# Agenda

- ✓ About Michele and Miami-Dade County
- ✓ Life before and after EnergyCAP
- ✓ EnergyCAP
- ✓ More of what UC San Diego does with EnergyCAP
- ✓ Q&A

# About Michele Markovits, LEED AP, ENV SP

Florida International University, Environmental Engineering

Energy Management Analyst at Miami-Dade Couty since 2019 – *previously used EnergyCAP data at the Office of Resilience since 2017*

Received graduate certificate in Qualitative Environmental Finance (FIU 2024)

Currently taking coding classes

Loves spending time at her camp in the Everglades, visiting FL national parks and on her boat in Key Biscayne

# MIAMI-DADE COUNTY

## BACKGROUND

- **2.8M** residents served
- **3850+** buildings
- **31,000** employees
- Covers **2,431 sq. miles** (bordered by 2 national parks)

## UTILITY STATS

**$175M** in annual utility expenses

**1,172,000,000 kWh** 2023 energy usage

**7,546** FPL accounts

**2,737** WASD accounts

**14,200** meters

**10,283** active accounts

**Commodity types include:**

- ⚡ Electric
- 💧 Water
- 🚰 Sewer
- Storm water
- Fossil fuels
- Fire protection

## SAVINGS

Increased electricity cost savings by **5.6%**

**$9.4M BATCC** (improved with remote employees)

**81 million kWh** increased use savings, which equals **62,375 t CO$_2$e** GHG emission reductions

**9.8% reduction** of total Scope 2 GHG emissions, a reduction of **>20,000 t CO$_2$e** within the last 2 years

**20 departments and 200 users** track and manage energy usage with

**ENERGYCAP**

COLONY HOTEL

CAFE

the BERKELY shore

# Since inception of tracking....



| Cost Avoidance ⑦ | | Use Savings ⑦ | |
|---|---|---|---|
| Savings (BATCC - Actual) | ↑ **5.6%** | Savings (BATCC - Actual) | ↑ **5.6%** |
| **$9,399,434.37** | | **81,562,663.000 kWh** | |
| BATCC (Baseline) | | BATCC (Baseline) | |
| $169,294,972.50 | | 1,452,820,861.000 kWh | |
| Actual Cost | | Actual Use | |
| $159,895,538.13 | | 1,371,258,198.000 kWh | |
| Inception–Dec 2024 | | Inception–Dec 2024 | |

# 2023 to 2024 Year-Over-Year Comparison

## Average Daily Use ⓘ ⤢

Jan 2024–Dec 2024
**2,833,093.713 kWh**  ↓**9.9%**

Jan 2023–Dec 2023
3,144,631.109 kWh

Jan 2023–Dec 2024 (Billing Period Data)

## Scope 2 Emissions ⓘ ⤢

Jan 2024–Dec 2024
**388,487.40 t CO$_2$e**  ↓**9.8%**

Jan 2023–Dec 2023
430,461.23 t CO$_2$e

Jan 2023–Dec 2024 (Calendarized Data)

⚡ Electric ▾

## Average Daily Cost ⓘ ⤡

Jan 2024–Dec 2024
**$278,717.96**  ↓**16.6%**

Jan 2023–Dec 2023
$334,156.36

Jan 2023–Dec 2024 (Billing Period Data)

# Departments leading the way...

- Corrections and Rehabilitation
- Cultural Affairs
- Libraries
- Parks, Recreation and Open Spaces
- Transportation and Public Works

**Corrections and Rehabilitation [C**

Insights    Records

Scope 2 Emissions ⑦

Jan 2024–Dec 2024
**9,167.46 t CO$_2$e**    ↓**16.3%**

Jan 2023–Dec 2023
10,953.99 t CO$_2$e

**Cultural Affairs [CU]**

Insights    Records

Scope 2 Emissions ⑦

Jan 2024–Dec 2024
**1,310.39 t CO$_2$e**    ↓**15.8%**

Jan 2023–Dec 2023
1,557.09 t CO$_2$e

**Public Library System [LB]**

Insights    Records

Scope 2 Emissions ⑦

Jan 2024–Dec 2024
**3,533.53 t CO$_2$e**    ↓**13.0%**

Jan 2023–Dec 2023
4,061.25 t CO$_2$e

**Parks Recreation and Open Space**

Insights    Records

Scope 2 Emissions ⑦

Jan 2024–Dec 2024
**14,690.21 t CO$_2$e**    ↓**12.2%**

Jan 2023–Dec 2023
16,731.97 t CO$_2$e

**Transit and Public Works [TPW]**

Insights    Records

Scope 2 Emissions ⑦

Jan 2024–Dec 2024
**46,469.62 t CO$_2$e**    ↓**11.2%**

Jan 2023–Dec 2023
52,327.48 t CO$_2$e

👀 **How are you engaging different departments?**

# Miami-Dade Street Lighting Partner Project (MDSLP)

*Conversion of 27,000 High-Pressure Sodium (HPS) streetlights into energy-efficient Smart LED streetlights.*

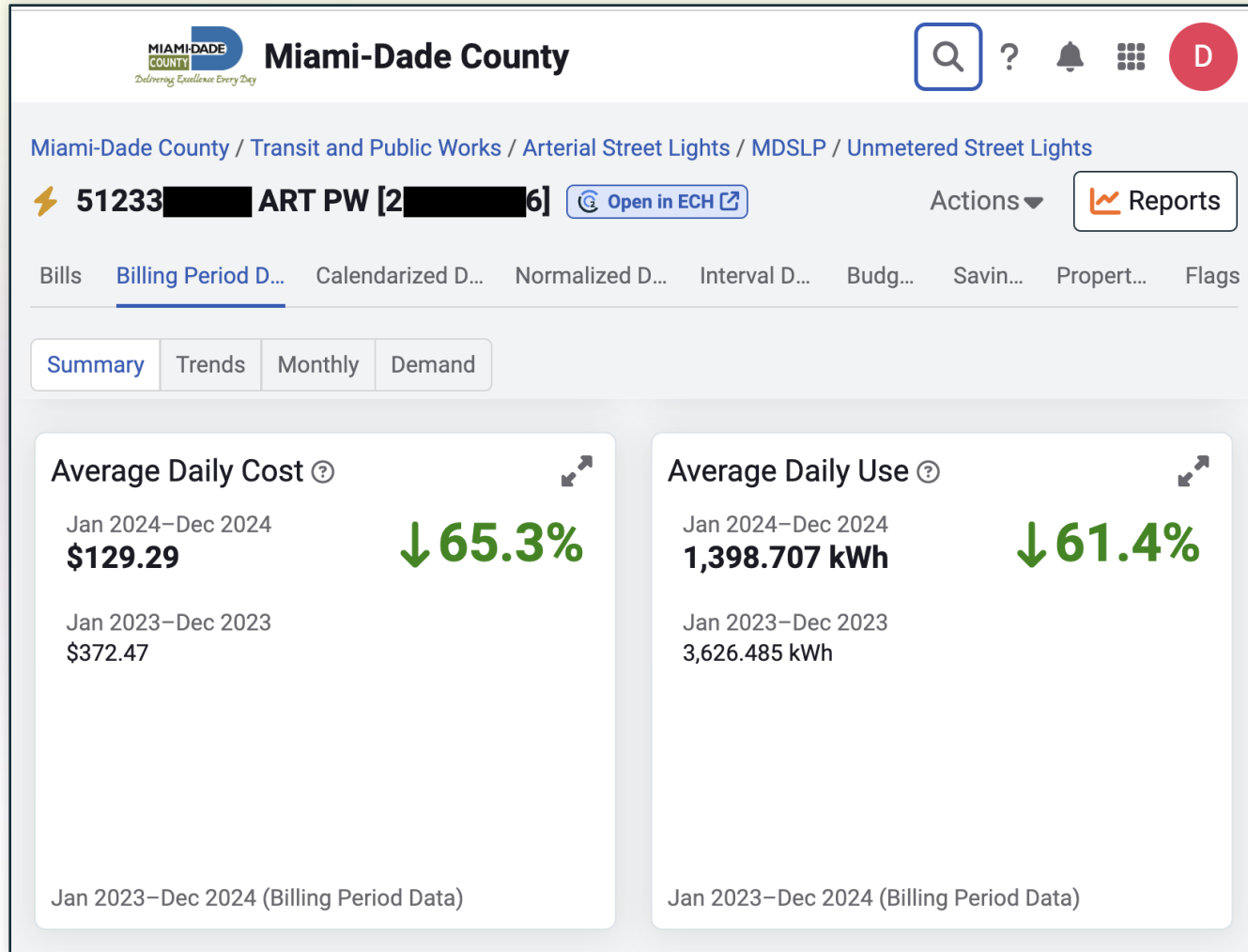**Estimated project cost:** $48,076,396

**Start date:** November 2023

**Anticipated savings:** $584,925 and 8,717,500 kWh

**Details:**

- Integrated suite of streetlights, sensors, networks, and data analytics platforms
- Utilizes existing roadway lighting infrastructure for emerging Smart County technology to improve mobility, accessibility, and safety
- International Dark-Sky Association compliance, reducing blue light levels and light pollution
- Zero uplight; adheres to IES Backlight, Uplight, and Glare (BUG) ratings

# Miami-Dade Street Lighting Partner Project (MDSLP) Results



## Results for 1 of 100+ accounts:

106 lights converted

**Initial savings:**

$2,254.23 and 33,633 kWh

*(approx. $21.27 and 317 kWh per light)*

796 lights to be converted

**Projected savings:**

$16,920 and 252,565 kWh

# LED Lighting Retrofit Project - Floors 1 and 2

Replaced 199* 56W CFL (10,000 hours) fixtures with new 14W (50,000 hours) *on the first two floors of the Hialeah Courthouse.*
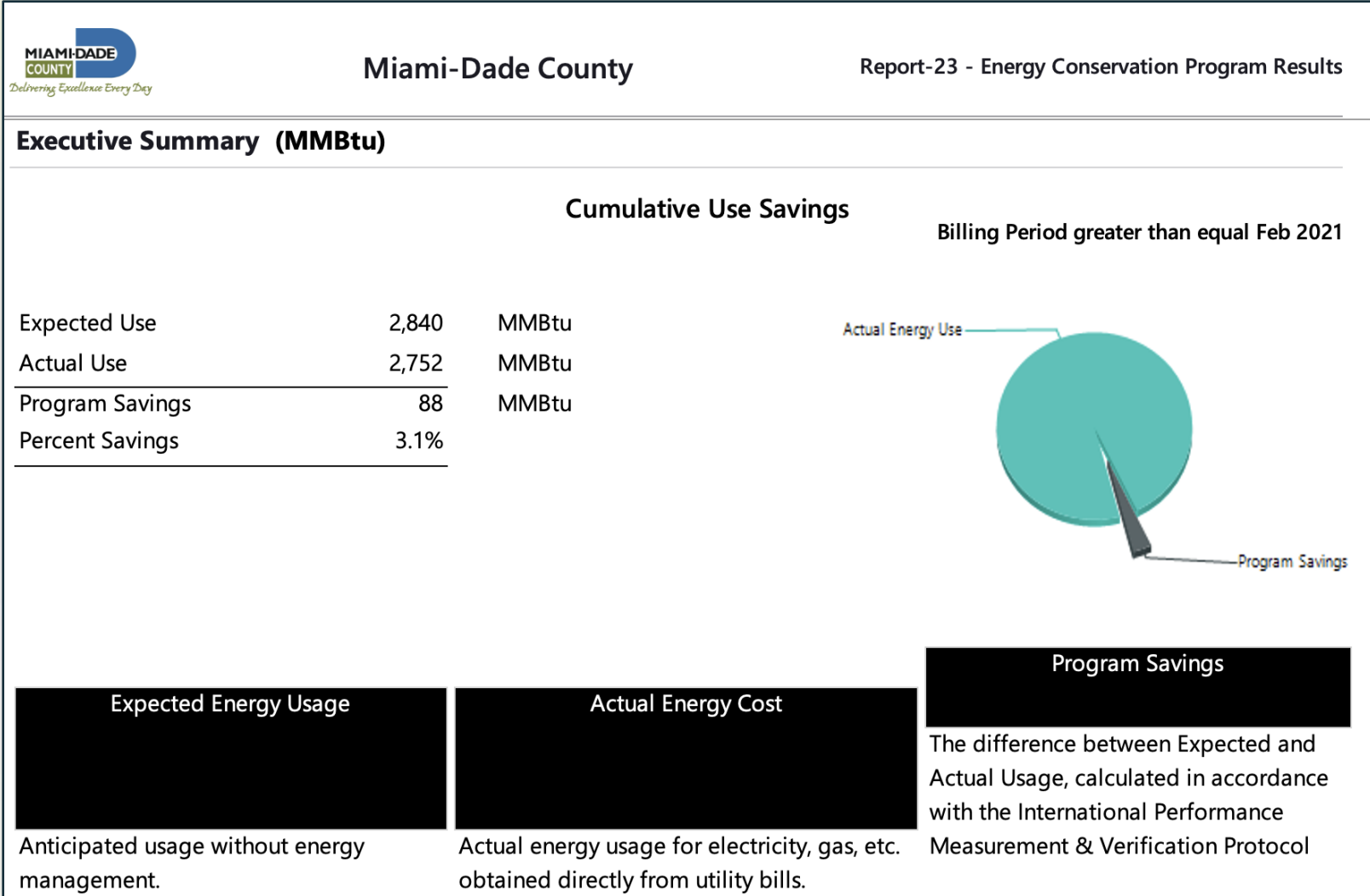
**Project cost:** $5,771
**Completed:** February 15, 2021
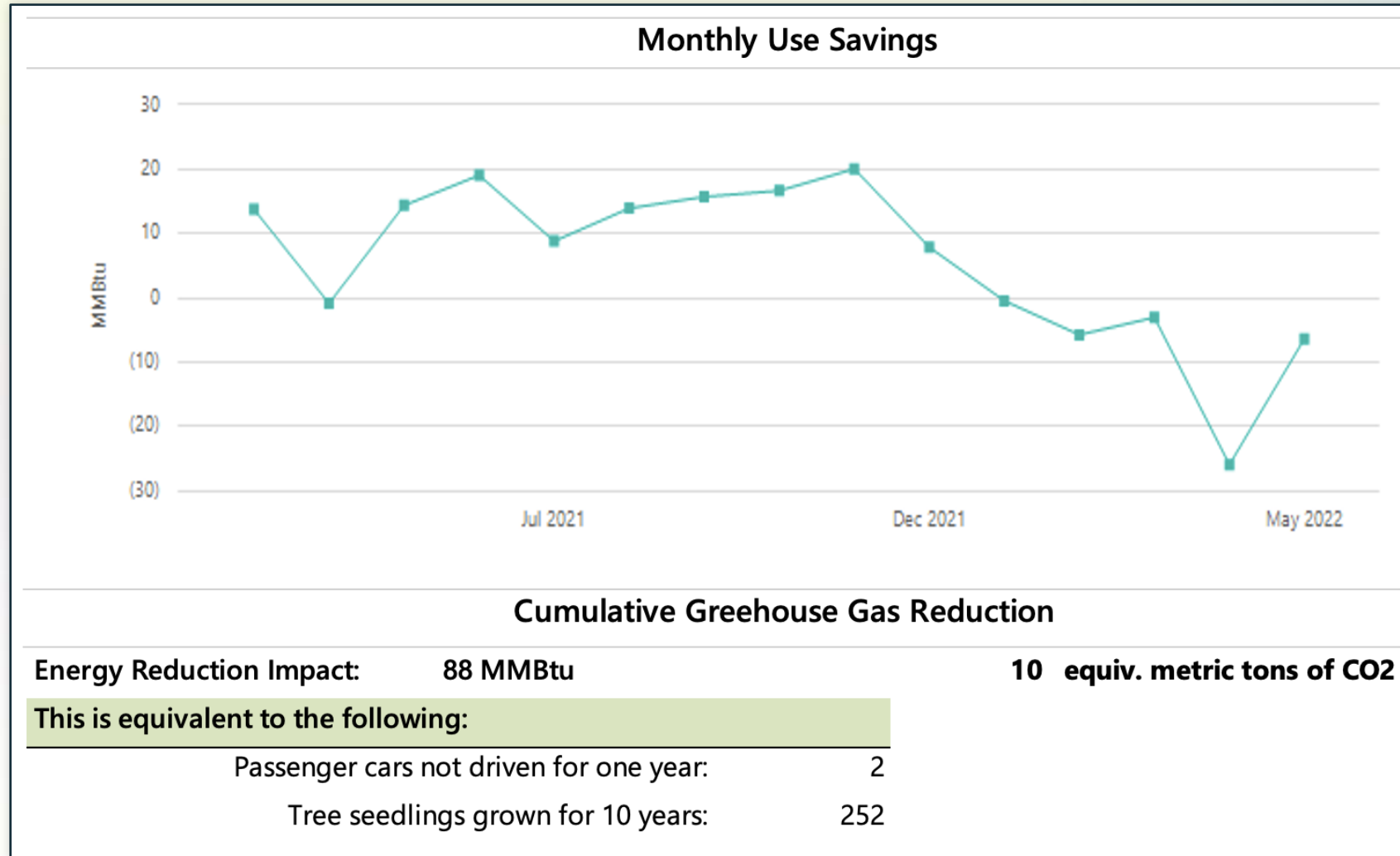
*116 first floor + 83 second floor*



Photo source

# LED Lighting Retrofit Project - Floors 1 and 2 Results

**Miami-Dade County**

Report-23 - Energy Conservation Program Results

## Executive Summary  (MMBtu)

### Cumulative Use Savings

**Billing Period greater than equal Feb 2021**

| | | |
|---|---|---|
| Expected Use | 2,840 | MMBtu |
| Actual Use | 2,752 | MMBtu |
| Program Savings | 88 | MMBtu |
| Percent Savings | 3.1% | |

Actual Energy Use

Program Savings

### Program Savings

The difference between Expected and Actual Usage, calculated in accordance with the International Performance Measurement & Verification Protocol

### Expected Energy Usage

Anticipated usage without energy management.

### Actual Energy Cost

Actual energy usage for electricity, gas, etc. obtained directly from utility bills.

Report generated using EnergyCAP

# LED Lighting Upgrade - Floors 1 and 2 Results

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"Great things are done by a series of small things brought together."

- Vincent Van Gogh

👀 **What's a small (or big) step your organization has taken to impact savings?**

**Did you track the results in EnergyCAP?**

# Questions?