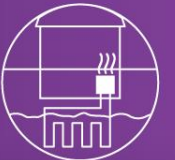
Hydroelectricity

Hydropower turbines rotate as water flows through them, generating electricity.



Geothermal Energy

Heat energy from within the earth can be harnessed to generate power.




Biomass

Biomass fuels are recently living organic matter (like plants and animals) that are burned for power.




Year 2 (FY21/22)



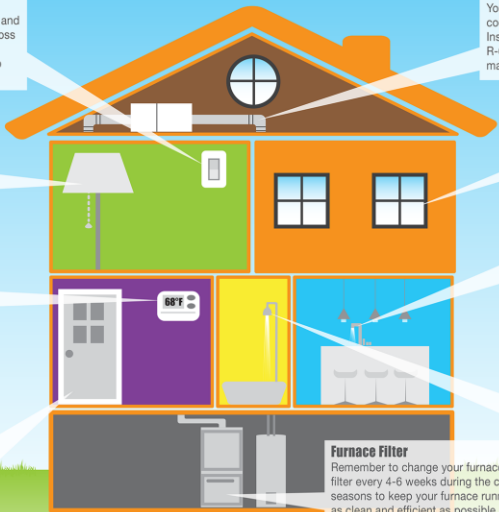
Home Energy Audit

Simple things that you can do around your home to save energy.



QUICK TIPS

- 1 Check for air leaks
- 2 Use less heated water
- 3 Use energy efficient lighting
- 4 Program your thermostats



Outlet and Switches
Air can escape from behind your outlets and light switches causing up to a 5% heat loss in your home. Add foam draft stoppers behind your outlets and switch covers to reduce heat loss through these areas.

Lighting
Replace your old incandescent bulbs with energy efficient CFLs or LED bulbs.

Programmable Thermostats
You can save 2% of your energy use per degree that you drop your thermostat. Program your thermostat 10° lower when you leave the house or while you are sleeping.

Door Weatherstripping
If you see daylight coming from under your exterior doors you're losing heating and cooling. Install a threshold or use a door draft snake to block the air from escaping.


Attic Ducts
You can lose up to 40% of your heating and cooling through improperly insulated ductwork. Insulate with special insulation with at least an R-6 rating. Use metal-foil-faced tape or mastic-based duct sealant.

Windows
Insulate around your windows or install a window film insulating kit to prevent heat loss.

Faucets
Washing a sink full of dishes with a standard 2.2 GPM (gallons per minute) faucet aerator can use about 20 gallons of water. By switching to a more efficient 1.5 GPM aerator you can reduce the amount of heated water used while rinsing dishes. Always use cold water whenever possible.

Showerheads
Some showerheads use up to 50 gallons of hot water per 10 minute shower. Switching to a more efficient showerhead (2.5 GPM or less) can save you atleast half of the amount of energy required to heat the water used for your shower.

Furnace Filter
Remember to change your furnace filter every 4-6 weeks during the colder seasons to keep your furnace running as clean and efficient as possible.



You can save up to 30% on your energy costs.

If you want to save more you can contact an Energy Auditor to check your home for more inefficiencies.



Residential

Ed: Upgraded Energy Audits

Ed: Rebates, Audits, Weatherization, Top 10 Return on Investment Projects.

Commercial

Policy: Major Redevelopment: Choice of 3 Efficiency Efforts

Project: Green Business Certification

Year 3 (FY22/23)

City Government

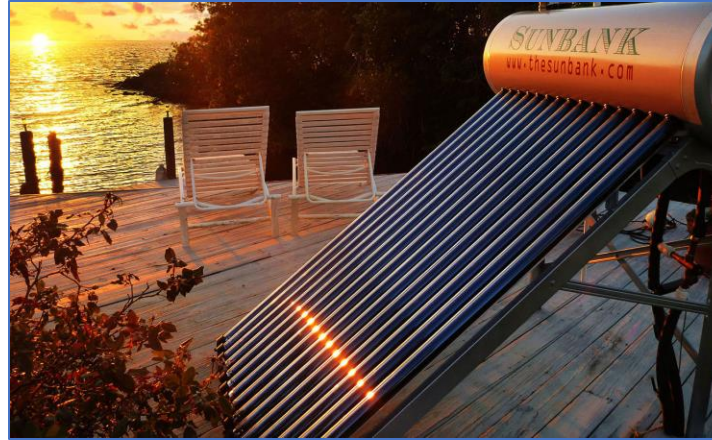
Policy: Solar Water Heater streamlining

Data: Walkthrough Audits of all City Leased Buildings

Projects: 5 Highest ROI Buildings

Ed: Solar training for Inspectors

Collab: At least one Partner



Year 3 (FY22/23)



Housing Authority of the City of Key West, Florida



Residential

Project: Low Income Housing

Commercial

Policy: Portfolio Manager

Both

Ed: Solar/Electrical
Contractors Refresher Courses

Year 4 (FY23/24)

City Government

Research: EV/Solar/Parking Lots

Project: 5 Highest ROI Buildings

Project: Solar on New or Existing Building

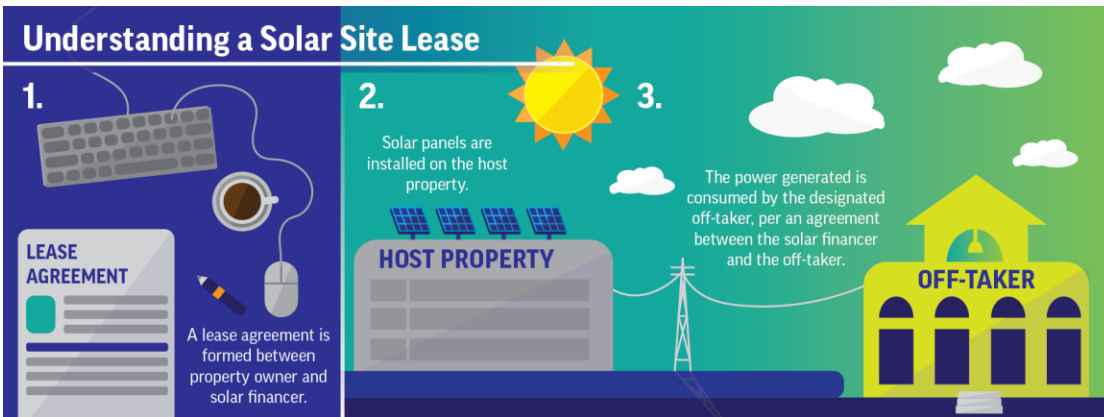
Project: 1st City Green Roof

Collab: At least one Partner



Year 4 (FY23/24)

greenLoans



Residential

Project: Green Loans

Project: Solar Leasing

Commercial

Ed: Portfolio Manager

Collab: Community Solar

Both

Programs: Solar Coops / PACE

Year 5 (FY24/25)

City Government

Policy: Revisit Ten Year Plan

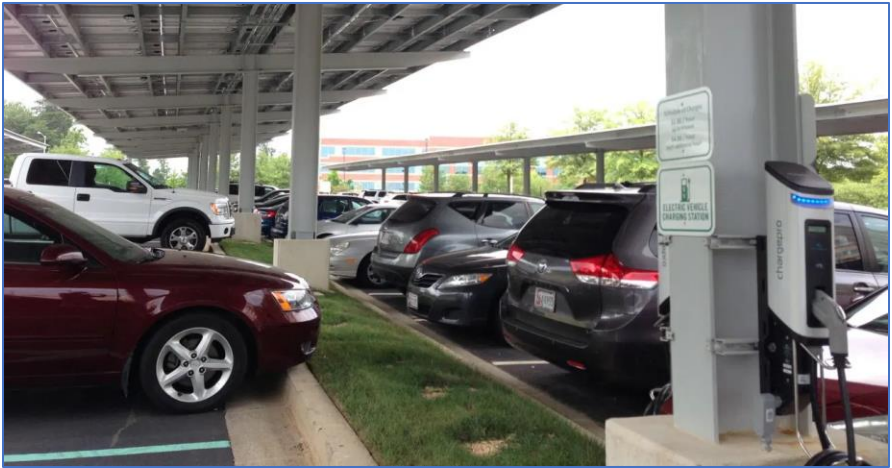
Project: 5 Highest ROI Buildings

Project: Solar on New or Existing Building

Project: Solar EV Parking Lot

Collab: At least one Partner

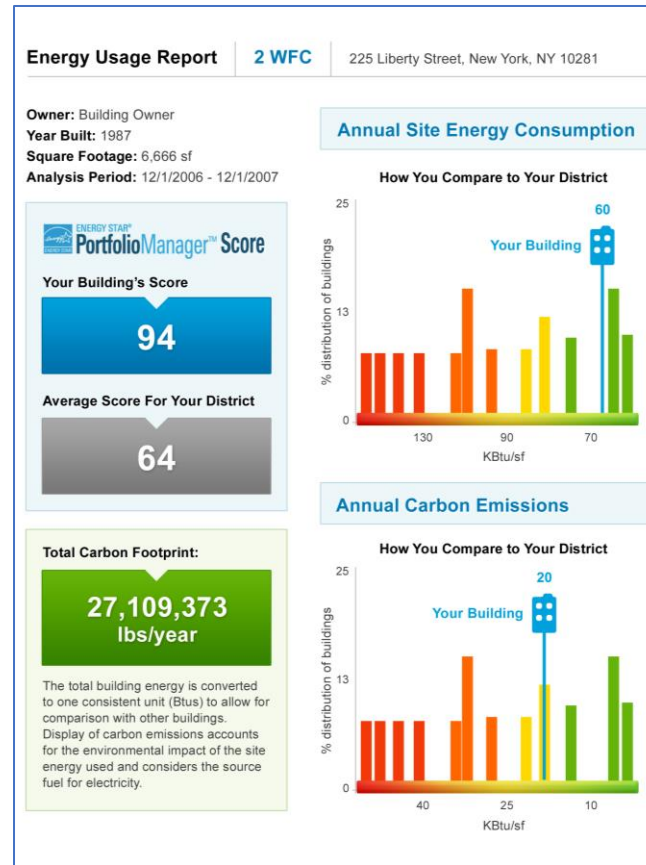
Orig Year	Update Year
✓ 1	
✓ 2	
✓ 3	
✓ 4	
✓ 5	
6	1
7	2
8	3
9	4
10	5
	6
	7
	8
	9
	10



Year 5 (FY24/25)

Total Households: ~10,000

Work with ~100 households in first year



Residential

Project: Help Lowest 1%

Commercial

Research: Analyze Bldg Stock
– Set Portfolio Manager Tiers

Ed: Commercial Challenge

**GREEN BUSINESS
CHALLENGE**



**Better Buildings
CHALLENGE**
U.S. DEPARTMENT OF ENERGY

Year 6 (FY25/26)

City Government

ALL City Occupied Bldgs Complete!

Data: Commercial Grade Audits on 5 City Occupied Buildings

Project: Partner on 5 City Leased Bldgs

Project: Solar on New or Existing Building

Project: Solar EV Parking Lot

Collab: At least one Partner



Year 6 (FY25/26)

Total Households: ~10,000

Work with ~500 households in 2nd year



Residential

Project: Lowest 5%

Commercial

Ed: Commercial Challenge

Year 7 (FY26/27)

City Government

Project: First ESCO Project

Project: Partner on 5 City Leased Bldgs

Project: Solar on New or Existing Building

Project: Solar EV Parking Lot

Collab: At least one Partner



Year 7 (FY26/27)



**GREEN BUSINESS
CHALLENGE**



AN ICLEI **USA** PROGRAM



Residential

Project: Lowest 5%

Commercial

Ed: Commercial Challenge

Both

Ed: Solar/Electrical
Contractors Refresher Courses

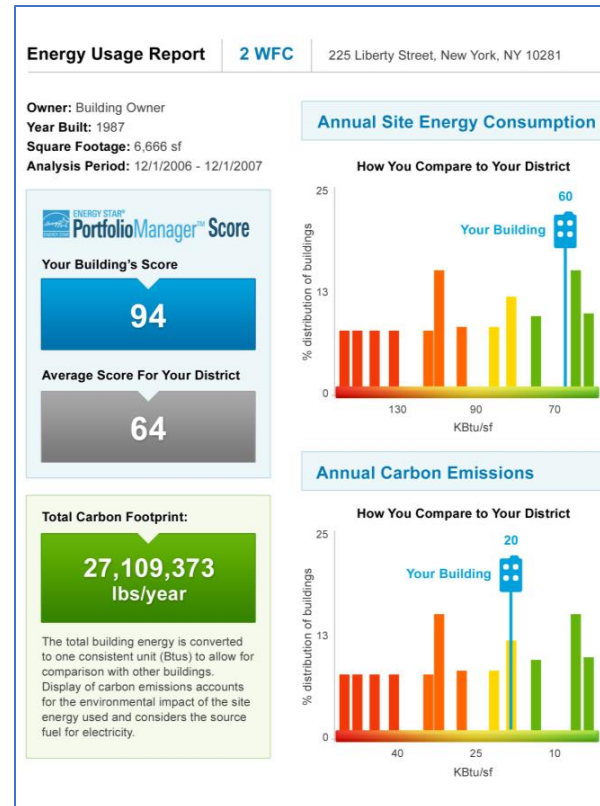
Year 8-10 (FY27-30)

City Government
Project: Partner on 5 City Leased Bldgs
Project: Solar on New or Existing Building
Project: Solar EV Parking Lot
Collab: At least one Partner

Year 8 (FY27/28)

Year 9 (FY28/29)

Year 10 (FY29/30)



Residential

Project: Lowest 5%

Commercial

Ed: Commercial Challenge

FY29: Lowest Audits

FY30: Everybody up one Tier

Both

Ed: Solar United / PACE push