

Key West Energy Goals

(City, Commercial and Residential)

Key West Energy Goals	Measurable Metrics
#1: Advance Energy Efficiency in Existing Buildings	A) 25% reduction in energy demand of existing City buildings by 2032. B) All City Bldgs reaching Energy Star Gold in 10 Years C) All residential buildings: Minimum 25% more efficient than code. D) All Commercial buildings: Minimum % more efficient than code.
#2: Build Infrastructure that is Efficient AND Renewables Ready	<ul style="list-style-type: none">All new buildings will be at least 25% more efficient than CodeAll new buildings will be Solar ReadyAll new City buildings will be Green Building Certified Gold with Solar.
#3: Create and Procure Renewable Energy through Collaboration	<ul style="list-style-type: none">Set renewable portfolio goal: 100% by 2050?X% Renewables in by 2030 (what is current level?) (% on City Bldgs, % in Community)
#4: Develop a Smart, Reliable, and Resilient Energy System	<ul style="list-style-type: none">Driven by KES: Smart grid and microgrids, centralized energy plants
#5: Enhance and Electrify Transportation	<ul style="list-style-type: none">X% mode shift to electric vehicles OR 13% reduction in transportation emissionsPartner with KES to install electric vehicle chargers all over the island.
# 6? Equity	<ul style="list-style-type: none">

Funding: EECBG manager at DOE's Better Building Summit a couple of weeks ago. The total funding allocation is \$550 million and it will be a formula grant for 98% of it, where 2% will go to tribes, 28% to the State, and 68% directly to the local government. The State must subgrant 60% of the amount received to local governments that are not eligible for the formula portion.

The formula allocation will be published in the summer with funds available in late 2022. No matching will be required. Eligibility use of funds is broader than the 2007 Act, and includes transportation and renewable energy, possibly energy storage as well.

BIL:

- NEVI: <https://www.fdot.gov/planning/policy/ev/electric-vehicle-infrastructure-funding>
 - [State Plan due Aug 1](#). Draft available. July 5 Presn recorded. Keys are "Corridor Pending"
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IIJA:

Resources:

Energy and Water Goals: <https://www.sandiego.gov/sustainability/energy-and-water-efficiency>
[https://www.usdn.org/members/focus-areas/10/usdn-programming-activities-on-building-energy.html#/Miami Dade EV Ready](https://www.usdn.org/members/focus-areas/10/usdn-programming-activities-on-building-energy.html#/Miami+Dade+EV+Ready):

FSEC: <http://publications.energyresearch.ucf.edu/?subjects=buildings>
<https://www.fdacs.gov/Energy/Florida-Energy-Clearinghouse>

All Transportation Fuel Sources: https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/maps/

Clean Coalition Initiatives: <https://cflccc.org/about-us/coalition-initiatives/>

Goal #1: Advance Energy Efficiency in Existing Buildings

- A) 25% reduction in energy demand of existing City buildings by 2035.
 - a. What: 110 buildings, Need to do 11 buildings per year to reach goals.
City occupied buildings (30) will be done by 2026 (9-13 per year).
Leased buildings will be done by 2035 (8-10/year)
 - b. How: All buildings will be prioritized using Energy Star / Portfolio Manager
Primary upgrades: LED lighting, occupancy sensors and AC units.
- B) All City Bldgs certified Energy Star Gold
 - a. City occupied buildings in 5 Years (by 2028)
 - b. Leased buildings in 15 years (by 2038)
- C) All Residential buildings: Effect? Timeline?
 - a. New buildings: Has BPAS, minimum bronze, green building certification.
 - b. Renovations of Existing buildings:
 - 15% reduction in existing buildings is considered very attainable for little to no cost.
 - BPAS in existing buildings have been using 15% for BPAS, with no issues.
 - KWPD lighting project resulted in reduction.
 - OR Three Choices (related to 179D Tax deductions)
 - Envelope 10%
 - HVAC and HW 15%
 - Lighting 25%
 - Resources:
 - Education: Energy Star, Biggest ROI?
 - Partner with Monroe WAP and Habitat for Humanity.
 - Use Energy Map & LiHEAP to identify.
 - Utility loans, grants. Research IJIA and BIL
 - Fast Track incentives: [Jacksonville Example](#)
- D) All Commercial Buildings: Effect? Timeline? (10% Reduction by 2032)
 - a. New Buildings: Minimum Green Building (what tier?)
 - Effect: How many new commercial buildings per year?
 - b. Renovations of Existing Buildings: (Major/Minor?)
 - Three Choices (related to 179D Tax deductions)
 1. Envelope 10%
 2. HVAC and HW 15%
 3. Lighting 25%
 - OR via Benchmarks, Tiers by Year 6.
 - Research: How many major renovations per year?
 - Resources:
 - Use Energy Map & LiHEAP to identify.
 - Utility loans, grants
 - Fast Track incentives: [Jacksonville Example](#)
- E) Policy: Advocate for stronger energy codes at Florida Building Code level.

✓ **Goal #2: Ensure Infrastructure is ~~Efficient~~ AND Renewables Ready**

A) City buildings:

- a. All New Buildings: Green Building Certified Gold with Solar (2023).
- b. All existing buildings: Prioritize and Plan (by 2025)

B) All new buildings (residential and commercial) will be Solar Ready

- a. Pass conduit LDRs in 2023

C) Ensure solar is easy to permit? (SolSmart Certification by 2023)

Goal #3: Create and Procure Renewable Energy through Collaboration

With Steering Committee:

A) Set renewable portfolio goal: 100% by 2050?

What's actually possible:

a. Keys Energy

- Currently:
- Scheduled:
- Goal:

b. Feds have 100% by 2025 goal = 14 MW

c. City: Figure total kW minus 25% (efficiencies). What is 25% 50% 75% 100%?

- City Bill: 14,122,000 kWh for FY22 = 8,000,000 Watts are needed (5.2MW vs 8?)
- Using a high solar estimate of \$3.50/W = \$30.7M to be 100% renewable.
- Rooftop Prices:
 - 100% by 2050 = \$1.2M/year (starting FY24)
- Mainland Bulk Prices:
 - 100% by 2050 = \$400,000/year (starting FY24)

What is that cost with existing incentives?

i. 30% Solar Tax Credits

1. Rooftop: \$ 826,500/year, 100% by 2050
2. Mainland: \$ 275,426/year

Suggest Hybrid Approach:

	# of facilities	Wattage needed
Solar with Batteries for Critical Facilities (Lift Stations?)	17	~0.8 MW
Mainland Solar for all else	79	~7.2 MW

d. Residential Buildings

- Rebates,
- Incentives
- Solar United

e. Commercial buildings

- Cooperative Purchasing

B) Monitor Renewable Portfolio Spectrum (Annual Report in Oct)

- a. Solar: Current. Future
- b. Waste to Energy: Results of Feasibility Study
- c. Battery Storage
 - i. EV (as storage)
- d. Hydro (CFK and other up and coming technologies)
- e. Wind
- f. Solar Water Heaters
- g. Other

C) Create economies of scale

- a. Solar Co-ops or Piggybacking
- b. Microgrids
- c. Solar and Energy Loan Fund (SELF)

Goal #4: Develop a Smart, Reliable, and Resilient Energy System

- A) Driven by KES: Smart grid and microgrids, centralized energy plants

Drop Potentially?

- A) Navy Partnership

Goal #5: Enhance and Electrify Transportation

- A) X% mode shift to electric vehicles OR 13% reduction in transportation emissions
- B) Partner with KES to install electric vehicle chargers all over the island.

Goal #6: Equity

Research!

Residential only?

Outreach based.

Appendix X – Goal Setting

- I. Other peoples goals.
- II. Net Zero purchases discussion.
- III. Mandatory Energy Efficiencies for residential and commercial buildings.
The State of Florida does not allow for local governments to set energy efficiency goals that are more stringent than the current adopted levels.
- IV. Florida's ZEPI score is

FL Resources: <https://programs.dsireusa.org/system/program/fl>