CITY OF ORLANDO

100+ lakes
100+ parks
21 community centers
277,173 residents
Population Vs Visitors

1 Resident to 245 Tourists
• Community-based goal setting

• Developed KPI’s to measure success:
  • 90% reduction of GHG emissions
  • 100% RE for municipal and city-wide
  • 25% reduction for energy use intensity (EUI)

• Themes:
  • Social Equity
  • Climate Resiliency
  • Technology (Smart Cities)

• Compatibility with United Nations Sustainable Development Goals
CSAP Outreach to Date (Fall 2017- Present)

- 3 Mayor’s Task Force Meetings
- 7 Roundtable Meetings with subject matter experts
- 3 Community Workshops
- 2 Online surveys
- Hundreds of ideas generated and considered
FOCUS AREA:
ENERGY AND GREEN BUILDINGS
Energy & Green Building

Strategic Goals

- 90% Reduction of GHG Emissions compared to 2007
- 20% Reduction of Municipal Energy Use Intensity by 2021
- 100% LEED Silver municipal buildings (new construction)
- 100% Renewable Electricity
  - 2030 – Municipal Operations
  - 2050 – City-wide
Municipal Energy Efficiency

○ LEED Silver req. for all new city-owned buildings
  ○ Built 15 new LEED certified buildings since 2010
  ○ New Buildings: Wetlands Education Center, Fire stations (3), Records Building

○ $17.5 million municipal EE bond
  ○ Retrofitting 55 Buildings (of 550)
  ○ 18% savings since 2011 baseline
  ○ $1.6 Million annual savings to date
    ○ Pay down bond debt
    ○ Fund future EE investments
Municipal Energy Efficiency cont.

10% Energy Savings Realized in the First Month

Using historical electricity trends at the Amway Center, a weather normalized pre-LED lighting retrofit baseline was created. This graph shows the electricity use for the first month after the LED retrofit was completed compared to that baseline.

Persisting Savings

12+ months after the completion of the LED retrofit, the electricity savings are persisting. In that first year, 11% electricity savings - or 3,577,740 kWh have been realized. That is enough energy to power the average household for over 332 years!
Smart Street lighting

• **GOAL:** 100% LED streetlight by 2020
  
• OUC working to retrofit 25,000+ streetlights to LED
  • 18,000 currently retrofitted

• Exploring test of new “Smart Streetlights” in Downtown
  • LED technology
  • Video surveillance
  • Environmental monitoring
  • Traffic analytics
  • Wi-fi / DAS systems
  • Gun shot detection
“I am proud to support a vision of transitioning entirely to 100 percent clean and renewable energy in our City.”

—MAYOR BUDDY DYER of Orlando, Florida
Over 5.8 MW of Solar PV installed and/or purchased on City buildings, 10 MW+ in the pipeline
SolSmart **GOLD** designation

• U.S. DOE recognition program to help local governments reduce “soft-cost” barriers to solar energy growth.

• Solutions Implemented:
  • Solar Contractor Permit Training
  • Solar Permitting Guide
  • Planning / Permitting staff training
  • LDC definition of “Solar equipment”
  • Waive solar permit fees for small-scale solar projects
Exploring On-site Solar PV

- Net-zero Records Building

- City Hall Solar R&D Platform

- 2+ MW of rooftop PV on City community centers, fire stations, OPD Headquarters, and more.

- 4 MW brownfield community solar farm

- 4MW+ solar farm at Iron Bridge WWTP
NREL Solar PV Training for Cities & Communities

• Selected as 1-of-50 cities to train City/Utility staff on Solar PV deployment and operations/maintenance

• Training will include:
  • Framing your goals and team:
  • Site Identification and Screening
  • Project Validation and Permitting
  • Project Economics and Financing
  • PV RFPs
Community Solar + Collective Solar Programs

• 20+ MW OUCommunity Solar: offsets consumption through virtual net metering

• OUCollective Solar makes it easier for homeowners to put Solar Photovoltaic (PV) panels on their roofs.
  • OUC purchases the panels in bulk to achieve economies of scale, which makes solar more affordable for our customers
5.2 Megawatt solar energy procurement

- Orlando City Hall
- Orlando Police HQ
- 17 Fire stations

Prevention of 5,912,000 pounds of coal from being burned

Reduction of 12,216,000 pounds of CO2 emissions
NREL Solar Energy Innovation Network (SEIN)

• $169,000 direct funding

• Selected as 1 of 9 cities nationwide for NREL SEIN

• Orlando team: City, FSEC, OUC

• Develop roadmap to 100% RE goals
  • Solar capacity projection
  • Load forecasting models
  • Network upgrades
  • Financing models

• Develop ‘Solar Ready’ design guidelines for new construction
Exploring Floatovoltaics...

- Testing floating solar arrays on Lakes and Retention Ponds
- 35 KW grid-tied system
- Performing research with UCF Biology to understand habitat and water body impacts
2017 results:
- $1.5 million allocated
- 78 projects
- 4 PACE providers

HOW CAN ORLANDO’S PACE PROGRAM HELP IMPROVE YOUR HOME AND BUSINESS?
GREEN WORKS
ORLANDO