

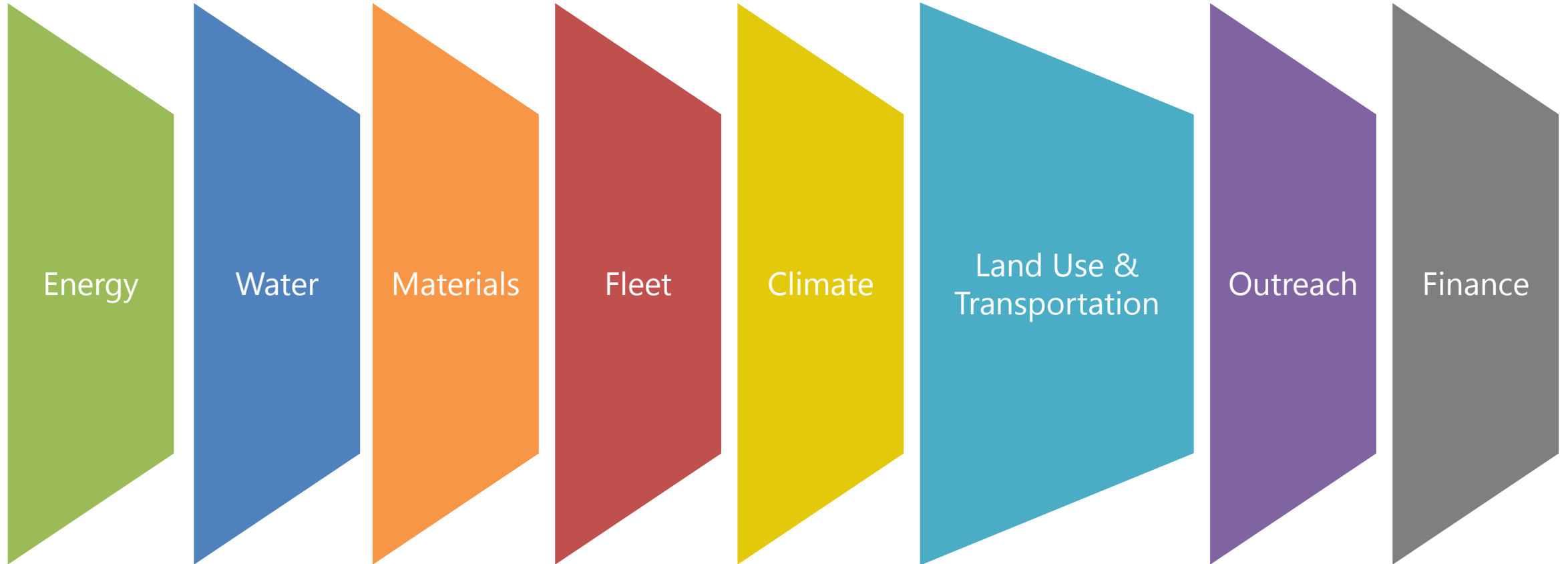
CORAL GABLES SUSTAINABILITY MANAGEMENT PLAN



PROJECT OVERVIEW

SOLUTIONS	Kick Off Meeting
	Assessments & Solutions for Government Operations
	Greenhouse Gas Inventory
ENGAGEMENT	Collaborative Workshops & Coordination with the Project Team
	Development of Government Operations Project-Driven SMP
	Public Involvement Plan & Community Sustainability Vision
RESULTS	Implementation Strategy & Preparation of Funding Analysis
	Marketing & Communications Plan

FOCUS AREAS



GOALS

Goals by Focus Area***

Focus Area	Action	Intermediate Target (2019)**	Long Term Target (2025)
Energy	Reduce electricity use	15%	20%
Water	Reduce water consumption	8%	20%
Materials	Divert solid waste*	60%	75% (2020)****
Fleet	Reduce fossil fuel use	2%	20%
Climate	Reduce greenhouse gas emissions		20%

**City operations and single family residential waste*

***Aligns with the City's 3-year Strategic Plan*

****all goals are set relative to 2013 baseline levels*

***** Complete by 2020 to meet State's Waste Diversion Goal*

GOALS BY FOCUS AREA

Focus Area	Action	2013 Baseline	Intermediate Target (2019)**	Long Term Target (2025)
Energy	Reduce electricity use	15,151,043 kWh	2,272,656 kWh (15%)	3,030,208 kWh (20%)
Water	Reduce water consumption	101,893 kgal	8,151 kgal (8%)	20,378 kgal (20%)
Materials	Divert solid waste*	44,428 tons	20,336 tons (60%)	33,321 tons (75%)
Fleet	Reduce fossil fuel use	436,106 gallons	8,722 gallons (2%)	87,221 gallons (20%)
Climate	Reduce greenhouse gas emissions	13,762 mtCO ₂ e 771,972 mtCO ₂ e		2,752 mtCO ₂ e 154,394 mtCO ₂ e (20%)

*City operations and single family residential waste

**Aligns with the City's 3-year Strategic Plan

***all goals are set below 2013 baseline levels

**** Complete by 2020 to meet State's Waste Diversion Goal

Coral Gables Sustainability Management Plan Project Forms: Summary

#2	Project Name	Focus Area	NPV	GHG Reduction (mtCO ₂ e)	ROI	% of Goal*	Department	Project Manager
M1	Diversion of Single Family Residence Garbage	Materials	\$807,000	205,990	365%	53%	Public Works / Sustainability	John Osgood
C2	Vulnerability Assessment and Adaptation Plan	Climate	\$607,000	0	397%	0%	Public Works	Jorge Acevedo
E2	Garage LED Lighting	Energy	\$571,000	5,416	159%	14%	Parking Department	Kevin Kinney
E1	Building Energy Efficiency	Energy	\$506,000	4,812	163%	18%	Public Works / Facilities Maintenance	Ralph Rodriguez
W2	Irrigation Efficiency	Water	\$362,000	742	147%	110%	Public Works / Landscape Services	Brook Dannemiller
E6	Utility Management and Control	Energy	\$210,000	4,360	46%	29%	Information Technology	Raimundo Rodolfo
F3	Electric Vehicles & Infrastructure	Fleet	\$204,000	460	5120%	90%	Public Works / Fleet	Steve Riley
F1	Fuel Economy	Fleet	\$198,000	346	348%	15%	Public Works / Fleet	Steve Riley
W5	Non-Potable Water Irrigation	Water	\$159,000	261	159%	33%	Public Works / Landscape Services	Brook Dannemiller
E7	Information Technology Energy Efficiency	Energy	\$154,000	838	Infinite	6%	Information Technology	Raimundo Rodolfo
W1	Flow Fixtures	Water	\$52,000	65	485%	3%	Public Works / Facilities Maintenance	Ralph Rodriguez
F2	Fleet Size	Fleet	\$17,000	45	Infinite	5%	Public Works / Fleet	Steve Riley
W3	Flush Fixtures	Water	\$8,000	124	27%	5%	Public Works / Facilities Maintenance	Ralph Rodriguez
O1	Employee Sustainability Training	Outreach	\$4,000	219	17%	50%	Public Works / Sustainability	Matt Anderson
W4	Rain Water Harvesting	Water	\$1,000	11	11%	4%	Public Works / Landscape Services	Brook Dannemiller
S1	Efficiency Revolving Fund	Funding	\$0	0	Infinite	-	Finance	Diana Gomez
O2	Seal of Sustainability	Outreach	\$0	120	0%	50%	Public Works / Sustainability	Matt Anderson
T1	Increase Trolley Ridership	Transportation & Land Use	\$0	#	0%	0%	Parking Department	Kevin Kinney
T2	Bicycle and Pedestrian Enhancements	Transportation & Land Use	\$0	#	0%	0%	Public Works / Sustainability	Jessica Keller
E4	Solar Thermal Systems	Energy	(\$8,000)	196	-10%	1%	Public Works	Ralph Rodriguez
C1	Regional Partnerships	Climate	(\$9,000)	0	-100%	0%	Public Works / Sustainability	Matt Anderson
E5	Photovoltaic System	Energy	(\$272,000)	903	-59%	3%	Public Works	Ralph Rodriguez
E3	LED Streetlights	Energy	(\$357,000)	1,636	-35%	10%	Public Works / Sustainability	Jessica Keller
Total			\$3,214,000	226,542	23%			
Total w/o projects w/ NPV < \$0			\$3,860,000	223,807	29%			

Net Present Value (NPV) the value in the present of a sum of money, in contrast to some future value it will have when it has been invested at compound interest.

Coral Gables Sustainability Management Budgets

Expenditures

#	Project Name	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
M1	Diversion of Single Family Residence Garbage	\$0	(\$250,898)	(\$250,898)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$501,796)
C2	Vulnerability Assessment and Adaptation Plan	(\$190,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$190,000)
E2	Garage LED Lighting	\$0	(\$448,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$448,000)
E1	Building Energy Efficiency	(\$157,300)	(\$237,750)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$395,050)
W2	Irrigation Efficiency	(\$151,500)	(\$84,000)	(\$39,000)	(\$16,500)	(\$16,500)	\$0	\$0	\$0	\$0	\$0	(\$307,500)
E6	Utility Management and Control	(\$216,000)	(\$155,000)	(\$170,000)	(\$5,000)	(\$19,000)	(\$19,000)	(\$20,000)	(\$6,000)	(\$6,000)	(\$21,000)	(\$637,000)
F3	Electric Vehicles & Infrastructure	(\$165,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$110,000	\$50,000	\$0	(\$5,000)
F1	Fuel Economy	\$1,000	\$16,000	\$16,000	\$16,000	\$17,000	\$0	\$0	\$0	\$0	\$0	\$66,000
W5	Non-Potable Water Irrigation	\$0	(\$11,000)	(\$13,000)	(\$15,000)	(\$17,000)	(\$19,000)	(\$11,000)	(\$11,000)	(\$11,000)	(\$11,000)	(\$119,000)
E7	Information Technology Energy Efficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W1	Flow Fixtures	(\$4,000)	(\$9,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$13,000)
F2	Fleet Size	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W3	Flush Fixtures	(\$11,000)	(\$12,000)	(\$12,000)	(\$12,000)	(\$13,000)	\$0	\$0	\$0	\$0	\$0	(\$60,000)
O1	Employee Sustainability Training	(\$10,000)	(\$10,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$36,000)
W4	Rain Water Harvesting	\$0	(\$6,000)	(\$55,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$61,000)
S1	Efficiency Revolving Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O2	Seal of Sustainability	(\$2,000)	(\$2,097)	(\$2,147)	(\$2,198)	(\$2,251)	(\$2,304)	(\$2,360)	(\$2,416)	(\$2,474)	(\$2,533)	(\$22,779)
T1	Increase Trolley Ridership	(\$250,000)	(\$407,500)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$3,857,500)
T2	Bicycle and Pedestrian Enhancements	\$0	\$0	(\$1,181,000)	(\$1,209,000)	(\$1,238,000)	(\$1,267,000)	(\$1,298,000)	(\$1,329,000)	(\$1,361,000)	(\$1,393,000)	(\$10,276,000)
E4	Solar Thermal Systems	\$0	\$0	(\$46,867)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$46,867)
C1	Regional Partnerships	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$10,000)
E5	Photovoltaic System	\$0	\$0	(\$472,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$472,000)
E3	LED Streetlights	(\$304,000)	(\$304,000)	(\$304,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$912,000)
<i>Total</i>		(\$1,460,800)	(\$1,922,244)	(\$2,932,912)	(\$1,646,698)	(\$1,691,751)	(\$1,710,304)	(\$1,734,360)	(\$1,641,416)	(\$1,733,474)	(\$1,830,533)	(\$18,304,491)

Coral Gables Sustainability Management Budget

Budgeted Allocations

#	Project Name	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
M1	Diversion of Single Family Residence Garbage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C2	Vulnerability Assessment and Adaptation Plan	\$190,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$190,000
E2	Garage LED Lighting	\$0	\$291,379	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$291,379
E1	Building Energy Efficiency	\$102,308	\$154,632	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$256,940
W2	Irrigation Efficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E6	Utility Management and Control	\$140,486	\$100,812	\$110,568	\$3,252	\$12,358	\$12,358	\$13,008	\$3,902	\$3,902	\$13,658	\$414,305
F3	Electric Vehicles & Infrastructure	\$165,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$165,000
F1	Fuel Economy	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W5	Non-Potable Water Irrigation	\$0	\$7,154	\$8,455	\$9,756	\$11,057	\$12,358	\$7,154	\$7,154	\$7,154	\$7,154	\$77,398
E7	Information Technology Energy Efficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W1	Flow Fixtures	\$4,000	\$9,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,000
F2	Fleet Size	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W3	Flush Fixtures	\$11,000	\$12,000	\$12,000	\$12,000	\$13,000	\$0	\$0	\$0	\$0	\$0	\$60,000
O1	Employee Sustainability Training	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W4	Rain Water Harvesting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
S1	Efficiency Revolving Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O2	Seal of Sustainability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
T1	Increase Trolley Ridership	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
T2	Bicycle and Pedestrian Enhancements	\$1,668,514	\$1,370,000	\$1,370,000	\$750,000	\$750,000	\$0	\$0	\$0	\$0	\$0	\$5,908,514
E4	Solar Thermal Systems	\$0	\$0	\$30,482	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,482
C1	Regional Partnerships	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$10,000
E5	Photovoltaic System	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E3	LED Streetlights	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$750,000
<i>Total</i>		\$2,432,308	\$2,095,978	\$1,682,505	\$926,008	\$937,414	\$25,715	\$21,162	\$12,057	\$12,057	\$21,813	\$8,167,018

Coral Gables Sustainability Management Budget

Budgeted Requirements

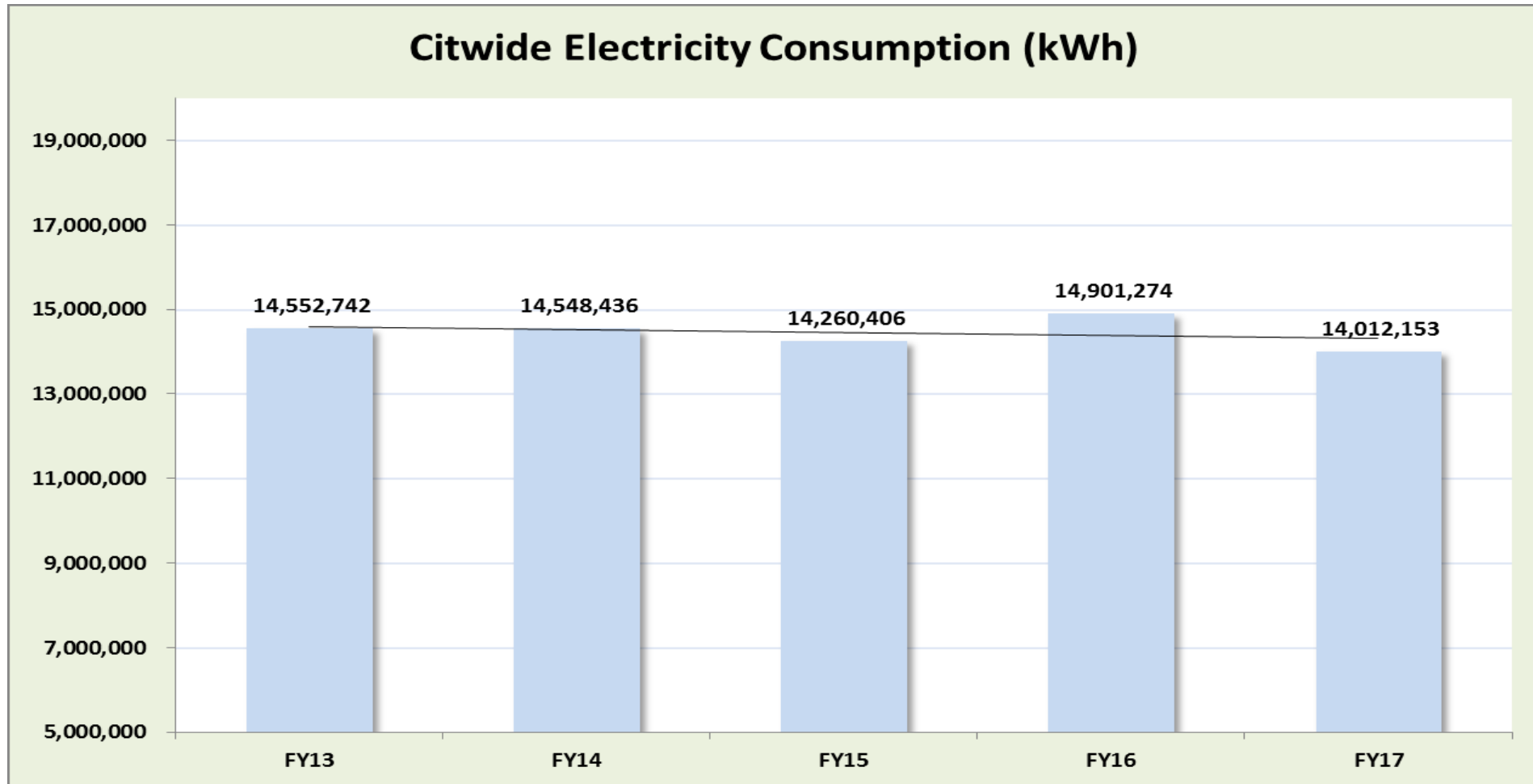
#	Project Name	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
M1	Diversion of Single Family Residence Garbage	\$0	(\$250,898)	(\$250,898)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$501,796)
C2	Vulnerability Assessment and Adaptation Plan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2	Garage LED Lighting	\$0	(\$156,621)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$156,621)
E1	Building Energy Efficiency	(\$54,992)	(\$83,117)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$138,109)
W2	Irrigation Efficiency	(\$151,500)	(\$84,000)	(\$39,000)	(\$16,500)	(\$16,500)	\$0	\$0	\$0	\$0	\$0	(\$307,500)
E6	Utility Management and Control	(\$75,514)	(\$54,188)	(\$59,432)	(\$1,748)	(\$6,642)	(\$6,642)	(\$6,992)	(\$2,098)	(\$2,098)	(\$7,342)	(\$222,695)
F3	Electric Vehicles & Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110,000	\$50,000	\$0	\$160,000
F1	Fuel Economy	\$1,000	\$16,000	\$16,000	\$16,000	\$17,000	\$0	\$0	\$0	\$0	\$0	\$66,000
W5	Non-Potable Water Irrigation	\$0	(\$3,846)	(\$4,545)	(\$5,244)	(\$5,943)	(\$6,642)	(\$3,846)	(\$3,846)	(\$3,846)	(\$3,846)	(\$41,602)
E7	Information Technology Energy Efficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W1	Flow Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
F2	Fleet Size	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
W3	Flush Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O1	Employee Sustainability Training	(\$10,000)	(\$10,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$36,000)
W4	Rain Water Harvesting	\$0	(\$6,000)	(\$55,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$61,000)
S1	Efficiency Revolving Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O2	Seal of Sustainability	(\$2,000)	(\$2,097)	(\$2,147)	(\$2,198)	(\$2,251)	(\$2,304)	(\$2,360)	(\$2,416)	(\$2,474)	(\$2,533)	(\$22,779)
T1	Increase Trolley Ridership	(\$250,000)	(\$407,500)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$400,000)	(\$3,857,500)
T2	Bicycle and Pedestrian Enhancements	\$1,668,514	\$1,370,000	\$189,000	(\$459,000)	(\$488,000)	(\$1,267,000)	(\$1,298,000)	(\$1,329,000)	(\$1,361,000)	(\$1,393,000)	(\$4,367,486)
E4	Solar Thermal Systems	\$0	\$0	(\$16,385)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$16,385)
C1	Regional Partnerships	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E5	Photovoltaic System	\$0	\$0	(\$472,000)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$472,000)
E3	LED Streetlights	(\$154,000)	(\$154,000)	(\$154,000)	\$150,000	\$150,000	\$0	\$0	\$0	\$0	\$0	(\$162,000)
Total		\$971,508	\$173,734	(\$1,250,406)	(\$720,690)	(\$754,336)	(\$1,684,589)	(\$1,713,197)	(\$1,629,359)	(\$1,721,417)	(\$1,808,720)	(\$10,137,473)

Coral Gables Sustainability Master Plan Budget

Revenues / Avoided Costs

#	Project Name	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
M1	Diversion of Single Family Residence Garbage	\$0	\$87,548	\$175,096	\$175,096	\$175,096	\$175,096	\$175,096	\$175,096	\$175,096	\$175,096	\$1,488,316
C2	Vulnerability Assessment and Adaptation Plan	\$0	\$0	\$86,000	\$88,000	\$90,000	\$92,000	\$94,000	\$96,000	\$197,000	\$202,000	\$945,000
E2	Garage LED Lighting	\$0	\$117,000	\$120,000	\$123,000	\$125,000	\$128,000	\$132,000	\$135,000	\$138,000	\$141,000	\$1,159,000
E1	Building Energy Efficiency	\$0	\$57,000	\$78,000	\$120,000	\$123,000	\$126,000	\$129,000	\$132,000	\$135,000	\$138,000	\$1,038,000
W2	Irrigation Efficiency	\$33,000	\$50,000	\$68,000	\$76,000	\$84,000	\$86,000	\$88,000	\$90,000	\$92,000	\$94,000	\$761,000
E6	Utility Management and Control	\$49,000	\$69,000	\$94,000	\$96,000	\$98,000	\$101,000	\$103,000	\$105,000	\$108,000	\$110,000	\$933,000
F3	Electric Vehicles & Infrastructure	\$25,000	\$35,000	\$36,000	\$37,000	\$38,000	\$39,000	\$40,000	\$11,000	\$0	\$0	\$261,000
F1	Fuel Economy	\$0	\$1,000	\$5,000	\$11,000	\$17,000	\$24,000	\$25,000	\$26,000	\$27,000	\$28,000	\$164,000
W5	Non-Potable Water Irrigation	\$7,000	\$14,000	\$21,000	\$29,000	\$37,000	\$38,000	\$39,000	\$40,000	\$41,000	\$42,000	\$308,000
E7	Information Technology Energy Efficiency	\$12,000	\$16,000	\$16,000	\$18,000	\$18,000	\$19,000	\$19,000	\$20,000	\$20,000	\$20,000	\$178,000
W1	Flow Fixtures	\$0	\$3,000	\$6,000	\$9,000	\$9,000	\$9,000	\$10,000	\$10,000	\$10,000	\$10,000	\$76,000
F2	Fleet Size	\$1,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$3,000	\$20,000
W3	Flush Fixtures	\$0	\$2,000	\$4,000	\$6,000	\$8,000	\$11,000	\$11,000	\$11,000	\$11,000	\$12,000	\$76,000
O1	Employee Sustainability Training	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$5,000	\$5,000	\$42,000
W4	Rain Water Harvesting	\$0	\$0	\$8,000	\$8,000	\$8,000	\$8,000	\$9,000	\$9,000	\$9,000	\$9,000	\$68,000
S1	Efficiency Revolving Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O2	Seal of Sustainability	\$2,200	\$2,100	\$2,100	\$2,200	\$2,200	\$2,300	\$2,300	\$2,400	\$2,400	\$2,500	\$22,700
T1	Increase Trolley Ridership	\$250,000	\$407,500	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$3,857,500
T2	Bicycle and Pedestrian Enhancements	\$0	\$0	\$1,181,000	\$1,209,000	\$1,238,000	\$1,267,000	\$1,298,000	\$1,329,000	\$1,361,000	\$1,393,000	\$10,276,000
E4	Solar Thermal Systems	\$0	\$0	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$6,000	\$6,000	\$42,000
C1	Regional Partnerships	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E5	Photovoltaic System	\$0	\$0	\$22,000	\$23,000	\$24,000	\$24,000	\$25,000	\$25,000	\$26,000	\$26,000	\$195,000
E3	LED Streetlights	\$20,000	\$40,000	\$61,000	\$63,000	\$64,000	\$66,000	\$68,000	\$69,000	\$71,000	\$72,000	\$594,000
<i>Total</i>		\$403,200	\$907,148	\$2,394,196	\$2,504,296	\$2,569,296	\$2,626,396	\$2,678,396	\$2,696,496	\$2,836,496	\$2,888,596	\$22,504,516

OPTIMIZE ENERGY EFFICIENCY



City Electricity Use (Includes facilities and Streetlights) is down 4.48% from FY 2013

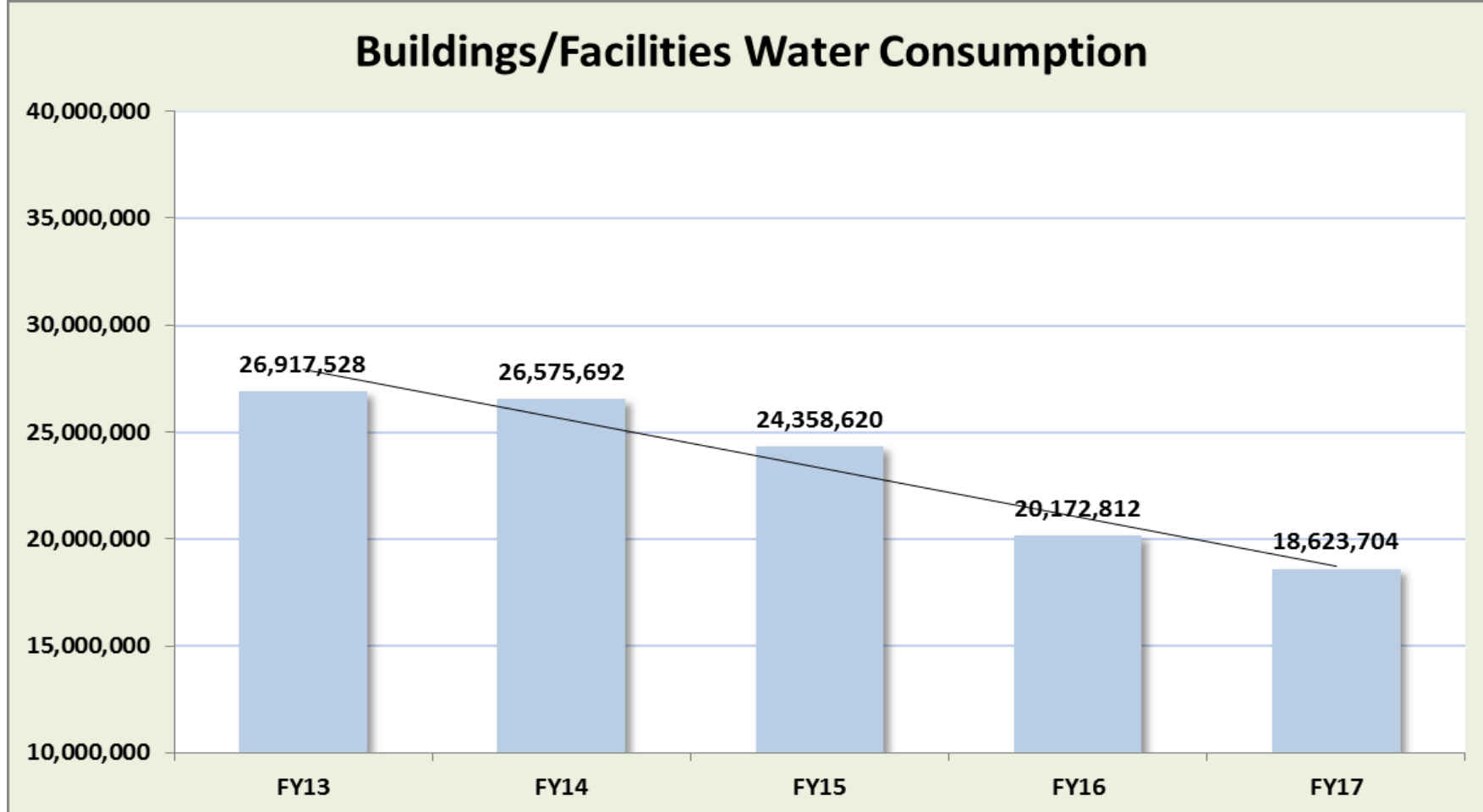
OPTIMIZE ENERGY EFFICIENCY



- Conducted energy audits (PW 72nd Ave Facility & Youth Center). Exploring potential financing mechanisms.
- LED lighting upgrades (PW Maintenance Facility, City Hall Parking Lot, Burger Bob's, Youth Center Lobby, Adult Activity Center, Ramps/Entrance PG 2 & 6)
- Upgraded HVAC at PW 72nd Ave, Radio Shop, City Hall (1)
- Identifying facilities utilize renewable energy (PW 72nd Ave & Youth Center)
- Network Connected Equipment: HVAC Systems allow for centralized monitoring and control. Deploying a new Facility Management System (Cartegraph) which improves machine/facility maintenance cycle process & efficiency City-wide
- Installing digital automation controls

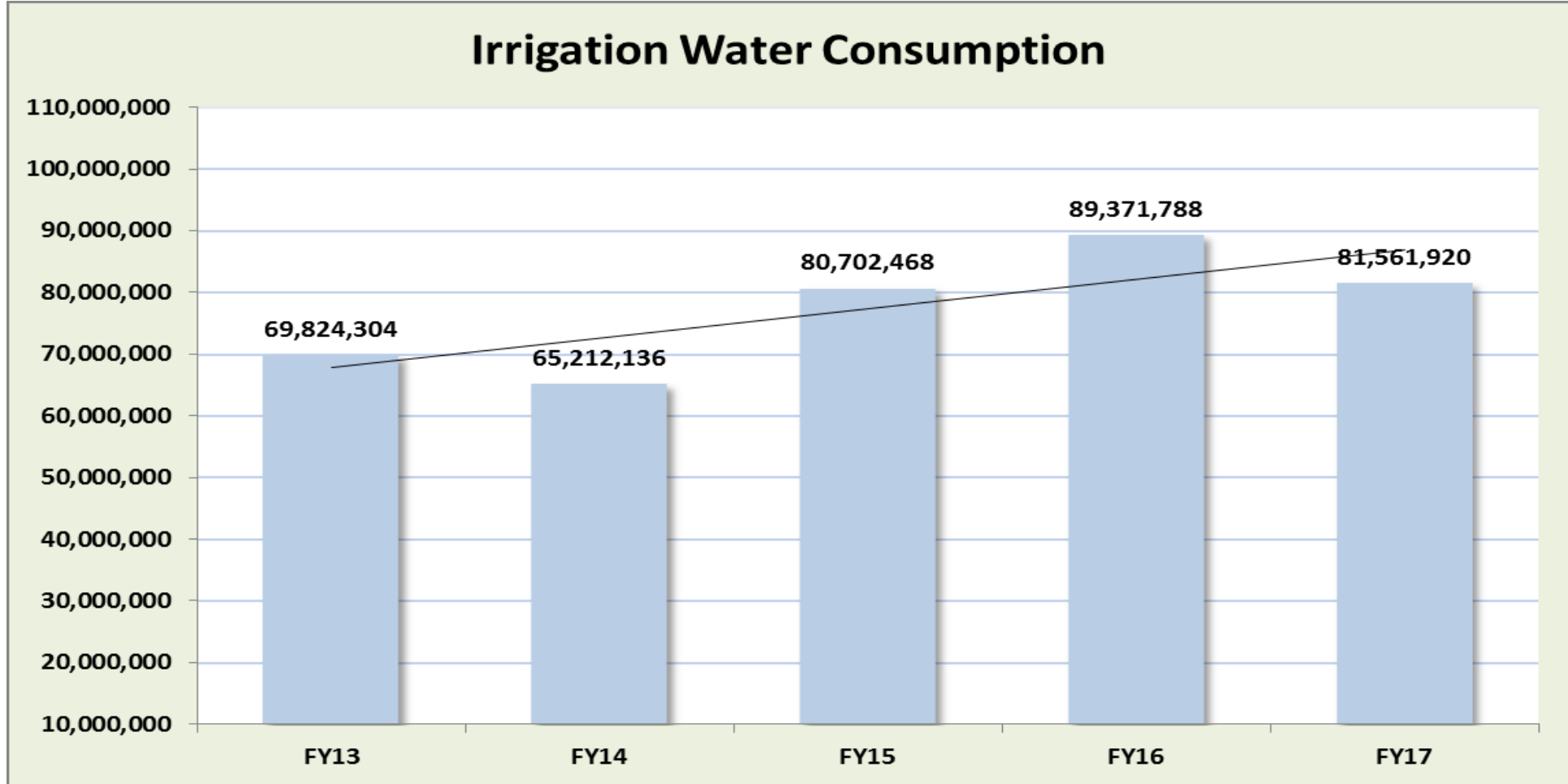


OPTIMIZE WATER EFFICIENCY



City Facility Water Use is down 30% from FY 2013

OPTIMIZE WATER EFFICIENCY



Irrigation Use is up 16% from FY 2013;
Total Water Use is up 3.5% from FY 2013

OPTIMIZE WATER EFFICIENCY



- Upgrading flow & flush fixtures in city facilities
- Upgrading existing irrigation systems with smart controllers and flow sensors: Converted 9 systems (5 on US-1 and 4 in parks) in 2016 to smart irrigation technology (weather based controllers, flow sensors) \$2,850 rebate through Miami-Dade Water and Sewer. Identifying an additional 5 systems for FY 18
- Identifying irrigation systems that can use non-potable water
- Determine cost effectiveness of using rain water harvesting in larger facilities (Youth Center, Parking Garages, etc.)



Sustainability Master Plan (SMP) Project Accomplishments

- **E7 – IT Energy Efficiency:** Replaced all legacy computers and peripherals by Energy-Star certified energy efficient units; finished the virtualization of legacy servers to reduce infrastructure footprint and improve energy efficiency on datacenters; hardware lifecycle plans were updated to incorporate energy performance standards; implemented Virtual Desktop Infrastructure (VDI) for training rooms; continued replacing aged network infrastructure by energy-star certified energy efficient and smaller form-factor network equipment.
- **C2 - Vulnerability Assessment and Adaptation Plan:** Scheduled to be completed early this year
- **F3 - Electric Vehicles & Infrastructure:** Currently have 35 EV in the City Fleet. Adding 8 EV in FY 18. Goal is 78 over first 5 years. Parking Garage Charging Stations: 5,300 charging sessions; reduced gasoline consumption by over 6,200 gallons; Greenhouse Gas Emissions by 46,000 pounds
- **O1- Employee Sustainability Training:** Working with HR to coordinate. Includes getting staff LEED and ENVISION certified . Goal to train by the end of FY 18.
- **O2 - Seal of Sustainability:** Logo developed and is being placed on all city sustainability initiatives.
- **C1 - Regional Partnerships:** Staff continues to actively participate in the S. FL Regional Climate Compact

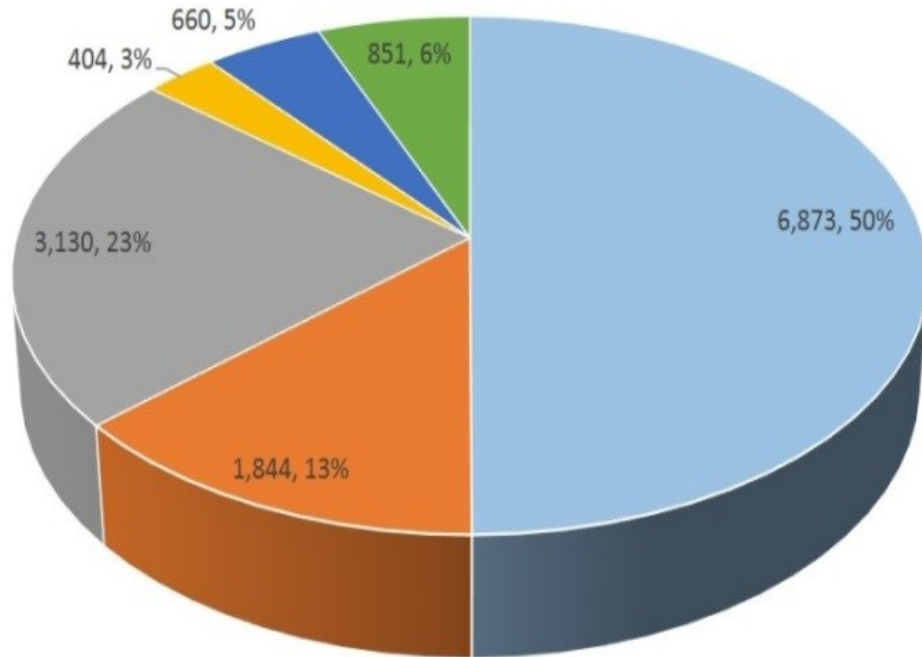


Sustainability Master Plan Projects FY 2018 Budget

- Recycling Containers in Parks/Right of Way: \$96,000
- Optimize Energy and Water Efficiency: \$195,000
- HVAC Replacements: \$154,534
- Motor Vehicles Replacement/Additions: \$3.2 Million (\$231,000 includes EV replacement)
- Installation of Bike Infrastructure: \$600,000
- LED Streetlights: \$150,000
- Employee Sustainability Training: \$5,000
- Sea Level Rise Mitigating Program (Infrastructure Reserve): \$1,445,000

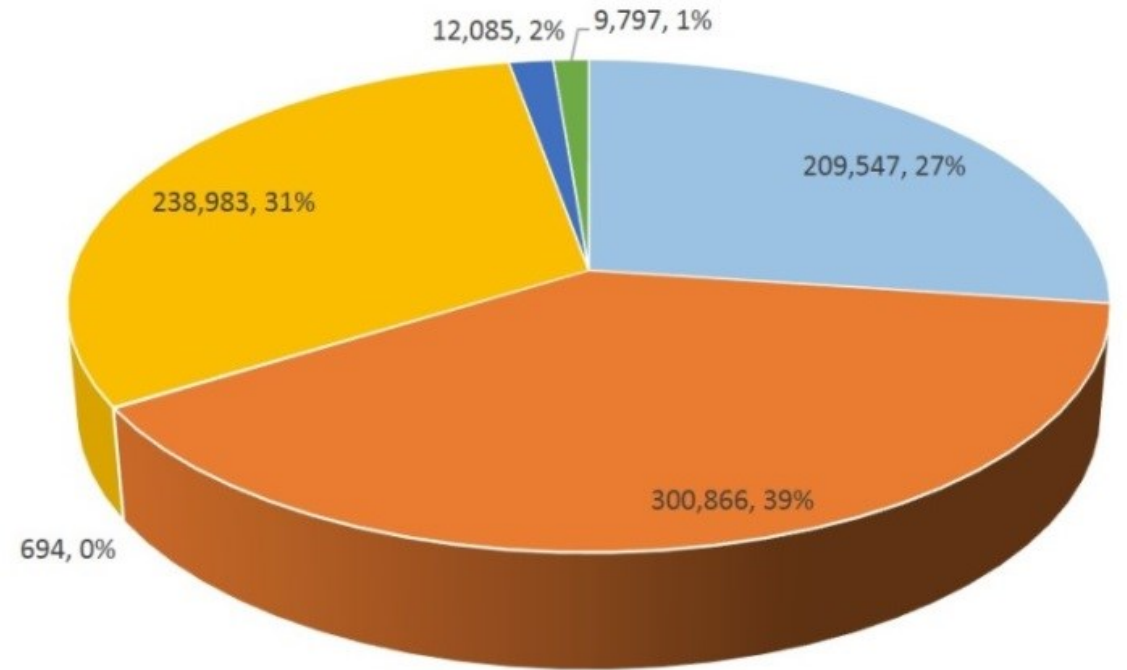
GREENHOUSE GAS EMISSIONS INVENTORIES

FIGURE 3: 2013 LOCAL GOVERNMENT OPERATIONS EMISSIONS



- Buildings and Facilities
- Streetlights
- Vehicle Fleet
- Transit Fleet
- Solid Waste Facilities
- Process and Fugitive Emissions

FIGURE 2: 2013 COMMUNITY-WIDE EMISSIONS



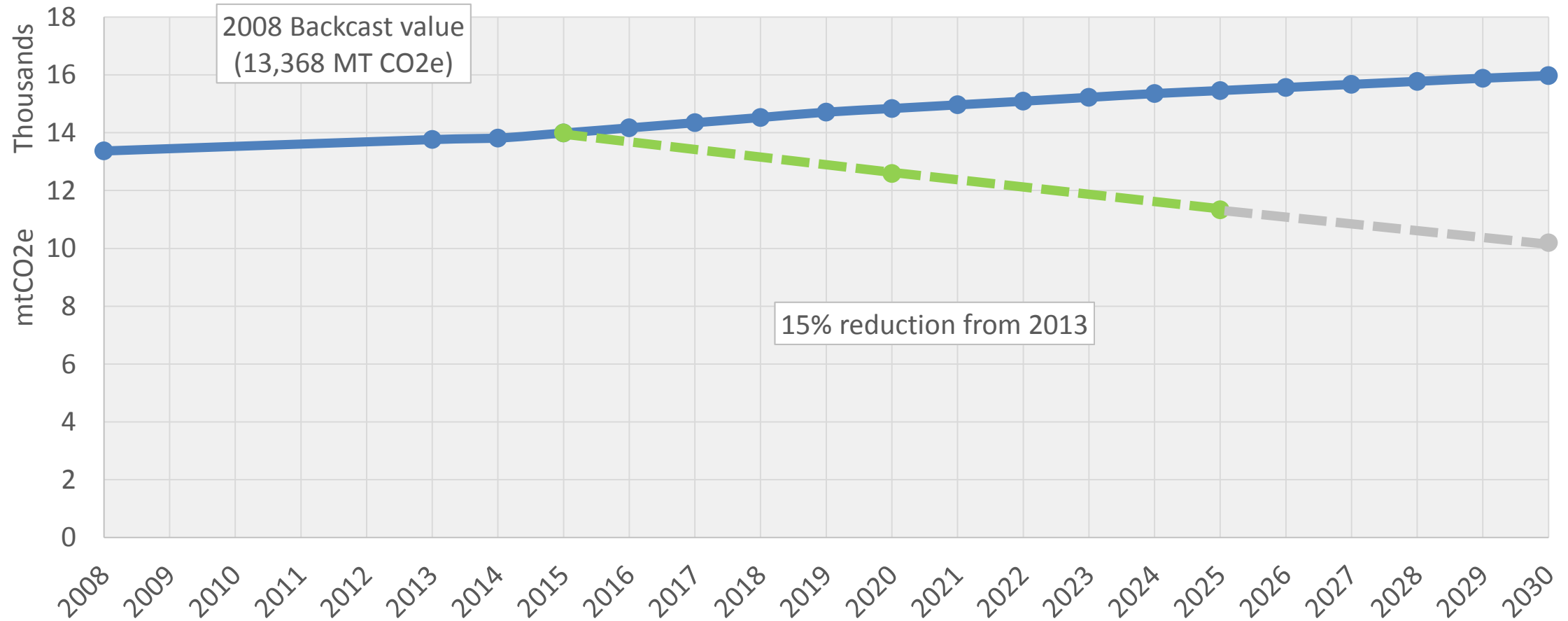
- Residential Energy
- Commercial Energy
- Industrial Energy
- Transportation
- Water and Wastewater
- Community-Generated Waste

Estimated Annual Greenhouse Gas Reductions from Projects

#	Project	Resource Conservation	Unit	GHG Emissions (mtCO ₂ e)
M1	Diversion of Single Family Residence Garb	56,512 tons		20,599
C2	Vulnerability Assessment and Adaptation	0 -		0
E2	Garage LED Lighting	9,936,000 kWh		542
E1	Building Energy Efficiency	8,827,300 kWh		481
W2	Irrigation Efficiency	124,000 kgal		74
E6	Utility Management and Control	7,998,000 kWh		436
F3	Electric Vehicles & Infrastructure	83,335 gallons		46
F1	Fuel Economy	38,900 gallons		35
W5	Non-Potable Water Irrigation	53,856 kgal		26
E7	Information Technology Energy Efficiency	1,537,126 kWh		84
W1	Flow Fixtures	6,392 kgal		6
F2	Fleet Size	5,079 gallons		5
W3	Flush Fixtures	15,720 kgal		12
O1	Employee Sustainability Training	401,363 kWh		22
W4	Rain Water Harvesting	8,800 kgal		1
S1	Efficiency Revolving Fund	0 -		0
O2	Seal of Sustainability	219,541 -		12
T1	Increase Trolley Ridership	-	VMT	#
T2	Bicycle and Pedestrian Enhancements	-	VMT	#
E4	Solar Thermal Systems	360,000 kWh		20
C1	Regional Partnerships	0 -		0
E5	Photovoltaic System	1,656,000 kWh		90
E3	LED Streetlights	3,001,050 kWh		164
<i>Total</i>				22,654

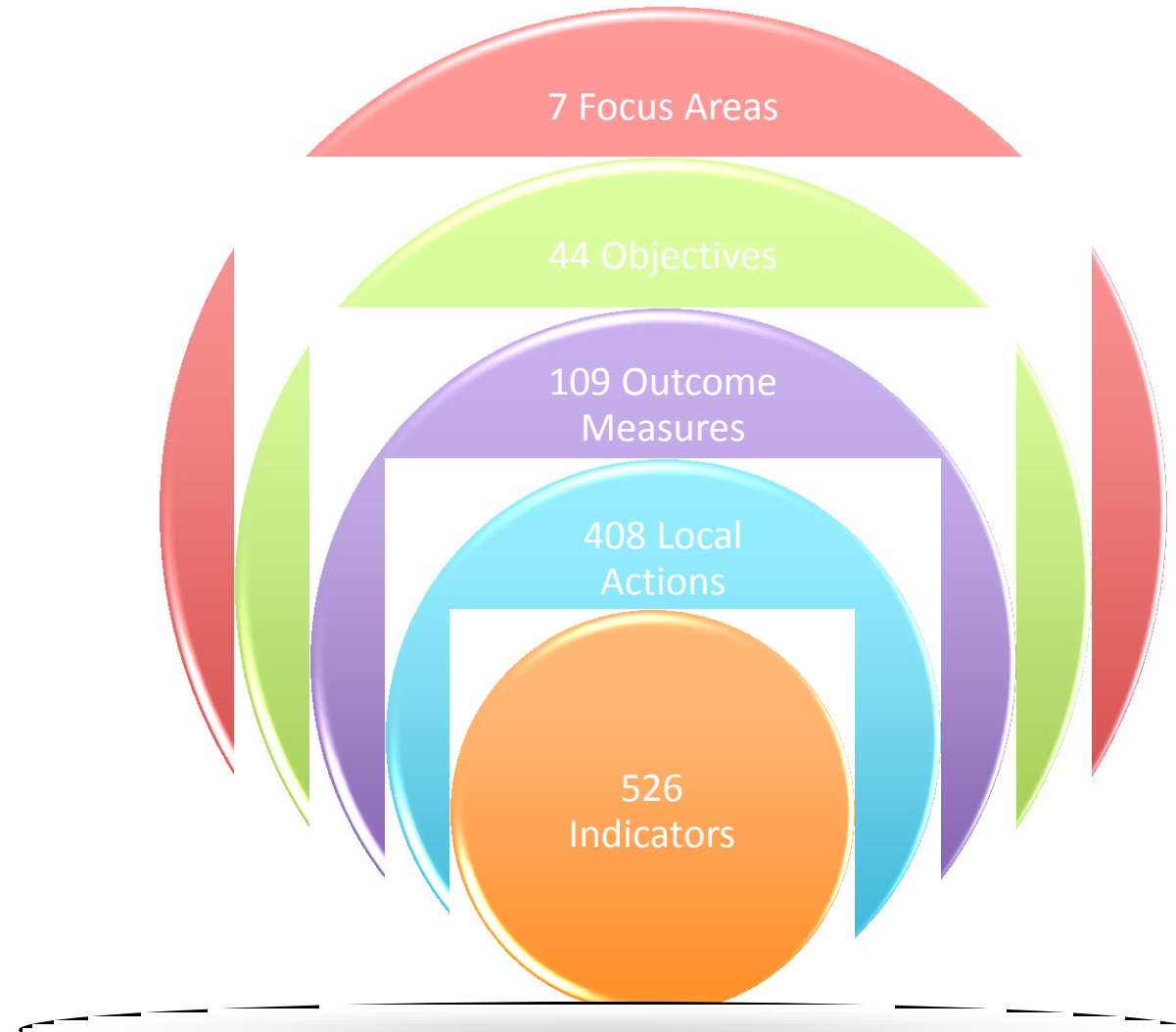
RESULTS: GREENHOUSE GAS EMISSIONS REDUCTIONS

Local Government Operations GHG Inventory and Forecast w/ Projected Reductions from Plan Projects

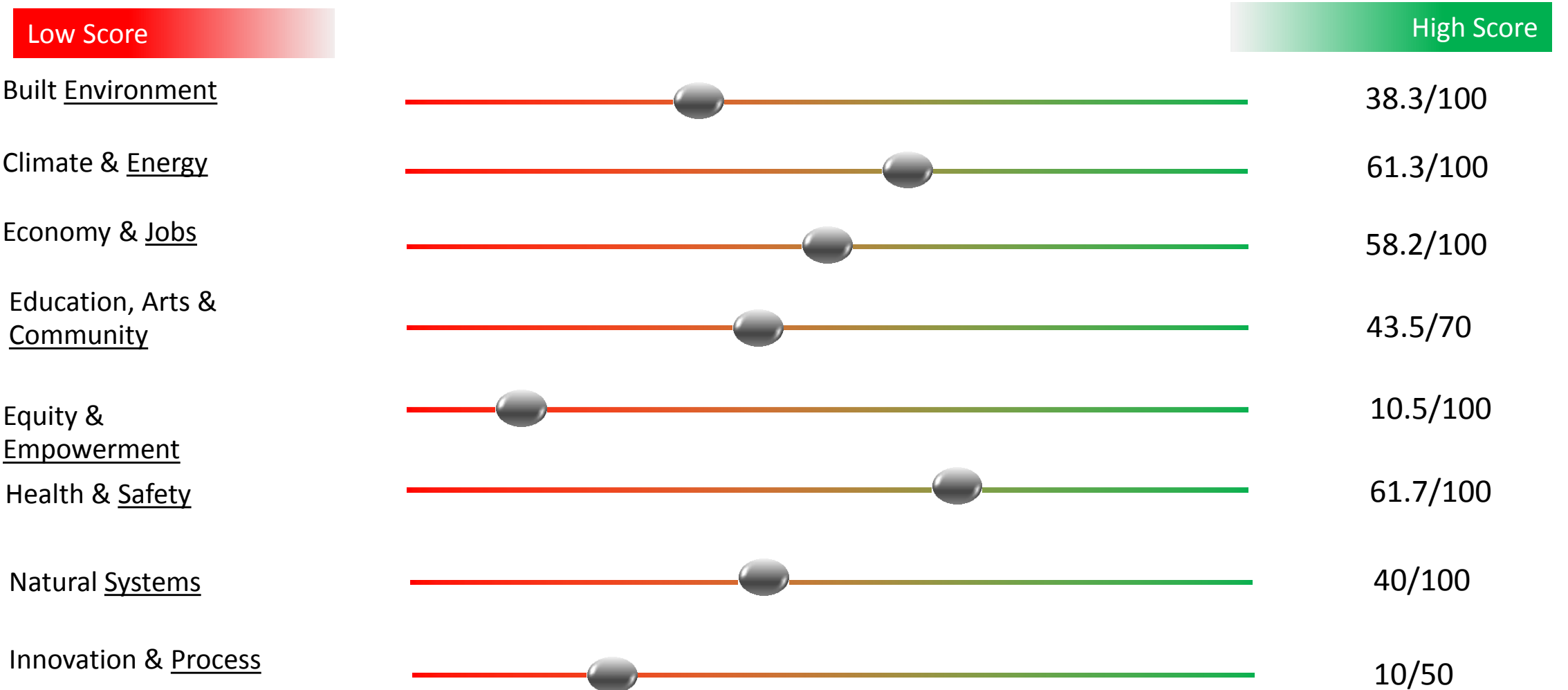


Organization of the STAR Framework

While STAR has a pre-defined structure, a local government can still add Sustainability Recommendations into its Planning Process (that are more localized) while simultaneously utilizing this framework



Preliminary Score: **323.5** or 3-STAR Community (200-399 points) City recognized for sustainability leadership (when certified)



How Coral Gables Compares to other Certified Communities

60 More in process (Sarasota County, Pinecrest, Marathon in FL)



Albany, NY; Atlanta, GA; Beaverton, OR;
Birmingham, AL; Chandler, AZ; Cleveland, OH;
Des Moines, IA; El Cerrito, CA; Fayetteville,
AR; Ft Collins, CO; Houston, TX; Indianapolis,
IN; Las Cruces, NM; **Lee County, FL;**
Monroe County, FL; Palm Bay, FL; Park
Forest, IL; Phoenix, AZ; Reading, PA;
Riverside, CA; Rosemount, MN; St. Louis, MO;
St. Petersburg, FL; Woodbridge Township,
NJ

200-399 Points



Austin, TX; **Broward
County, FL (436.7);**
Burlington, VT; Davenport,
IA; Dubuque, IA; Evanston,
IL; Louisville, KY;
Memphis, TN; Plano, TX;
Portland, OR; Raleigh, NC;
Tacoma, WA; Tucson, AZ
Washington, DC; **West
Palm Beach, FL**

400-599 Points



Baltimore, MD;
Northampton, MA;
Seattle, WA

600 + Points

Sustainability Master Plan Development Process

- All of the projects identified in the SMP have been:
 - ✓ Developed, reviewed, approved by the project managers/division directors
 - ✓ Aligned with the City's 3-year Strategic Plan
 - ✓ Aligned with the 5-year Capital Improvement Plan

Action Item

- City Administration approval of project portfolio/budget estimates

Next Steps

- Updating the original SMP and completing a 2017 GHG Inventory
- Simultaneously working to finalize outreach/communication plan which includes:
 - ✓ A comprehensive final draft of the SMP
 - ✓ A short summary of the SMP
 - ✓ A 1-page overview of Plan
- Present to Commission