EXISTING CONDITIONS MEMO

*CITY OF SUNRISE
SUSTAINABILITY ACTION PLAN*

APRIL 4, 2018

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The City of Sunrise ("Sunrise") is developing a Sustainability Action Plan ("SAP"). A consultant team ("the Team") assisting Sunrise in preparation of the SAP has completed a data collection gap analysis, a greenhouse gas ("GHG") emissions inventory and a baseline energy use assessment. This memo details results of these assessments, a short summary of the Vulnerability Assessment, and the results from use of the Sustainability Tools for Assessment and Rating Communities ("STAR") framework.

GAP ANALYSIS

Effective sustainability planning begins with an understanding of Sunrise's current performance, which provides a starting point against which progress can be measured. To assess performance, the Team requested a substantial amount of economic, environmental, and social data from Sunrise. Sunrise was able to supply most, but not all of the requested information. In addition, some of the information provided was not feasible to disaggregate or link to individual Sunrise facilities.

A centralized database of sustainability information would support sustainability planning, performance, project implementation, and verification, in a way to facilitate measurements of Sunrise climate mitigation targets and other goals. The Gap Analysis section below provides specific recommendations for improving data collection and references specific items included in the original data request.

GREENHOUSE GAS INVENTORY

The GHG inventory allows Sunrise to understand its contribution to heat-trapping pollution changing the climate. The GHG Inventory includes both city-wide ("Community") and Local Government Operations ("LGOP") emissions sources. The LGOP Inventory is considered a subset of the Community Inventory. Although many different gases contribute to climate change, emissions totals are expressed in terms of metric tons of carbon dioxide equivalent ("MTCO$_2$e")[1].

The inventory prepared by the Team, uses 2016 as the base year for the assessment. In 2016, the estimated Community emissions total was 1,318,300 MTCO$_2$e. Transportation and Mobile Sources were the largest combined source, contributing 59% of the total. The next largest sources were Commercial and Residential energy consumption, at 19% and 17% of the total, respectively.

LGOP, i.e. operations related to facilities, vehicles, and infrastructure, directly owned and/or controlled by Sunrise, were responsible for emitting 46,134 MTCO$_2$e in the 2016 base year (3.5% of the Community inventory total). Water and wastewater treatment facilities contributed 40% of CO2e to the LGOP inventory total. Sunrise's buildings, facilities, and vehicle fleet, also contributed significantly to the total LGOP emissions at 36% and 11% of the total, respectively.

---

[1] CO$_2$e refers to carbon dioxide equivalent (CO$_2$e), a measure that describes how much warming a given type and amount of a greenhouse gas may cause, using the functionally equivalent amount of carbon dioxide (CO$_2$) as the reference.

Both the Community and LGOP inventories were peer reviewed by a separate member of the Team to corroborate accuracy and for quality assurance.

GREENHOUSE GAS EMISSION FORECAST

A GHG inventory is a baseline for measuring and reporting emissions. A GHG forecast projects changes in emissions over time. The projection estimates how factors such as population growth, energy use, water use, and transportation demands might affect emissions under a business-as-usual ("BAU") scenario. A BAU scenario assumes no policy or technological changes are put in place to affect the GHG baseline. By comparing the BAU forecast with the baseline, Sunrise can evaluate investments to reduce emissions.

The Team prepared BAU GHG emissions forecasts for both Community and LGOP GHG emissions over a 15-year time period beginning with the 2016 baseline year. The forecast projects an 11% increase in both Community and LGOP emissions.

BASELINE ASSESSMENT

Establishing a baseline assessment for key areas of sustainability performance is crucial in order to identify opportunities, quantify progress, and assess future opportunities. Baselines of Sunrise's electricity use, natural gas use, water use, fleet energy use, and waste management energy use, have been developed using 2014, 2015, and 2016 data.

VULNERABILITY ASSESSMENT

The Vulnerability Assessment ("VA") is an analysis of the potential current and future climate change hazards related to sea-level rise and flood risks from precipitation and weather events for Sunrise. The report provides high-level analysis and literature-based review of current and future flooding and precipitation vulnerability within Sunrise and provides related recommendations.

Existing datasets pertaining to municipal assets, critical facilities, roads, stormwater infrastructure, Federal Emergency Management Agency ("FEMA") flood maps, and sea-level rise projections were used with various geo-spatial tools for the purpose of identifying specific flood vulnerabilities within Sunrise. A review of scientific literature also indicates ongoing climate change likely will cause additional stressors from precipitation and severe weather pattern changes in Sunrise over the next several decades.

The findings and recommendations in the VA provide a limited discussion of potential risks associated with climate change and does not claim certainty of occurrence of the climate change driven geological and climatic projections suggested in this report. Assessing risk is determined through a multitude of factors with inherent limitations.

SUSTAINABILITY TOOLS FOR ASSESSMENT AND RATING COMMUNITIES (STAR)

The STAR Community Rating System™ ("STAR") is a framework utilized to assess overall community sustainability in municipalities across the nation. STAR is a comprehensive framework that measures economic, environmental, and social factors, within a municipality, such as a town, city, or county. The factors are arranged into seven (7) individual categories: Built Environment; Climate & Energy; Economy & Jobs; Education, Arts, & Community; Equity & Empowerment; Health & Safety; Natural Systems; and Innovation & Process.

STAR gives municipalities the ability to assess current sustainability initiatives and set a baseline for future goals. The STAR framework is a tool for identifying the best practices for creating a desirable and resilient community to live in. STAR is a highly effective platform to measure performance, steer progress, and develop resiliency strategies.

The STAR program utilizes quantitative measurements to track multiple targets over time. Hundreds of cities, counties, and towns are actively using the STAR Community Rating System as their sustainability framework. Communities can also opt to participate in a voluntary STAR certification process. The certification process gives municipalities the opportunity to market themselves as a viable community, as they strive for a Five-Star rating on the STAR certification scale.

GAP ANALYSIS

An extensive data collection effort was required to develop a GHG Inventory and baseline assessment for Sunrise. Insights gained from the data collection effort are valuable for improving Sunrise's management of sustainability data. In some cases, Sunrise has not yet tracked the information useful to support sustainability planning and performance assessment. In other instances, changes to the way data is collected or organized would greatly facilitate management of Sunrise's sustainability programs and initiatives.

In general, Sunrise was able to provide most but not all requested data. Accordingly, Sunrise would benefit from a centralized database to collect and track key sustainability indicators to facilitate sustainability reporting, management of programs, and assessment of economic, environmental and social performance. Other elements of a successful data management system would include: common nomenclature; crosslinking facilities with energy, water, and waste accounts; normalizing data using factors that correlate with changes in performance; and, a system for periodic reporting from various city departments.

Table 1 details gaps in data tracking by Sunrise and recommendations for improving management of key indicators of sustainability performance. It follows the format and numbering system of Sunrise's Sustainability Data Request, provided in Appendix A. For detailed descriptions of the items indicated, refer to the Data Request.

TABLE 1: GAP ANALYSIS RECOMMENDATIONS

Datum	Recommendations (with applicable item numbers from Data Request)
1. General Information	• No recommendations
2. Land Use, Infrastructure and Development, Transportation	• No recommendations
3. Local Government Operations	
A. Facilities, Sites, and Assets	• Develop a comprehensive list of facilities that is cross-referenced with all utility accounts linked to those facilities (Appendix A: 3.1, 3.9, 3.10, and 3.14) as well as associated functional departments. • Track the floor area of all facilities. This will facilitate energy and water use intensity calculations (Appendix A: 3.4). • Compile information on maintenance management system (CMMS) and IT department green practices (Appendix A: 3.6). • Track fugitive emissions from HVAC and fire suppression equipment (Appendix A: 3.18, 3.19, and 3.20). • Consider additional sub-metering at multi-facility complexes or large facilities served by only one electric meter (i.e. co-located WTP/WWTP plants) (Appendix A: 3.14).
B. Power Generation	• Track generator run times and fuel consumption to measure performance and improve GHG emissions estimates (Appendix A: 3.22, 3.23).
C. Water and Wastewater	• Track potable water, irrigation and sewer use and expenditures separately and link to facility names, addresses, floor area and other details with a unique ID (Appendix A: 3.30, 3.31, 3.32, 3.33, 3.34, and 3.35).

Datum	Recommendations (with applicable item numbers from Data Request)
D. Recycling and Waste	• Track actual facility waste generation (weigh containers at each pickup) in order to assess waste generation/diversion trends (Appendix A: 3.36, 3.41). • Track Hazardous and Universal wastes generated in government facilities and associated expenditures. Ensure compliance with applicable regulations for labelling, safe handling, and disposal to reduce liability.
4. Local Government Fleet / Transportation	• Develop a tracking system for fleet data that allows the user to filter vehicles by department and type. Track / calculate vehicle miles travelled, fuel economy, maintenance expenditure and fuel expenditure by vehicle (Appendix A: 4.1, 4.2, 4.4, 4.5, 4.8, 4.8, 4.9, 4.10, 4.11, 4.12, 4.13, and 4.14).
5. Community-wide Energy and Resource Conservation	• No Recommendations
6. Regulatory Framework	• No Recommendations
7. Climate Vulnerability/ Resiliency	• Establish municipal GHG reduction goals/targets (Appendix A: 7.3) • Track Green Infrastructure (GI) projects for sustainability reporting purposes (Appendix A: 7.8) • Track vulnerable assets and adaptation action areas the in future (once these have been identified/established) (Appendix A: 7.17, 7.14, 7.15)
8. Education and Outreach	• Track sustainability education and outreach campaigns / activities, and their success (Appendix A: 8.1) • Track sustainability training of both new hires and existing employees (Appendix A: 8.2)
10. Contacts	• No recommendations

GREENHOUSE GAS INVENTORY

METHODS

Sunrise's city limits serve as the physical boundary for this inventory and calendar year 2016 is the timeframe for which emissions were calculated. Facilities owned and operated by Sunrise but located outside the city's jurisdiction are also included in the inventory totals.

The Community portion of the inventory was completed using International Council for Local Environmental Initiatives' ("ICLEI") U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.1 and the Global Protocol for Community-scale Greenhouse Gas Emissions Inventories, for consistency with the Global Covenant of Mayors for Climate and Energy. The LGOP portion of this inventory was completed under ICLEI's Local Government Operations Protocol, Version 1.1. Data was entered into ICLEI's ClearPath GHG emissions reporting platform to facilitate future updates, reporting, and integration with the software's planning, monitoring, and forecasting tools.

GHG emissions were quantified using calculations to determine emissions based on activity data and emission factors. The basic equation used is*: Activity Data X Emission Factor = Emissions*. Activity data measure the energy use, fuel consumption, or other indicators of emissions generating processes. Emission factors corresponding to emissions per unit of activity data (e.g. metric tons CO_2/kWh of electricity) were used to convert activity data into associated emissions quantities.

Since GHG emissions are not typically measured at the source, they must be estimated from data on emissions-generating activities, such as fuel consumption. Emissions estimates include numerous assumptions and are limited by the quality and availability of related data. It is useful to think of emissions estimates as indicators rather than exact values.

Emissions results in the GHG inventory are presented in MTCO2e. Because various GHGs have differing global warming potentials, they are commonly converted to equivalent units of CO_2 to allow comparison of their global warming effects.

The methods and calculations utilized to develop both the community and LGOP inventories were independently reviewed for quality assurance and control by the Team.

COMMUNITY INVENTORY OVERVIEW

The Community inventory represents the total amount of GHG emissions associated with the community within its jurisdictional boundary during calendar year 2016. This total includes emissions from municipal government operations and activities. As a result, the LGOP inventory may be considered a subset of the Community inventory.

This inventory is web-accessible via ICLEI's ClearPath portal at http://clearpath.icleiusa.org using Sunrise's ICLEI membership credentials. This is the definitive version of the inventory. Refer to this source for documentation of data sources and assumptions. Results are summarized below.

In 2016, community-wide emissions in Sunrise totaled 1,318,300 MTCO$_2$e. **Table 2** shows sectors included in the Community inventory, the activities in each sector, and the estimated emissions for each sector. Emissions totals for individual activities may be reviewed in ClearPath. **Figure 1** shows the percentage of the total contributed by each sector.

TABLE 2: COMMUNITY INVENTORY SECTORS, ACTIVITIES, AND EMISSIONS

Sector	Activities	Emissions (MTCO$_2$e)
Transportation & Mobile Sources	*Natural gas fuel use – within boundary* Vehicle miles travelled	778,662
Commercial	Electricity consumption Natural gas consumption *Natural gas sales – outside of boundary**	244,582
Residential	Electricity consumption Natural gas consumption Natural gas sales – outside of boundary*	219,537
Water and Wastewater	Process emissions from wastewater treatment Process emissions from nitrification / denitrification Electricity consumption from supply of potable water* Electricity consumption from wastewater treatment*	35,159
Solid Waste		24,636
Industrial	Electricity consumption Public Street electricity consumption	14,140
Process and Fugitive Emissions	Fugitive emissions from natural gas distribution	1,583
Total		*1,318,300*

*These Activities are marked "Information Only" in ClearPath and are not added to the inventory total. This is because the Activities either occur outside the City's jurisdiction, or are already counted elsewhere in the inventory (e.g. "Natural gas fuel use – within boundary" is already included in the "Vehicle miles travelled" emissions estimate).

FIGURE 1: 2016 COMMUNITY INVENTORY EMISSIONS (MTCO2E)
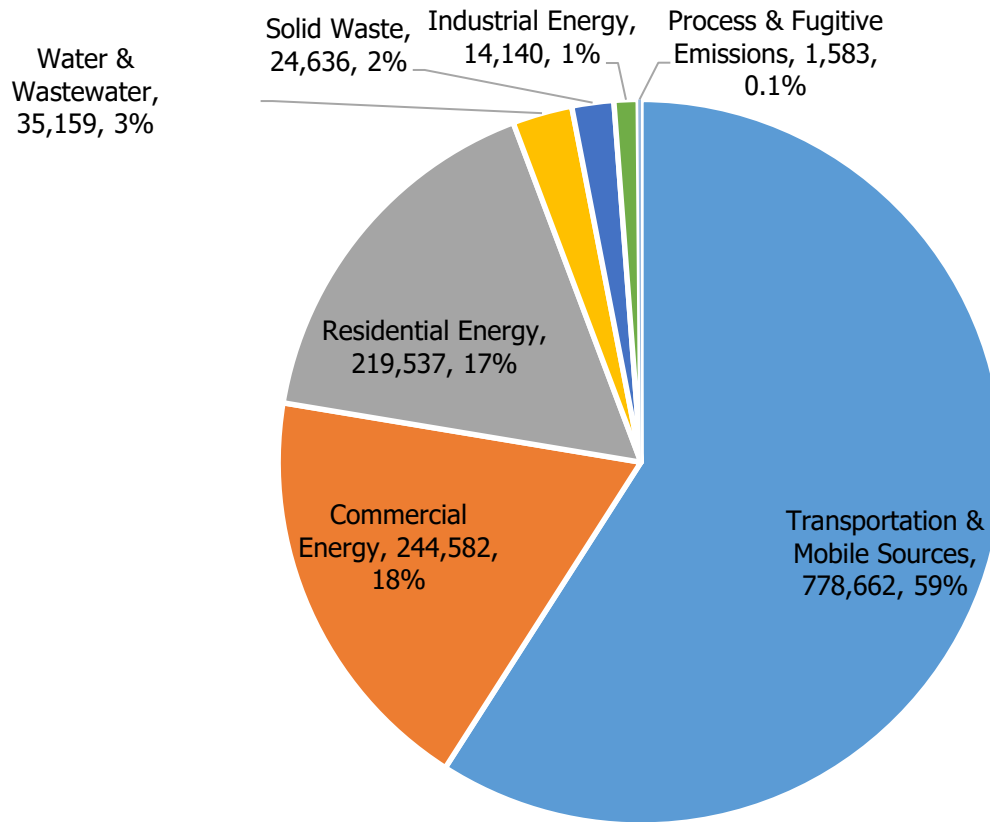
LGOP INVENTORY OVERVIEW

The LGOP inventory allows Sunrise to understand its contribution to the community's emissions as a whole and to effectively plan to reduce those emissions over which it has significant influence or direct control. The LGOP inventory represents the total estimated GHG emissions associated with LGOP for calendar year 2016.

This inventory is also web-accessible via ICLEI's ClearPath portal at http://clearpath.icleiusa.org using Sunrise's ICLEI membership credentials. This is the definitive version of the inventory. Refer to this source for documentation of data sources and assumptions. Results are summarized below.

In 2016, LGOP emissions totaled 46,134 MTCO$_2$e. **Table 3** shows sectors included in the LGOP inventory, the activities in each sector, and the estimated emissions for each sector. Emissions totals for individual activities may be reviewed in ClearPath. **Figure 2** shows the percentage of the total contributed by each sector.

TABLE 3: LGOP INVENTORY SECTORS, ACTIVITIES, AND EMISSIONS IN METRIC TONS CO$_2$E

Sector	Activities	Emissions MTCO$_2$e
Water and Wastewater Treatment Facilities	Electricity consumption Stationary fuel combustion Electric power grid losses	18,554
Buildings / Facilities	Electricity consumption Electric power grid losses Stationary fuel combustion	16,576
Vehicle Fleet	Fuel consumption	5,169
Employee Commute	Employee commute emissions	3,453
Streetlights & Traffic Signals	Electricity consumption (Streetlights)**	1,862
Solid Waste Facilities	MSW incineration emissions from waste generation at city facilities Biosolids land application* Biosolids landfill disposal*	387
Process & Fugitive Emissions	Mobile Source (Fleet) fugitive emissions	133
Total		*46,134*

*These Activities are marked "Information Only" in ClearPath and are not added to the inventory total, because they occur outside the City's jurisdiction.
**Activity includes "Public Street" accounts billed by FPL. Other accounts that may relate to lighting are not included in reported totals but have been calculated for information purposes only.

FIGURE 2: 2016 LGOP INVENTORY EMISSIONS (MTCO2E)
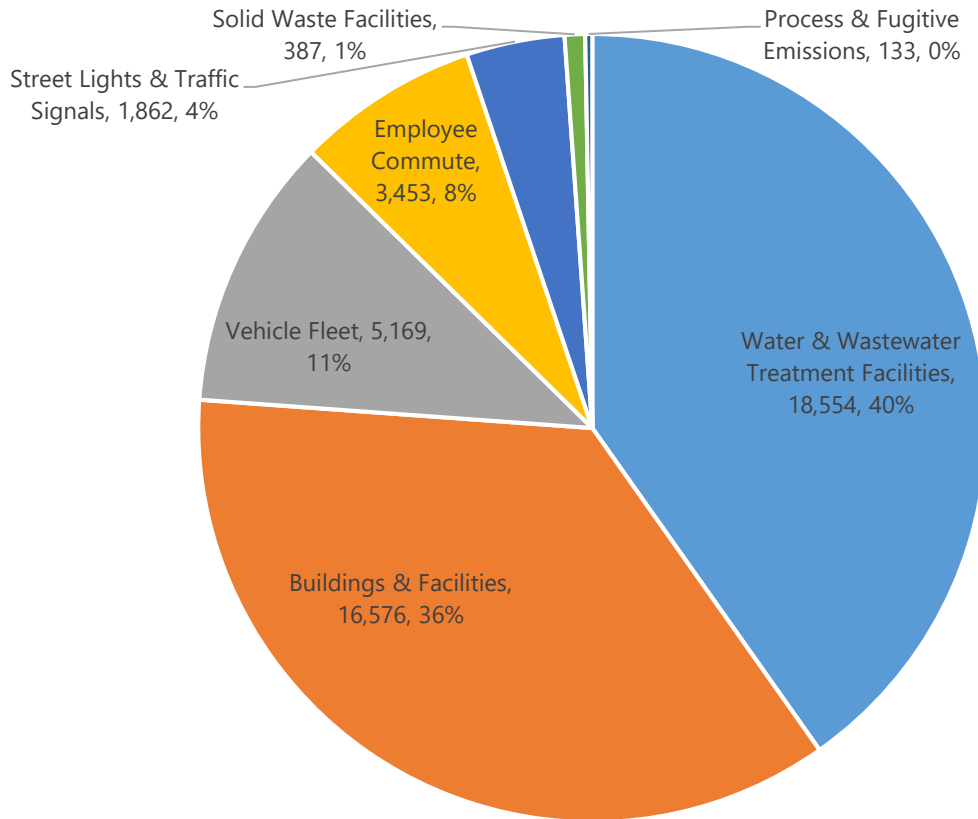
GREENHOUSE GAS EMISSIONS FORECAST

METHODS

While establishing a GHG baseline lays the groundwork for measuring and reporting emissions, it is also useful to forecast GHG emissions over time to see how projected rates of population growth, energy use, and other factors would affect emissions under a business-as-usual ("BAU") scenario. A BAU scenario assumes no policy or technological changes are put in place to affect the GHG baseline. By comparing the BAU forecast with GHG emissions reduction targets, Sunrise can better evaluate measures designed to mitigate the carbon emissions. BAU forecasts rely on many assumptions (e.g. energy usage) and are most useful as a high-level planning tool.

The Team prepared BAU GHG emissions forecasts for both Community and LGOP GHG emissions over a 15-year time period beginning with the 2016 baseline year. The forecast end date of 2030 corresponds to the first key planning horizon highlighted in the Southeast Florida Regional Climate Action Plan.

A number of growth rate indicators were used to develop Sunrise's Community and LGOP BAU forecasts. Population growth projections from the Broward County Population Forecasting Model were used to estimate waste generation trends. Data from the South Florida Water Management District 2013 Lower East Coast Water Supply Plan was used to estimate increases in potable water and wastewater treatment demand. For categories related to energy use (e.g. transportation and facilities energy consumption) U.S. Energy Information Agency ("EIA") energy projections for the southeast region were used. Data from the Federal Highway Administration Office of Highway Policy Information was used to estimate community transportation and mobile source trends.

In all cases, projections were used as a basis for calculating annual compound growth rates from 2016 through 2030. These growth rates were then applied to 2016 baseline data for each emissions source to calculate the predicted change in emissions.

COMMUNITY FORECAST

The forecast indicates growth in Sunrise's commercial and residential energy sectors, along with transportation and mobile sources, which will result in GHG emissions increasing about 11% year 2030 (from the 2016 baseline value of 1,318,300 MTCO2e to 1,473,587 MTCO2e in 2030) as depicted below in **Figure 3**. Increased emissions from the Water & Wastewater, Solid Waste, Industrial, and Fugitive Emissions categories are less significant since they make up a smaller proportion of the inventory total.

FIGURE 3: COMMUNITY GHG FORECAST

Legend: Transportation and Mobile Sources · Commercial · Residential · Water and Wastewater · Solid Waste · Industrial
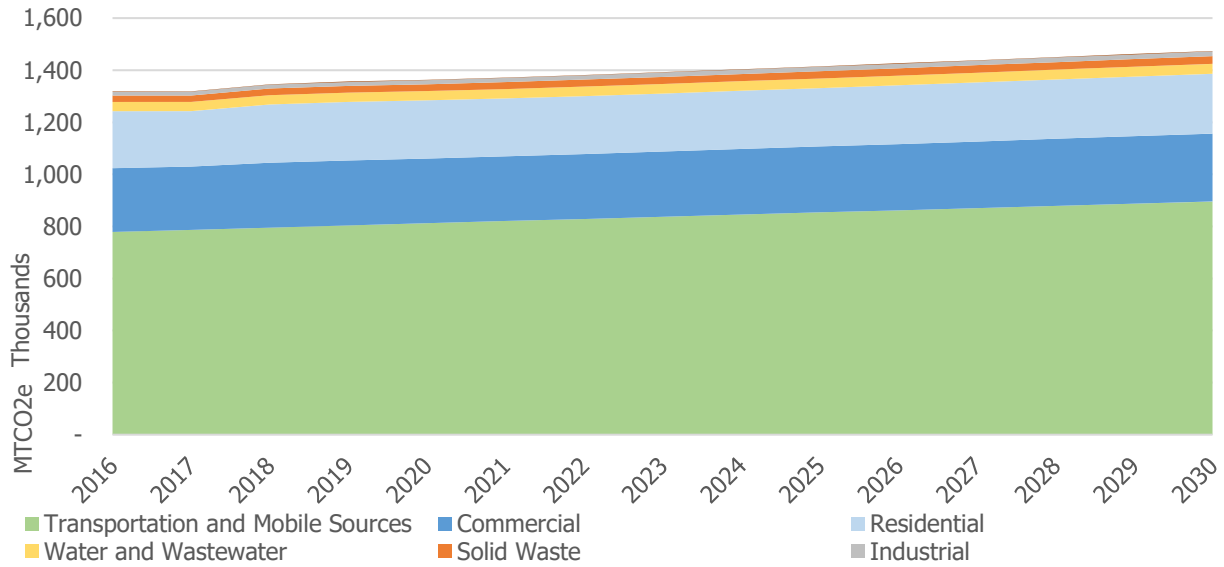
LGOP FORECAST

The LGOP GHG emissions forecast is displayed in **Figure 4**, which provides: increases in the energy demand for water/wastewater treatment; increases in energy use by buildings & facilities; and, the increase in fleet vehicle fuel use. The growing demands will result in GHG emissions gradually increasing 11% from the 2016 baseline value of 46,134 MTCO2e to 51,714 MTCO2e by 2030. Increases in other emissions categories are less significant, since they make up a smaller proportion of the inventory total.

FIGURE 4: LGOP GHG FORECAST

Legend: Water and Wastewater · Buildings and Facilities · Vehicle Fleet · Employee Commute · Street Lights and Traffic Signals · Solid Waste
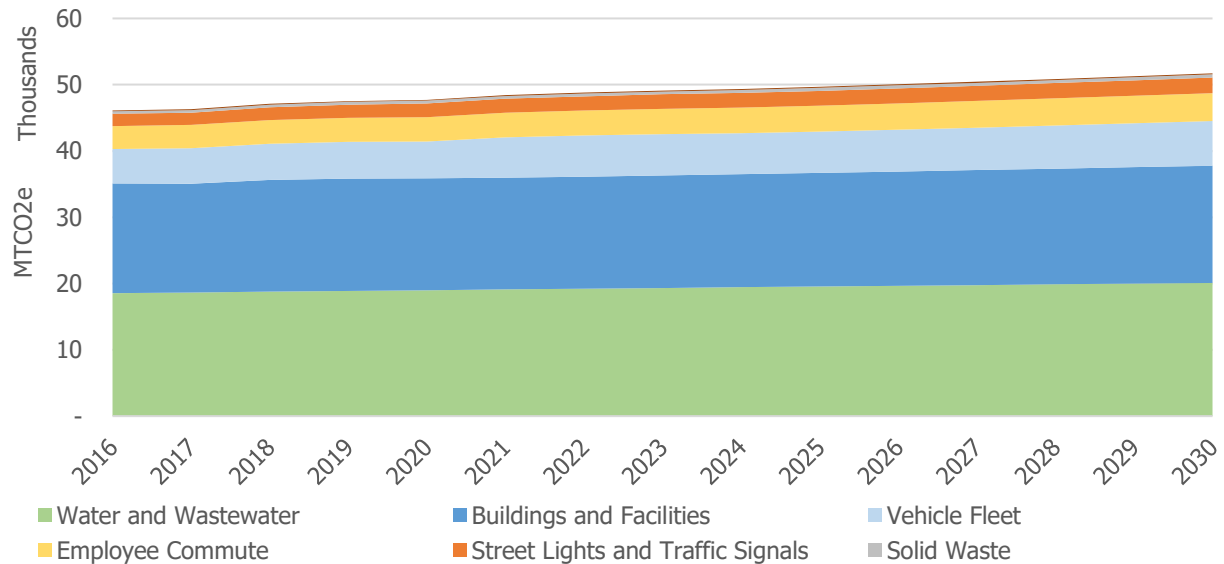
BASELINE ASSESSMENT

Based on data provided by Sunrise, the Team developed baseline assessments of energy and water usage by Community and LGOP. Baseline assessments of Sunrise's transportation fleet and waste management operations have also been developed.

ELECTRICITY

Community electric consumption totaled 3,440,000 million British thermal units ("MMBTU") or 980.5 million kilowatt-hours in 2016, according to records provided by Florida Power and Light ("FPL"). Commercial and residential consumption dominate usage. Industrial and street lighting usage is relatively small. Usage remained about flat from 2014 through 2016, as depicted below in **Figure 5**. During this period, expenditures have dropped slightly, due to small reductions in the unit cost of electricity.

FIGURE 5: ANNUAL COMMUNITY ELECTRIC USE (MMBTU), 2014-2016
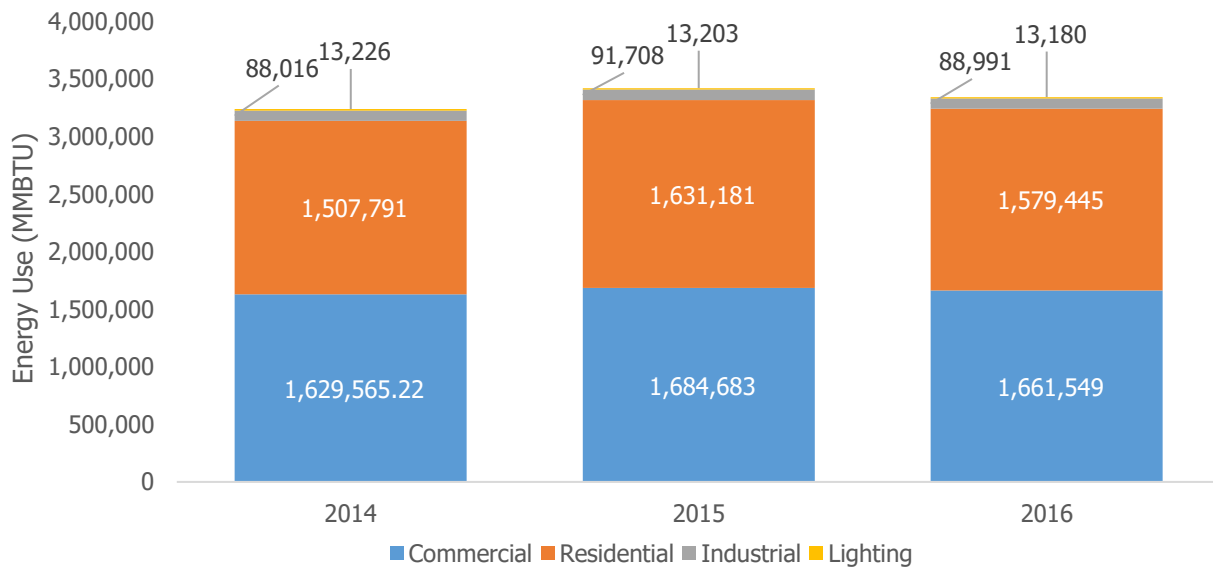
As with the Community, the LGOP energy use has remained flat, after increasing in 2015 and decreasing in 2016. Expenditures have decreased slightly, for the same reason as above. **Table 4** summarizes LGOP energy use, expenditure, and unit costs from 2014 through 2016 for Sunrise's 1,011 utility accounts. Note this includes some accounts for facilities located outside of Sunrise's jurisdiction, but owned/operated by Sunrise.

TABLE 4: ANNUAL LGOP ELECTRIC USE, EXPENDITURE AND UNIT COST, 2014-2016

	2014	2015	2016
Electric Use (MMBTU)	224,816	230,978	222,066
Energy Expenditure ($)	$5,888,115	$5,777,479	$5,254,236
Average Unit Cost ($/KWh)	$0.089	$0.085	$0.081

Within these totals, Sunrise's water and wastewater treatment plants consume the most electricity and represent the greatest expenditure, followed by buildings, lift stations, pumps and parks. In the water and wastewater treatment category, use and expenditure has trended downwards by 3% since 2014. In other categories, use and expenditure has remained relatively unchanged or has increased (***Figure 6***).

Usage was allocated to these categories subjectively, based on correlating information on Sunrise facilities and infrastructure with account information provided by FPL, including the account address and description. For example, FPL account descriptions differentiate between lift stations (e.g. "#LS173") and pumps (#STORM PUMP 4)

FIGURE 6: ANNUAL MUNICIPAL ENERGY USE (MMBTU) AND EXPENDITURE ($) BY END USE, 2014-2016
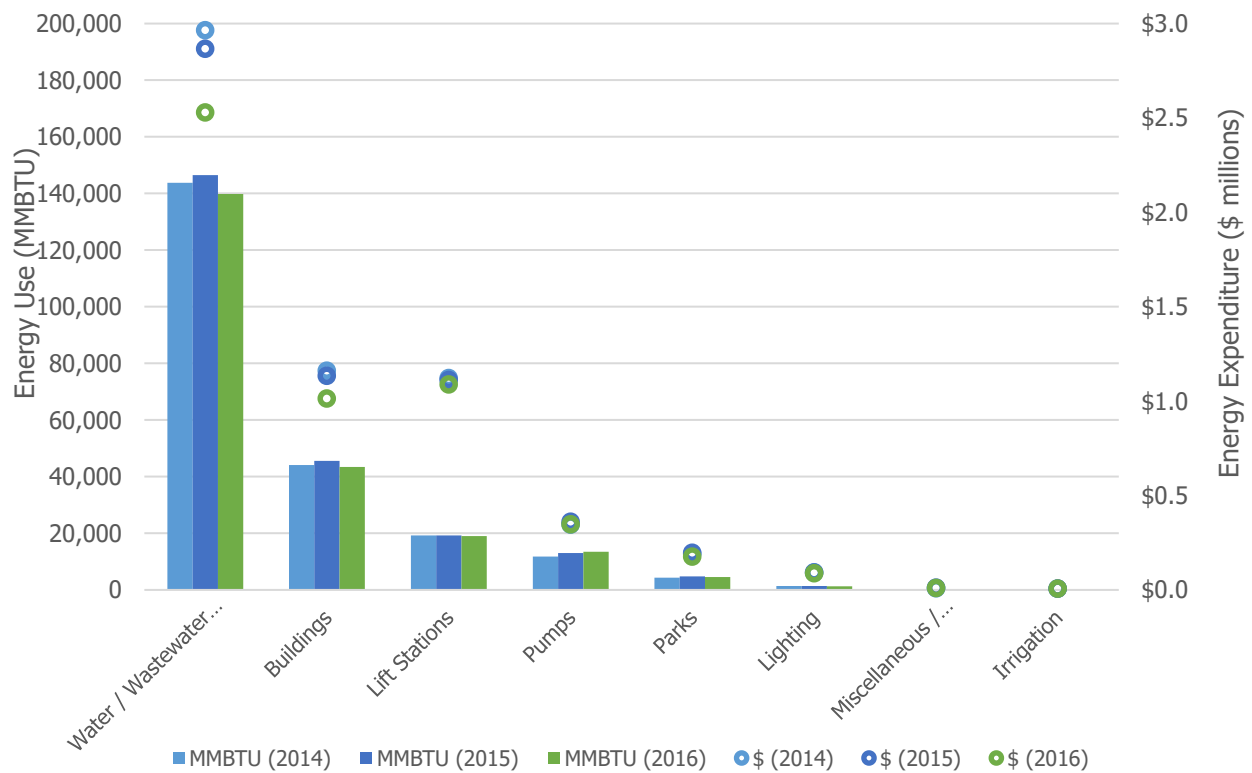
Available data did not facilitate precise identification of billing records with facilities. Facility data correlated with energy use, such as floor area, occupancy, and end uses, was also unavailable, limiting the ability to compare facility operation both within Sunrise's real estate portfolio and against national benchmarks.

NATURAL GAS

In 2016, Sunrise's natural gas utility provided about 521,000,000 MMBTU to about 9,200 MMBTU commercial, residential, multi-family residential, government, and transportation accounts (**Figure 7**). Slightly less than 95% and 5% of accounts are residential and commercial, respectively, with a small number of significant users in the other categories. While smaller in number, commercial accounts used about 67% of the fuel, the residential sector using about 23%. Commercial accounts show an increasing trend from year 2014 to 2016, while other categories showed little change. LGOP consumed approximately 25,500 MMBTU, about 5% of total consumption. Expenditure data was not available. About 10% of natural gas use occurs outside of the jurisdiction of Sunrise, including locations in Tamarac, Lauderhill, and Weston.

FIGURE 7: COMMUNITY AND MUNICIPAL NATURAL GAS USE, FY2014-FY2016
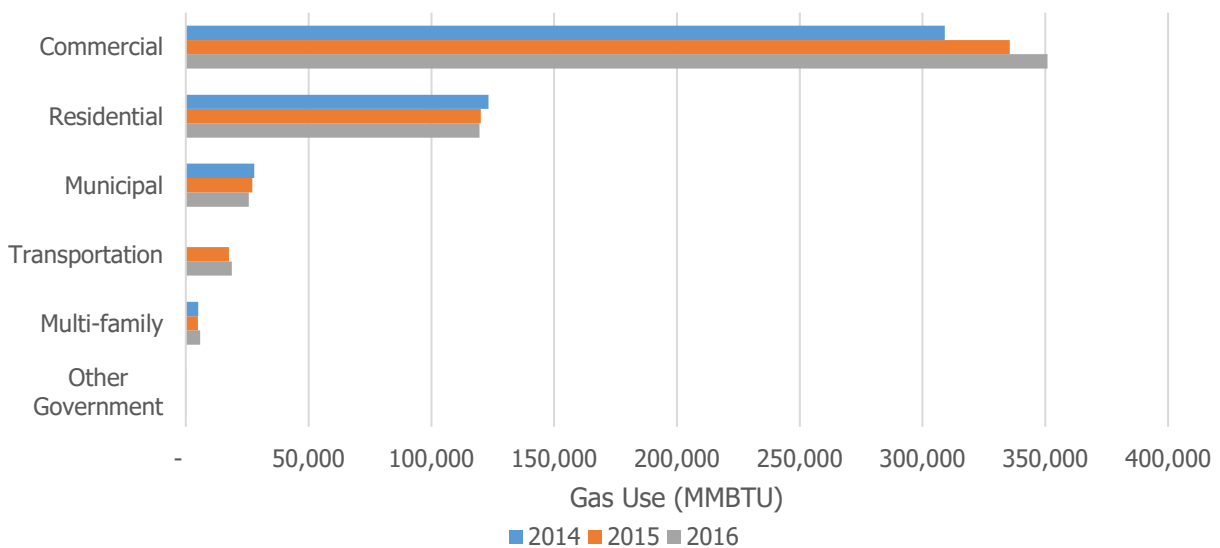
WATER

Sunrise's water utility provided about 5.3 billion gallons to over 61,000 commercial, residential, residential multi-family, and government facilities in 2016. About 93% of accounts were residential, 2% multi-family, and 5% commercial. Residential accounts used 64% of the total, followed by multifamily (19%) MTCO2e, and commercial (16%). LGOP consumed about 4 million gallons, 1% of the total. Community water use remained flat from fiscal year 2014 through fiscal year 2016 at about 5.3 billion gallons (**Figure 8**).

Irrigation accounts consumed an additional 67 million gallons in 2016, a little more than 1% of total water and irrigation use. The wastewater system measured about 4.9 billion gallons of use in 2016. Expenditure data was not available.

FIGURE 8: COMMUNITY WATER USE (THOUSAND GALLONS), FY2014-FY2016
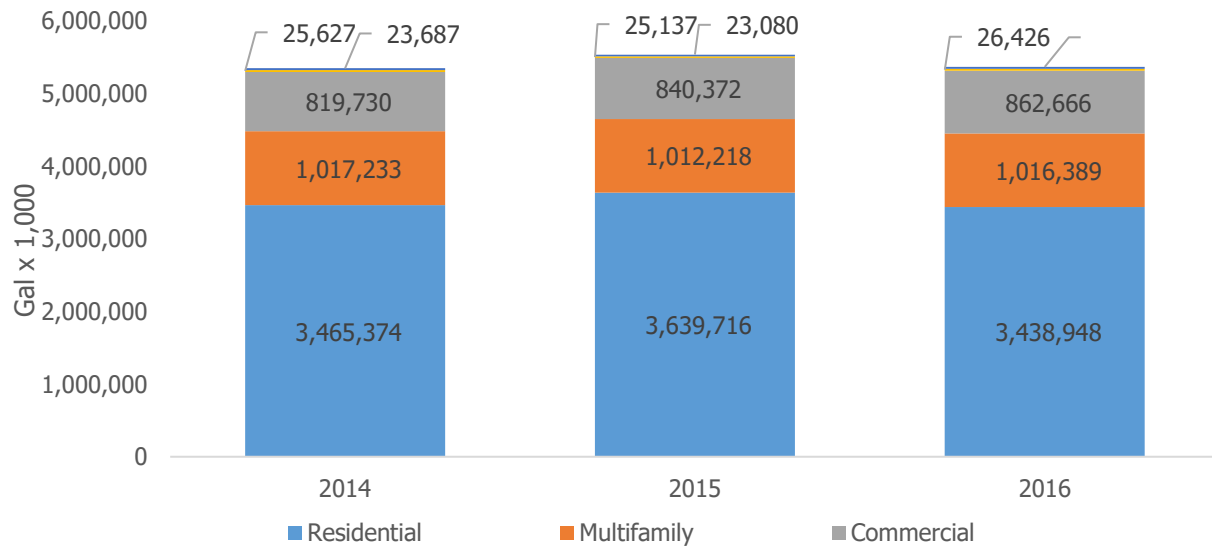
Municipal water and irrigation use has increased slightly (~2%) since 2014 (**Figure 9**).

FIGURE 9: MUNICIPAL WATER AND IRRIGATION USE (GALLONS x 1,000), FY2014-FY2016
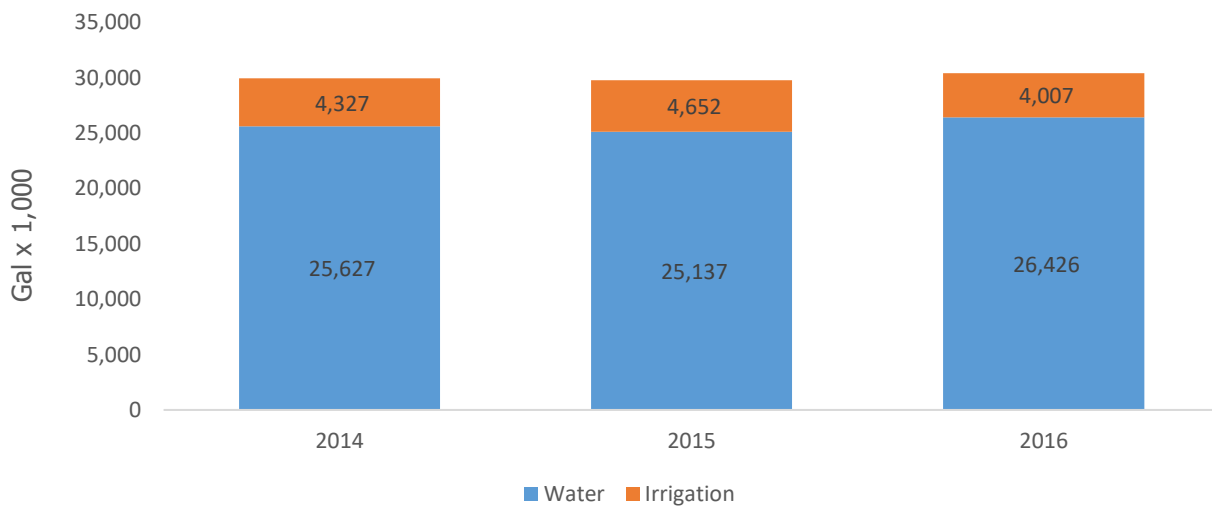
FLEET

Sunrise operates approximately 636 on-road vehicles within its transportation fleet, a ratio of about 0.65 vehicles per employee. The majority of vehicles (79%) are light duty, gasoline vehicles. Of these, about 51% are passenger vehicles and 49% are light trucks[2] (**Figure 10**).

---

[2] Light trucks include Class 1 and Class 2 trucks, which have a gross vehicle weight rating (GVWR) of < 6,000 lbs and 6,000 – 10,000 lbs, respectively.

FIGURE 10: ON-ROAD VEHICLE COUNT BY WEIGHT* AND FUEL
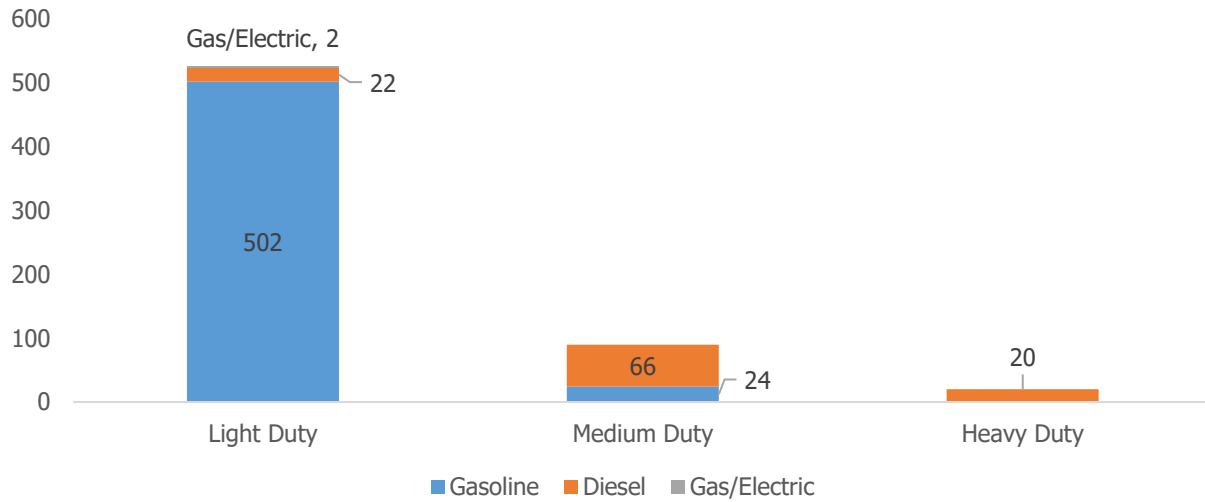
*The Federal Highway Administration defines Light duty as having a Gross Vehicle Weight Rating (GVWR) of <10,000 lbs, Medium Duty: 10,001 – 26,000 lbs and Heavy Duty: >26,001 lbs.

There are about 152 non-road or otherwise uncategorizable vehicles in Sunrise's transportation fleet, including construction, lawn maintenance, and utility vehicles not included within this analysis.

The on-road fleet average vehicle model year is 2011 and the average odometer reading is about 45,000 miles. There are between 78 and 135 vehicles that have a model year or mileage one standard deviation greater than the average (**Table 5**). This quantity may be an indicator for the number of vehicles ready for replacement or right-sizing (i.e. removal from the fleet without direct replacement).

TABLE 5: AVERAGE VEHICLE AGE AND MILEAGE, WITH COUNTS OF OUTLIERS

Weight Class	Average Model Year	Outliers*	Average Mileage	Outliers**
Light Duty	2011	64	47,500	57
Medium Duty	2012	10	31,700	73
Heavy Duty	2010	4	35,000	5

*The number of vehicles with a model year one standard deviation from the average (e.g. for Light Duty vehicles the standard deviation is 4. There are 64 vehicles with a model year older than 2007 (2011 – 4).
**The number of vehicles with mileage greater than one standard deviation from the average (e.g. for Heavy Duty vehicles the standard deviation is 37,681. There are 5 vehicles with a mileage greater than 72,631 (34950 + 37681).

Sunrise's transportation fleet used 616,807 gaseous gallons equivalent ("GGE") of fuel in 2016.[3] According to data provided by the fleet department, 334,942 GGE of gasoline was used and 141,441 GGE of diesel was used. According to data provided by the utilities department, 140,424 GGE of compressed natural gas ("CNG") was used (**Figure 11**). Data on associated expenditures was unavailable. Data on fuel use, fuel expenditure, vehicle miles traveled, fuel economy and maintenance expenditures on a by-vehicle basis was also unavailable.

---

[3]CNG use for October – December 2016 is estimated based on data provided for 2015

FIGURE 11: MUNICIPAL FUEL CONSUMPTION, FY2014-2016*

140,424, 23%

334,942, 54%

141,441, 23%

■ Gasoline ■ CNG ■ Diesel
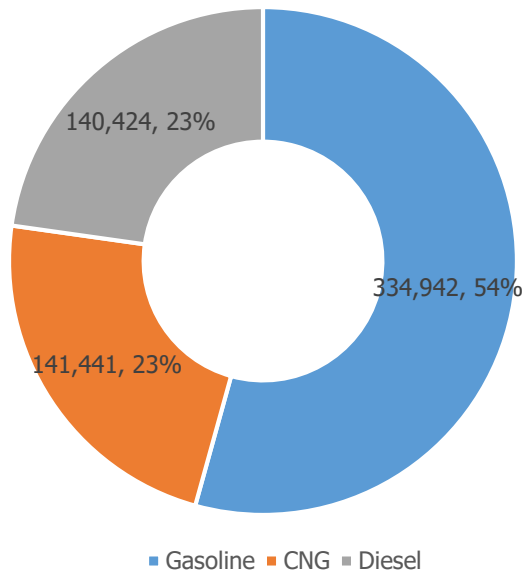
*CNG use for October – December 2016 is estimated based on data provided for 2015

WASTE

Sunrise's Public Service Division provides residents and businesses with garbage, recycling, and bulk trash collection services. Garbage and recycling services are billed on the customer's water account. Residential municipal solid waste ("MSW"), recycling pickup, and waste transportation is provided via a franchise agreement with Republic Services, formerly known as All Service Refuse. Republic Services also collects bulk/yard waste and commercial construction and demolition ("C&D") waste. Commercial Recycling is open market (i.e., collected by various entities). **Figure 12** shows the various materials collected, the collection entity, and the facilities that receive the material.

Republic Services transports MSW to the Wheelabrator South Waste-to-Energy Facility, located in Ft. Lauderdale, Florida. At the facility, recyclables are removed from the waste stream and the remaining material is combusted to produce energy. Residential and commercial recycling are transported to the Sun11 facility in Deerfield Beach, Florida, for processing.

C&D and Bulk/yard waste are transported to the Sun14 Facility in Davie, Florida. At the Sun14 facility, marketable material is recovered from the waste stream for recycling. Yard waste (i.e. green waste) is separated out and mulched. Some portion of remaining material may be landfilled; however, no information about the quantity or final destination of this material was available.

FIGURE 12: THE CITY OF SUNRISE'S WASTE COLLECTION SYSTEM
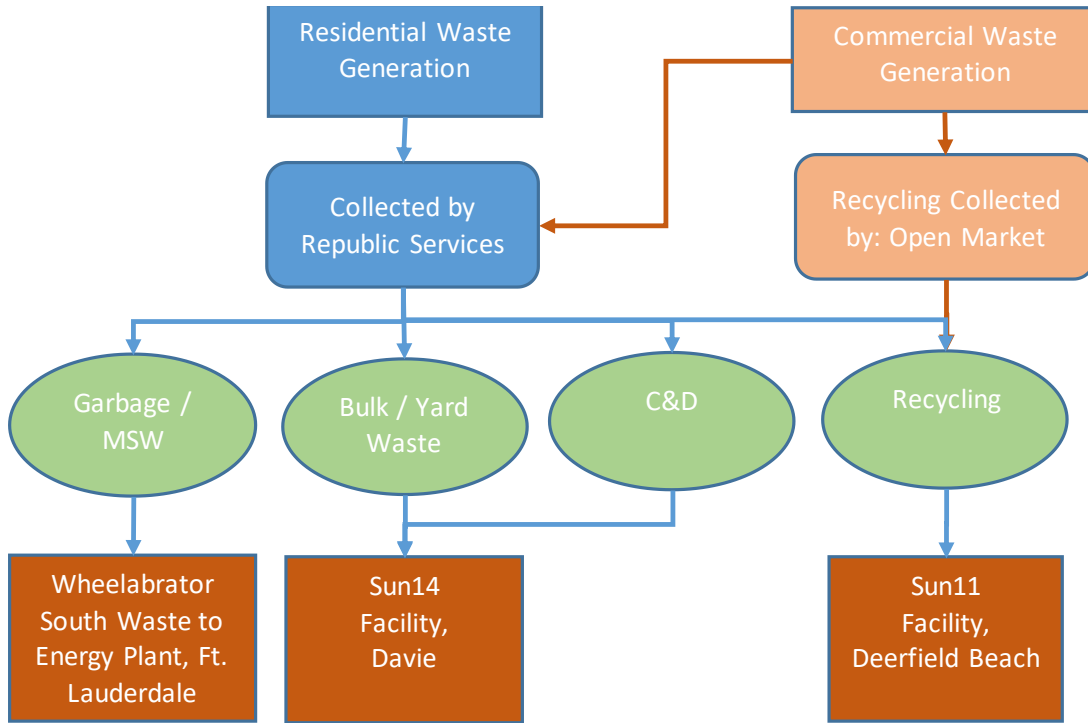
In FY2016, Sunrise generated 64,349 tons of MSW, 4,986 tons of recyclable materials, 7,442 tons of yard waste, and 11,773 tons of C&D waste. Sunrise's MSW generation rate was 31% above the national average of 2,600 lbs/household. Many factors can contribute to a city having an above-average MSW generation rate, such as: socio-economic status, commercial activities, education levels, income, tourism, transient population, government policies, etc. Further data collection and analysis beyond the scope of this study would be needed to identify the principal causes for Sunrise's MSW generation rate.

Sunrise's total community-wide diversion rate for 2016 was 27.3%, which is lower than the national recycling rate of 34.6%. This figure includes Bulk/yard waste and C&D waste but does not include incinerated MSW. The citywide residential recycling rate is 7.2% of the MSW and recycling total.

Currently, Sunrise does not track waste collected at city facilities by weight, so waste/recycling estimates are based on the number of containers at each facility and their pickup frequency, assuming each container was 80% full at pickup. In 2016, city facilities generated 833 tons of MSW and 128 tons of recyclables for a 13% diversion rate. ***Table 6*** summarizes waste management for city facilities and community-wide.

TABLE 6: WASTE MANAGEMENT SUMMARY, 2016

Metric	City of Sunrise Facilities	Community-wide
C&D Waste (tons)	Not Provided	11,773
Bulk/Yard Waste (tons)	Not Provided	7,442
Garbage (MSW) (tons)	2,106	64,349
Recycling (tons)	339	4,986
Diversion Rate	13.9%	27.3%
Recycling Rebate @ $28/ton	$3,574	$37,037

In October 2017, MSW and C&D tipping fees charged Sunrise were $43.98 and $38.16 per ton, respectively. Sunrise does not appear to realize any revenue from recyclable materials. According to Sunrise's "Notice of Full Cost of Solid Waste Management", the average annual cost of solid waste management services in 2016 was $182.76 for Residential Class I customers, and $102.36 for Residential Class II customers (mostly high-rise condominiums).

Sunrise holds quarterly household hazardous waste ("HHW"), electronics, and paper shredding collection events. In 2015, the most recent year for which information was available, Sunrise collected 25.11 tons of HHW, 5.36 tons of electronics, and 7.69 tons of paper at these events. Disposal details, specific materials collected, and Sunrise expenditures were not available.

Biosolids generated at Sunrise's Wastewater Treatment Facilities are collected and transported for either landfill disposal or land application. Sunrise reported sending 1843 tons for landfill disposal and 843 tons for land application in 2016.

VULNERABILITY ASSESSMENT

The Vulnerability Assessment ("VA") is a high-level resiliency analysis of Sunrise. The VA will serve as a basis for recommendations in Sunrise's Sustainability Action Plan. The VA identifies municipal facilities, assets, capital improvement projects, roads, wastewater treatment plants, emergency operation centers, hospitals, and assisted living facilities that could be exposed to climate change related events such as flooding. It should be clarified that these facilities are not all owned and controlled by Sunrise.

The climate in South Florida naturally experiences a wide variability that historically has included periods of extended drought, water shortages, periods of intense rain and associated threats of flooding, and severe wind and storm surge flooding from powerful weather systems. The proactive identification of facilities and asset vulnerability should evolve into mitigation strategies to reduce exposure and potential risks. The VA includes recommendations for proactive impacts and informative development to avoid later measures to correct infrastructure. A main component of the assessment relates to the need for data normalization and management for better informed decision making.

ANALYZED EVENTS

The VA analyzes conditions such as sea-level rise, precipitation, and flooding which can threaten Sunrise infrastructure and facilities. The VA provides a baseline measurement of Sunrise's current and future vulnerability analyzing FEMA flood maps and zonal statistics regarding roads. The VA is a snapshot report made of a compilation of geo-spatial and tabular data sets which represents the existing conditions of Sunrise which was then compared to existing data projections related to sea-level rise, precipitation, flooding, and the South Florida Water Management District's ("SFWMD") drainage facilities and locations.

While Sunrise is not directly located along the coast, the data collected identifies Sunrise's low-lying areas, groundwater tables, stormwater drainage features, and its hydrologic connectivity with all of South Florida. An analysis of the information characterizes the extent to which Sunrise infrastructure relies on regional infrastructure to achieve designated levels of service. The main concern highlighted by the VA is Sunrise's potential vulnerability to flooding due to the loss of regional and local stormwater drainage capacity.

Sea-level rise in South Florida can impact local governments and citizens through increased flooding, saltwater intrusion of aquifers, adverse effects on stormwater drainage systems, and loss of land from inundation. The VA displays sea-level rise scenarios suggested by FEMA, Broward County, and the National Oceanic Atmospheric Administration ("NOAA"). The VA applies future scenarios to Sunrise's current drainage infrastructure which relies on primary drainage canals, major stormwater outfalls, pump connections, and drainage control structures. The relationship between Sunrise's drainage basins and its connection to the regional system with projected NOAA Intermediate High sea-level rise projections is depicted in *Figure 13*.
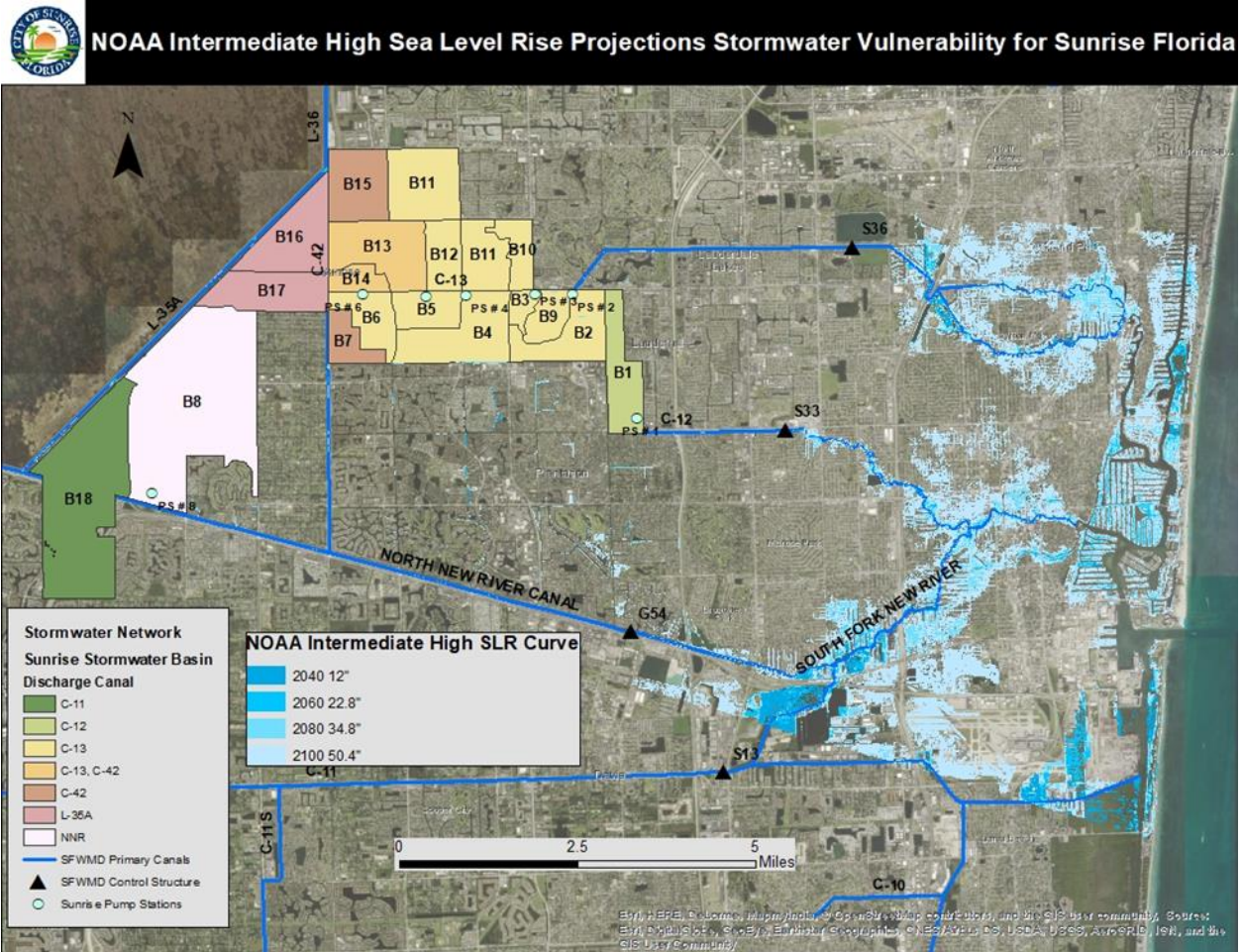
FIGURE 13: NOAA INTERMEDIATE HIGH STORMWATER VULERABILITY PROJECTIONS

Average annual rainfall is around 57 inches per year in Sunrise, with high natural variability occurring among different years. While the uncertainty in this projection range is substantial in terms of changes to annual average rainfall, there is a more general expectation that existing precipitation extremes are likely to become more extreme under future global warming and associated climate change impacts. It is likely that dry years and dry seasons will tend to become dryer, while wet years, wet seasons, and individual rain events are likely to include increased volumes of participation.

Sunrise relies on a network of retention lakes and canals which ultimately drain into SFWMD canals, and the North New River Canal. FEMA has designated 11% of Sunrise as a Special Flood Hazard Area ("SFHA"). The SFHA designation is one indicator of flood risk related to specific properties. FEMA's 11% SFHA designation for Sunrise is smaller than the SFHA designations in other communities within Broward County. FEMA defines SFHA as an area that will be inundated by the flood event having a one percent chance of being equaled or exceeded in any given year. This type of flood commonly is referred to as a 100-year flood or base flood. A 100-year flood is not a flood event that occurs every 100 years, in fact, the 100-year flood has a 26% chance of occurring during a 30-year period.

The VA analyzes SFHA flood area vulnerability of critical facilities and Sunrise's municipal assets and capital improvement projects for new parks. Properties were identified vulnerable if portions of their parcels or critical roads in near proximity serving the facility were within the SFHA. Critical facilities analyzed included fire stations, police stations, public schools, wastewater treatment plants, assisted living facilities, nursing homes, medical and rehabilitation centers, and Sunrise's natural gas department. Municipal assets included parks, government offices, and recreational centers. This analysis was preformed using data obtained from Sunrise as well as parcel data from the Broward County Property Appraiser's Office.

FINDINGS

Stormwater flows east through SFWMD canals where it is then delivered to tidal waterbodies, through large gravity driven control structures operated by the SFWMD, where it is flushed into the Atlantic Ocean. In addition to relying on three SFWMD primary canals, Sunrise also contains a network of approximately 600 acres of interconnected retention lakes and canals that provide water quality treatment and stormwater storage capacity before discharging into the SFWMD primary canals. Sunrise's stormwater network functionality is dependent on the performance of the SFWMD's primary canal network. It should be clear that impacts to Sunrise's drainage capacity to the east will be directly influenced by how the SFWMD responds to sea-level rise impacts on their costal structures.

Identification of Sunrise's assets in the SFHA provides a first step in addressing potential risk to flood conditions. Critical facilities and Sunrise's municipal assets within the SFHA are merely an indicator of the potential risk of losing function during and after a flood event and should receive detailed planning and analysis to mitigate loss of function. It is important to note that while buildings within a SFHA are required to be built to withstand a flood, the surrounding infrastructure within the parcel could become compromised during an extreme weather event.

Roads are particularly vulnerable to flooding and the subsequent reduction or complete loss in function during flood event. This report identifies roads that are within the SFHA, which make them potentially vulnerable to flooding due to their location in the low-lying flood plain. Identification of potentially vulnerable roads based on their location in the SFHA is a first step to inform what streets may become inundated during flood events.

For groundwater, model results indicate minute changes in groundwater heights for Sunrise. The westward location of Sunrise from the coast may provide a buffer to saltwater aquifer intrusion.

SAMPLE VA RECOMMENDATIONS

Climate data. Climate change and resilience data to support future decision-making related to impacts requires consideration of increased water stresses associated with a greater likelihood of high intensity rainfall events that can cause damaging floods as well as the potential for increased drought. The extremes will become more extreme and more frequent. Sunrise should continue cooperative data exchange with Broward County and monitor updates to sea level rise projections from the Southeast Florida Regional Climate Compact or other relevant agencies such as the National Oceanic and Atmospheric Administration or the U.S. Army Corps of Engineers.

Stormwater. This report recommends planning efforts to mitigate potential flood risks for finished floor elevations that could be impacted by 25-year and 100-year 3-day storm events. A future conditions hydrological analysis should also be incorporated into future updates of the City's Stormwater Master Plan. Continued efforts to maintain and enhance participation in FEMA's Community Rating System program can include efforts to incorporate new sea level rise criteria included within that program's evaluation process. Finally, ongoing and enhanced coordination with the SFWMD is critical to address efforts related to sea level rise impacts on coastal structures upon which Sunrise's drainage capacity is linked.

Facilities and Assets. Critical facilities and Sunrise's municipal assets within the SFHA are at potential risk of losing function during and after a flood event and should receive more thorough review to mitigate loss of function. This report recommends that all facilities, municipal and critical, receive site level investigation using survey quality elevation data and engineering assessments of resistance to floodwater as a critical next step to determine present and future vulnerability of facilities within the SFHA. Finally, a GIS inventory of finished-floor elevation data for all critical and city-owned facilities that are within the SFHA could be helpful for future decision-making. It should be clear that while recognizing not all of these critical facilities are owned and operated by the City, there are times when there may be significant reliance on them by the community, especially during weather events.

Roads. Restricted access to impacted road segments that connect to Highway and Expressway systems pose a threat to both daily transportation routes, and possible evacuation routes during an event that would require such action. Although impacted neighborhood road segments do not pose significant public safety concerns, restricted access due to nuisance flooding can affect access to individual homes as well as reduce the ability for residents to safely leave their homes to make it to evacuation routes during a flood event. This report recommends that survey grade-elevation data of impacted roads, specifically for the Sawgrass Expressway Ramp segments and roads that feed into that network, provide the next step to determine enhanced accuracy of site level flood vulnerability. Investments in adequate stormwater infrastructure, along the roads within the SFHA, can also reduce potential inundation from floodwaters and increase the lifespan of the road by reducing exposure to damaging flood conditions. While Sunrise may not control every roadway facility, it is important to maintain an understanding of where potential risks are from future flooding scenarios to maintain critical access.

Water supply. Because of the more western location of Sunrise's wellfields, the VA recommendations related to water supply include further monitoring and investigation of potential saltwater intrusion into Sunrise's groundwater supply if warranted.

SUSTAINABILITY TOOLS FOR ASSESSMENT AND RATING COMMUNITIES (STAR)

The STAR Community Rating System™ is the nation's leading comprehensive framework and certification program for evaluating local sustainability indicators, encompassing economic, environmental, and social performance measures. It was created in 2012 by local governments, for local governments as a tool to define community-wide sustainability and to discover how communities can become more healthy, inclusive, and prosperous across seven (7) goal areas. STAR is now available in a 2.0 Version released in 2016.

FIGURE 14: STAR 2.0 CROSSWALK

The 7 goal areas, include:

- Built Environment;
- Climate & Energy;
- Economy & Jobs;
- Education, Arts, & Community;
- Equity & Empowerment;
- Health & Safety;
- Natural Systems; and
- Innovation & Process (bonus).

Built Environment	Climate & Energy	Economy & Jobs	Education, Arts, & Community	Equity & Empowerment	Health & Safety	Natural Systems	Innovation & Process
BE-1: Ambient Noise & Light	CE-1: Climate Adaptation	EJ-1: Business Retention & Development	EAC-1: Arts & Culture	EE-1: Civic Engagement	HS-1: Active Living	NS-1: Green Infrastructure	IP-1: Best Practices & Processes
BE-2: Community Water Systems	CE-2: Greenhouse Gas Mitigation	EJ-2: Green Market Development	EAC-2: Community Cohesion	EE-2: Civil & Human Rights	HS-2: Community Health	NS-2: Biodiversity & Invasive Species	IP-2: Exemplary Performance
BE-3: Compact & Complete Communities	CE-3: Greening the Energy Supply	EJ-3: Local Economy	EAC-3: Educational Opportunity & Attainment	EE-3: Environmental Justice	HS-3: Emergency Management & Response	NS-3: Natural Resource Protection	IP-3: Local Innovation
BE-4: Housing Affordability	CE-4: Energy Efficiency	EJ-4: Quality Jobs & Living Wages	EAC-4: Historic Preservation	EE-4: Equitable Services & Access	HS-4: Food Access & Nutrition	NS-4: Outdoor Air Quality	IP-4: Good Governance
BE-5: Infill & Redevelopment	CE-5: Water Efficiency	EJ-5: Targeted Industry Development	EAC-5: Social & Cultural Diversity	EE-5: Human Services	HS-5: Health Systems	NS-5: Water in the Environment	
BE-6: Public Parkland	CE-6: Local Government GHG & Resource Footprint	EJ-6: Workforce Readiness	EAC-6: Aging in the Community	EE-6: Poverty Prevention & Alleviation	HS-6: Hazard Mitigation	NS-6: Working Lands	
BE-7: Transportation Choices	CE-7: Waste Minimization				HS-7: Safe Communities		

Each of these goal areas are broken down into more detailed objectives, outcomes and local actions, each of which are used to assess how well Sunrise is doing within a given goal area. A Project Management and Calculator tool (known as the "Crosswalk") is used to enter in data and determine scores within the goal areas. Over 12,000 cells of information can be entered on the Crosswalk.

Local governments use the framework to assess current conditions and determine which of these goal areas they are performing well in and where improvements are needed. The framework provides very specific metrics that municipalities can follow to determine the best practices for them to utilize. The framework can also be utilized to develop recommendations to help local governments achieve a higher STAR rating upon future certifications.

Through Sunrise's efforts developing the Sustainability Action Plan, the STAR framework was a natural fit for use as a tool to assess current sustainability initiatives and serve as a baseline for plan development. The framework has been used to assist in developing Sunrise's Sustainability baseline and it will serve as a resource for developing plan recommendations, focusing on objectives, outcomes and local actions that show a relationship to Sunrise and opportunities to make progress. Using data collected from year 2016,

Sunrise qualifies for a 3-STAR rating with a score of 263.34, as provided below in **Table 7**. A review of Sunrise's score already shows opportunities where it can increase its sustainability efforts:

TABLE 7: STAR SCORING SUMMARY

Goal Area	Outcome Scores	Action Scores	Goal Area Score	Percentage Complete
Built Environment	5.25	38.04	43.29	43.3%
Climate & Energy	0.00	24.63	24.63	24.6%
Education, Arts & Community	7.50	38.23	45.73	45.7%
Equity & Empowerment	0.00	31.79	31.79	31.8%
Economy & Jobs	14.25	24.91	39.16	39.2%
Health & Safety	10.75	27.19	37.94	37.9%
Natural Systems	15.00	25.81	40.81	40.8%
Innovation & Process	N/A	N/A	0.00	0.0%
Total			263.34	35.1%

A few key observations regarding the STAR Scoring Summary:

- Data tracking is important to measure progress on sustainability initiatives. For example, to achieve points in a certain area, usually the protocol requires multiple years of data to examine trends. Data management then has a dual benefit: 1) to improve STAR scoring and 2) to measure progress over time.
- Sunrise is beginning to drive its sustainability initiatives so there is room for improvement, particularly in the Climate & Energy goal area (for which this entire sustainability planning process is likely to increase the score of that goal area).
- The Innovation & Process Goal Area is particularly difficult to achieve points in due to significant documentation requirements to establish progress on actions. Essentially, this is a request to establish points in area that is new and unique either not covered by the framework itself or serving a particular jurisdiction.

Finally, important to note is that the STAR framework does have a process for certification. This entails submittal of the overall Crosswalk spreadsheet for review by STAR staff. Generally, the process entails at least one follow-up to correct any deficiencies in the spreadsheet tracking, but ultimately the result is an actual peer reviewed certification that for lasts 4 years (under Version 2.0). There are 3 ultimate certification levels: 3, 4 and 5. Point totals are as follows:

1. 3 STAR Community   250-449
2. 4 STAR Community   450-649
3. 5 STAR Community   650+

To date, approximately 70 communities across the US have become STAR Certified. Examples in Florida include: Monroe County (3-STAR), Broward County (4-STAR) and the City of West Palm Beach (4-STAR). Broward County is currently in its re-certification process. Should Sunrise decide to undertake the certification process, more work would be necessary to verify and provide updated links or information in

preparation for the review process, which is significant. At times, points can be lost during the certification process due to inadequate data support or simply a determination that the criteria simply aren't met, so providing the most robust and recent support information is critical.

Whether or not Sunrise choses to undertake certification, the value of utilizing the STAR framework is clear. First, it serves as a common framework that is becoming increasingly popular among local governments gauge the commitment on sustainability issues to date. Second, it provides a level of comparison among local governments that undertake the evaluation process whether they become certified or not. Third, it provides a very holistic source to glean new ideas for recommendations on how to increase sustainability strategies. Finally, it provides a strong quantitative way to communicate about efforts to date and opportunities to prioritize.

Appendix A:

Datum		Description	Unit of Measure	Period*	Format	Focus Area
	1. General Information					
1.1	Size	Total area within City's jurisdictional boundaries	Square miles (mi²)	2016	Word / PDF	General
1.2	Population	Number of year round residents of the City	Number of residents	2016	Word / PDF	General
1.3	Visitors	Number of year round visitors to the City	Number of Visitors	2016	Word / PDF	General
1.4	Employees	The number of full time equivalent staff (FTEs) employed by the City	Number of FTEs	2016	Word / PDF	General
1.5	Organizational Chart	Organizational Chart showing City Departments	N/A	Current	Word / PDF	General
	2. Land Use, Infrastructure and Development; Transportation					
2.1	Zoning	Zoning Regulations	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Land use & Transportation
2.2	Land Development	Land Development Regulations (include requirements related to green space, density, mixed-use development, parking, etc.)	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Land use & Transportation
2.3	Design Standards	Design, architectural review, and historical preservation guidelines, standards, and policies.	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Land use & Transportation
2.4	Comprehensive Planning	Comprehensive Land Use Plan	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Land use & Transportation
2.5	Best Development Practices	Local examples of development projects incorporating sustainable practices.	Final or proposed	Most recent	Word / PDF	Land use & Transportation
2.6	GIS Data Inventory	Library or FTP Link to all available cadastral, environmental, land use/zoning, transportation, parcels, etc.	N/A	Most recent	Geodatabase or ESRI Shapefile format; Disk/USB or Hyperlink	Land use & Transportation
2.7	Mobility	All ordinances, resolutions, directives or policies pertaining to alternative transit, pedestrian safety, bicycling planning and infrastructure, ride-share programs, including bicycle/pedestrian information including Bike/Ped Master Plan; sidewalk/bicycle facilities inventory.	N/A	Most recent	Citation & Hyperlink / Word / PDF	Land use & Transportation
2.8	Transit	Transit service data including routes/stops/headways, ridership, passenger-miles travelled, or other performance measures.	VMT/LOS	2014-2016	Excel/ GIS/ model outputs	Land use & Transportation
2.9	Parking	Information related to City's parking lots and facilities including number, type and location, use of smart or networked parking meters, demand-based pricing, etc.	Final or proposed	Most recent	Word / PDF / Excel	Land use & Transportation
	3. Local Government Operations - Energy and Resource Conservation					
	A. Facilities, Sites, and Assets					
3.1	Facilities / Buildings	List of facilities / buildings owned/operated by Sunrise	Names of facilities	2014-2016	Excel	Energy and Resource Conservation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
3.2	Sites / Assets	List of non-facility / building sites and / or assets (e.g. parks, pumping stations, etc.) under control of the local government	Names of sites, assets	2014-2016	Excel	Energy and Resource Conservation
3.3	Facility/Site/Asset Location	Address and Zip Code of each facility under control of the local government	Address and Zip Code	Most Recent	Excel	Energy and Resource Conservation
3.4	Floor Area	Gross heated/cooled floor area of each facility under the control of the local government (not applicable to sites or assets)	Square feet (ft^2)	2014-2016	Excel	Energy and Resource Conservation
3.5	Leased Space Facilities	For any leased space that is not separately metered, supply the following: total building area, building area used by Sunrise, total building annual electricity use, total annual use of fuels in stationary combustion (for each fuel type), occupancy rate (percentage of the building area that is occupied).	Square feet (ft2); Kilowatt-hours (kWh); Gallons (Gal); %	2014-2016	Excel	Energy and Resource Conservation
3.6	Site / Asset management Software/ IT Resources	Information on computerized maintenance management system (CMMS), energy saving software, IT software evaluation and support policies, and green or energy saving practices within IT department.	Name(s), types and policies	Current or proposed	Hyperlink, Word, PDF	Energy and Resource Conservation
3.7	Facility Electricity Use	Annual electricity use by facility / site / asset	Kilowatt-hours (kWh)	2014-2016	Excel	Energy and Resource Conservation
3.8	Facility Electric Demand	Annual peak demand by facility / site / asset	kW	2014-2016	Excel	Energy and Resource Conservation
3.9	Facility Utility-delivered fuel consumption	Annual utility-delivered fuel consumption (e.g. natural gas) by facility / site / asset	Thousand British Thermal Units (kBTU)	2014-2016	Excel	Energy and Resource Conservation
3.10	Facility Decentralized fuel consumption	Annual decentralized fuel consumption by facility / site / asset for each fuel type (e.g. propane, kerosene, fuel oil, stationary diesel, biofuels, coal, etc.)	kBTU (all),Gallons (LPG, fuel oil, diesel); tons (coal)	2014-2016	Excel	Energy and Resource Conservation
3.11	Steam / District Heating Use	Annual energy obtained from steam or district heating by facility (if applicable)	kBTU	2014-2016	Excel	Energy and Resource Conservation
3.12	District Cooling Use	Annual energy obtained from district cooling by facility (if applicable)	kBTU	2014-2016	Excel	Energy and Resource Conservation
3.13	Combined Heat and Power (CHP)	Annual amount of Combined Heat and Power (CHP) purchases (if applicable)	kBTU	2014-2016	Excel	Energy and Resource Conservation
3.14	Facility Energy Expenditure	Annual energy expenditure by fuel type, by facility / site / asset	$	2014-2016	Excel	Energy and Resource Conservation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
3.15	Streetlights	Inventory of streetlights by fixture type	Number in each class	2014-2016	Excel	Energy and Resource Conservation
3.16	Streetlights Expenditures	Annual energy expenditure on streetlights by fixture type	Number in each class	2014-2016	Excel	Energy and Resource Conservation
3.17	Traffic Lights	Inventory of traffic lights and crossing signals by fixture type. Include information on solar-powered crosswalks.	Number in each class	2014-2016	Excel	Energy and Resource Conservation
3.18	Fugitive HFC emissions	Quantity of fugitive emissions released each year from refrigerants and fire suppression equipment, by type of emission	Kilograms (kg)	2014-2016	Excel	Energy and Resource Conservation
3.19	HFC's Stored / In Use	Base inventory of Hydrofluorocarbons (HFC's) in storage at each facility (at the beginning and end of each year). List type of HFC and quantity stored for each type. This includes HFC's being used by HVAC equipment, as well as any other supplies that are maintained.	Kilograms (kg)	2014-2016	Excel	Energy and Resource Conservation
3.20	HFC's Purchased and Retired	Provide records (type and quantity) of all HFC purchases for stationary equipment during the year, including any capacity changes in equipment. Also provide type and quantity of any HFC containers or HFC-containing equipment sold or retired during each requested year.	Kilograms (kg)	2014-2016	Excel	Energy and Resource Conservation
	B. Power Generation					
3.22	Power Generation Facilities	List of City-owned power generation facilities or units by type (e.g. power plants, solar photovoltaic (PV) systems and stationary/emergency generators)	List	2014-2016	Excel	Energy and Resource Conservation
3.23	Annual fuel combusted	Fuel types (e.g. diesel, gasoline, bio-diesel, coal, etc.) and annual consumption of each fuel combusted at each power-generating unit.	Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
3.24	Power generation capacity	Nameplate capacity of power generation assets by type (e.g. PV systems)	Megawatts (MW)	2014-2016	Excel	Energy and Resource Conservation
3.25	Annual net generation	Annual net generation of electricity from each power generation assets	Megawatt-hours (MWH)	2014-2016	Excel	Energy and Resource Conservation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

Datum		Description	Unit of Measure	Period*	Format	Focus Area
	C. Water and Wastewater					
3.26	Water Treatment Plants, City Owned / Operated	List all water treatment plants owned / operated by the City of Sunrise, if applicable. Include address/location of each plant.	List	2014-2016	Word / PDF	Natural Resources & Resiliency
3.27	Wastewater Treatment Plants, City Owned / Operated	List all Wastewater Treatment Plant(s) (WWTP) owned and operated by the City of Sunrise, if any. For each WWTP provide: population served (provide both the population served inside the community boundary, and population served outside the community boundary), digester gas emissions per day, fraction of methane (CH4) in biogas, Biological Oxygen Demand (BOD5) load, Nitrogen load.	List; Population; MT CO2e	2014-2016	Excel	Natural Resources & Resiliency
3.28	Septic Systems, City Owned	List of all septic systems owned / operated by the City, with daily BOD5 load for each system. Alternative: List population served by each septic system if BOD5 load is not available.	kg	2014-2016	Excel	Natural Resources & Resiliency
3.29	Potable, Wastewater and Stormwater Infrastructure	Digital maps of existing potable, wastewater, and stormwater networks.	List / Map, or GIS database	Current	Word / PDF / Geodatabase / Shapefile	Natural Resources & Resiliency
3.30	Facility Water Use	Annual (potable) water use by facility / site	Thousand Gallons (kGal)	2014-2016	Excel	Natural Resources & Resiliency
3.31	Facility Sewer use	Annual sewer use by facility / site	kGal	2014-2016	Excel	Natural Resources & Resiliency
3.32	Facility Irrigation Use	Annual irrigation use by facility / site	kGal	2014-2016	Excel	Natural Resources & Resiliency
3.33	Water expenditure	Annual (potable) water expenditure by facility / site	$	2014-2016	Excel	Natural Resources & Resiliency
3.34	Sewer expenditure	Annual sewer expenditure by facility / site	$	2014-2016	Excel	Natural Resources & Resiliency
3.35	Irrigation expenditure	Annual irrigation expenditure by facility / site	$	2014-2016	Excel	Natural Resources & Resiliency

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

Datum		Description	Unit of Measure	Period*	Format	Focus Area
	D. Recycling and Waste Minimization					
3.36	Solid waste disposal	Annual solid waste disposal amounts by facility / site	Pounds (lb)	2014-2016	Excel	Recycling & Waste Minimization
3.37	Solid waste disposal expenditure	Annual solid waste disposal costs by facility / site	$	2014-2016	Excel	Recycling & Waste Minimization
3.38	Waste characterization audit results and associated diversion rates	Percentage and diversion rate by weight of each waste type within the government operations waste stream for the following categories, based on waste characterization/waste audit study: a. Percentage Mixed MSW b. Percentage Newspaper c. Percentage Office Paper d. Percentage Corrugated Cardboard e. Percentage Magazines / Third Class Mail f. Percentage Food Scraps g. Percentage Grass h. Percentage Leaves i. Percentage Branches j. Percentage Dimensional Lumber	Percentage (%)	2014-2016	Excel	Recycling & Waste Minimization
3.39	Disposal units	Number, type and capacity of disposal units (e.g., dumpster, roll off, compactor) by facility / site	Count and Type, Cubic Yards (cy)	2014-2016	Excel	Recycling & Waste Minimization
3.40	Unit Price	Unit pick-up price for each disposal unit	$ / unit	2014-2016	Excel	Recycling & Waste Minimization
3.41	Recycling amounts	Annual recycling amounts by facility / site	lb	2014-2016	Excel	Recycling & Waste Minimization
3.42	Recycling expenditure	Annual recycling costs by facility / site	$	2014-2016	Excel	Recycling & Waste Minimization
3.43	Recycling revenue	Annual revenue generated from recycling by facility / site	$	2014-2016	Excel	Recycling & Waste Minimization
3.44	Composting	Annual composted amounts by facility / site	lb	2014-2016	Excel	Recycling & Waste Minimization
3.45	Hazardous and universal waste disposal amounts	Annual hazardous and universal waste (e.g. fluorescent lighting, batteries, chemicals, waste oil, etc.) disposal amounts by facility / site	lb	2014-2016	Excel	Recycling & Waste Minimization
3.46	Hazardous and universal waste disposal costs	Annual hazardous and universal waste disposal costs by facility / site	$	2014-2016	Excel	Recycling & Waste Minimization
3.47	Hazardous and universal waste types	Percentage of each commonly generated hazardous and universal wastes by facility / site	%	2014-2016	Excel	Recycling & Waste Minimization

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
3.48	Waste combustion	Annual solid waste amounts sent for combustion	lb	2014-2016	Excel	Recycling & Waste Minimization
3.49	City-owned Landfills and Waste Incinerators	List any landfills/ incinerators owned or operated by the City, if applicable. For each landfill provide the following: Annual waste in place, annual greenwaste used for cover, waste characterization, year opened, year closed (if applicable), fraction of CH4 in landfill, from source testing, average annual rainfall. For incinerators provide annual emissions totals or EPA E-grid number.	Tons	2014-2016	Excel	Recycling & Waste Minimization
6.	**Local Government Fleet / Transportation**					
4.1	Vehicle Details	Make, model and model year, and fuel type (e.g. gasoline, diesel, electric, etc.) by vehicle. Include police / fire / rescue / trolley / bus / rapid transit vehicles if owned / operated by Sunrise.	Make, model, model year, fuel type	2014-2016	Excel	Energy and Resource Conservation
4.2	Non-highway vehicles and equipment	List of all non-highway vehicles or equipment directly owned/operated by Sunrise with make, model, model year, fuel type, fuel economy, and annual operating hours. Include marine vessels and aircraft in this category.	Make, model, model year, mpg, fuel type, operating hours/year	2014-2016	Excel	Energy and Resource Conservation
4.3	Bicycle / Segway Use	List all bicycles, Segways and other alternative mobility vehicles used by Sunrise departments (e.g. Police bike patrols and any others)	Number and type	2014-2016	Excel	Energy and Resource Conservation
4.4	Gasoline Use	Annual gasoline use by vehicle	Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
4.5	Diesel Use	Annual diesel use by vehicle	Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
4.6	Ethanol Use	Annual ethanol use by vehicle. Include proportion of ethanol in mixed fuels, (e.g. E-85)	Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
4.7	CNG Use	Annual compressed natural gas use by vehicle	Gasoline Gallon Equivalent (GGE)	2014-2016	Excel	Energy and Resource Conservation
4.8	LNG Use	Annual liquefied natural gas use by vehicle	Gasoline Gallon Equivalent (GGE)	2014-2016	Excel	Energy and Resource Conservation
4.9	Biodiesel Use	Annual biodiesel use by vehicle. Include proportion of biodiesel in mixed fuels, (e.g. B20 or B100)	Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
4.10	Electricity Use	Annual electricity use by vehicle	kWh	2014-2016	Excel	Energy and Resource Conservation
4.11	Non-highway fuel use	Annual fuel consumption for non-highway vehicles and equipment, by vehicle/equipment type and fuel type. Include fuel used by marine vessels and aircraft in this category.	Type, Gallons (gal)	2014-2016	Excel	Energy and Resource Conservation
4.12	Fuel Expenditure	Annual dollars spent on each fuel type by vehicle	$	2014-2016	Excel	Energy and Resource Conservation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
4.13	Mileage	Annual mileage by vehicle	Miles per year (mi/year)	2014-2016	Excel	Energy and Resource Conservation
4.14	Fuel Economy	Fuel economy by vehicle	Miles per gallon (mpg)	2014-2016	Excel	Energy and Resource Conservation
4.15	Maintenance Cost	Estimated annual maintenance cost by vehicle	$	2014-2016	Excel	Energy and Resource Conservation
4.16	Purchase Price	Purchase price by vehicle	$	Most recent	Excel	Energy and Resource Conservation
4.17	Resale Value	Estimated value as a percentage of purchase price by vehicle	%	Most recent	Excel	Energy and Resource Conservation
4.18	Vehicle Air Conditioning Fugitive Emissions	1. Base inventory of HFC's in all vehicles (at beginning and end of each requested year). This includes the refrigerant capacity of each vehicle as well as any HFC's stored for maintenance purposes. Include refrigerant type (e.g. R-134a). 2. Records of all HFC purchases for vehicles during the year, including any capacity changes. 3. Records of any sales/disbursements of HFC containers or vehicles during the year. 4. For items 2 and 3 above, list any vehicles acquired or retired from service during the year, along with their refrigerant capacity.	Kilograms (kg) or Metric Tons	2014-2016	Excel	Energy and Resource Conservation
4.19	Coolant Use and Recycling	Vehicle coolant usage rates and status of coolant recycling systems.	Gallons/year	2014-2016	Excel	Energy and Resource Conservation
4.20	Vehicle Wash Systems	Quantity, annual water usage, recycling rate, heating system type of City owned/operated vehicle washing systems.	Number, Gallons (Gal), description	2014-2016	Excel	Energy and Resource Conservation
4.21	Trolley Service	Details on the City's trolley service, if applicable, including: ridership, VMT avoided as a result of the service, annual revenues and expenditures.	Number; $	2014-2016	Excel	Land use & Transportation
4.22	Fleet Operations Policies	All ordinances, resolutions, directives or policies pertaining to City fleet operations and maintenance.	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Energy and Resource Conservation
4.23	Alternative Vehicle Policy	All ordinances, resolutions, directives or policies pertaining to alternative fuel vehicle purchases and use.	Final or proposed	Most recent	Citation & Hyperlink / Word / PDF	Energy and Resource Conservation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

Datum		Description	Unit of Measure	Period*	Format	Focus Area
	5.	*Community-wide Energy and Resource Conservation*				
5.1	Community-wide Electricity Consumption**	Annual community electricity use (total kWh purchased from utility) by class (residential, commercial, industrial)	kWh	2014-2016	Excel	Energy and Resource Conservation
5.2	Community-wide Renewable Energy Use	Annual community distributed generation totals from distributed energy systems (e.g., solar PV etc.) installed in the community (total kWh generated), percentage of community energy use that is from renewable sources, and community net metering data.	kWh, %	2014-2016	Excel	Energy and Resource Conservation
5.3	Water Supply	Percentage of Community served by each: self-supply (wells), groundwater, and surface water.	%	2014-2016	Excel	Natural Resources & Resiliency
5.4	Community Water Consumption	Water use per capita for each requested year	Gallons (gal) / person	2014-2016	Excel	Natural Resources & Resiliency
5.5	Municipal Water Consumption	Total community-wide municipal supplied water consumption for each requested year.	Gallons (Gal)	2014-2016	Excel	Natural Resources & Resiliency
5.6	Source of Municipal Supply	Percentage of the municipal water supply sourced inside and outside the community boundaries.	%	2014-2016	Excel	Natural Resources & Resiliency
5.7	Wastewater Treatment Plant(s) (WWTP) Serving the Community**	List any WWTPs serving the community but not owned/operated by Sunrise. Include the total population served by each WWTP, and the Sunrise population served by each WWTP.	Names, Population Number	2014-2016	Excel	Natural Resources & Resiliency
5.8	Wastewater Treatment Plant(s) (WWTP) emissions**	Provide the total annual Methane (CH4) and Nitrous Oxide (NO2) emissions for each WWTP serving the community but not owned/operated by Sunrise.	Metric tons (MT)	2014-2016	Excel	Natural Resources & Resiliency
5.9	Annual Wastewater Treatment Totals	Community-wide annual total gallons of wastewater to treatment (may be based on pump station average daily flow rates). Also, provide separately the total gallons of wastewater treated within Sunrise for areas located outside the community boundary.	Gallons (Gal)	2014-2016	Excel	Natural Resources & Resiliency
5.10	Septic Systems, Community proportion	Provide the population of community served by septic tanks. Also provide a map or GIS data of septic systems located in the community, if available.	Number, Map or GIS data	2014-2016	Excel / PDF, Shapefile or Geodatabase	Natural Resources & Resiliency

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
5.11	Natural Gas Utility Accounts and Usage	Provide the number of Natural Gas Utility customer accounts located in Sunrise, and the number located outside the community boundary. Also provide the annual amount of natural gas used/consumed by customers inside and outside the community boundary, broken down into residential and commercial account types.	Number; MCF or MMBTU	2014-2016	Excel	Energy and Resource Conservation
5.12	Natural Gas Fugitive Emissions	Provide the estimated annual fugitive emissions from the natural gas utility, for all infrastructure located inside the community boundary, and for all infrastructure outside the community boundary. Also provide a description of the methodology used to estimate the fugitive emissions.	MCF or MMBTU	2014-2016	Excel	Energy and Resource Conservation
5.13	Community Landfills and Waste Incinerators**	List any landfills and waste incinerators which receive waste from the community of Sunrise. Indicate the percentage of waste generated in the community allocated to each facility. For landfills, indicate whether a landfill gas collection and control system is in place. For waste incinerators, provide directly measured emissions (CH4 or CO2e) or EPA E-grid number.	%, MT	2014-2016	Excel	Recycling & Waste Minimization
5.14	Community-wide waste to landfill**	Annual mass of waste from Sunrise entering each landfill serving the community	Tons	2014-2016	Excel	Recycling & Waste Minimization
5.15	Community-wide waste characterization, based on waste audit	Percentage of each waste type within the communities municipal solid waste (MSW) stream for the following categories, based on waste characterization/waste audit study: a. Percentage Mixed MSW b. Percentage Newspaper c. Percentage Office Paper d. Percentage Corrugated Cardboard e. Percentage Magazines / Third Class Mail f. Percentage Food Scraps g. Percentage Grass h. Percentage Leaves i. Percentage Branches j. Percentage Dimensional Lumber	Percentage (%)	2014-2016	Excel	Recycling & Waste Minimization
5.16	Community-wide recycling amounts	Annual community-wide recycling amounts by commodity	Tons	2014-2016	Excel	Recycling & Waste Minimization

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
5.17	Community-wide recycling expenditures	Annual community-wide recycling expenditures in dollars per ton (by commodity, if available)	$ / ton	2014-2016	Excel	Recycling & Waste Minimization
5.18	Community-wide recycling revenue	Annual community-wide revenue generated from recycling, by commodity	$	2014-2016	Excel	Recycling & Waste Minimization
5.19	Community Composting	Annual quantity of material composted in the community for each requested year (provide quantities for food waste and green waste separately)	Tons	2014-2016	Excel	Recycling & Waste Minimization
5.20	Community alternative fuel / electric vehicles and associated infrastructure	Number of alternative fuel / electric vehicle registrations and number and type of electric vehicle charging stations in community	Number, type	2014-2016	Excel	Energy and Resource Conservation
5.21	Community Aviation**	List all airports / airfields located within the community boundaries, with the following information for each facility: name; address; annual number of departures and arrivals; annual total fuel sales by fuel type. Include helicopter facilities/helipads. If this information is inapplicable or unavailable, aviation traffic within the city boundary will be assumed to be de minimus.	Name, Address, Number, Fuel type and Gallons.	2014-2016	Excel	Transportation
5.22	Marine Transportation**	List all marinas / boatyards selling marine fuels within the community boundaries, with the following information for each facility: name; address; annual total marine fuel sales by fuel type. If this information is inapplicable or unavailable, marine traffic within the city boundary will be assumed to be de minimus.	Name, Address, Number, Fuel type and Gallons.	2014-2016	Excel	Transportation
5.23	Rail Transportation**	Based on review of Google Earth imagery, Sunrise does not appear to have any railways located within the community boundaries. Please verify if this is correct. If rail does exist within the City boundary, please provide the following information for each railway operator: company name; contact information; tons of freight moved through the community annually; annual fuel consumption for freight moved within the community, by fuel type; name and number of passenger stops within the community; annual fuel consumption for passenger trains moving within the community, by fuel type. If this information is inapplicable or unavailable, railway traffic within the city boundary will be assumed to be de minimus.	Name, Contact information, tons, Gallons, Name/number, Gallons.	2014-2016	Excel	Transportation
5.24	Resource Efficient Building Data**	Data on City's green building stock, including number and certification level of LEED and Green Globes certified buildings in the community.	Number, type	2014-2016	Excel	Land use & Transportation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
6.	Regulatory Framework					
6.1	General	All mission or vision statements by department	Final or proposed	Current	Word/ PDF	General
6.2	Energy	All ordinances, resolutions, directives or policies promoting renewable energy, energy efficiency, energy consumption, energy savings rebates, and/or energy performance contracting programs	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Energy and Resource Conservation
6.3	Community-wide renewable energy use policies	Details on plans, policies and incentives relating to renewable energy generation (e.g., solar PV, solar thermal, wind, etc.). Include policies and zoning regulations encouraging use of renewable energy.	Name	Current or by year if multi-year	Word / PDF / Hyperlink	Energy and Resource Conservation
6.4	Recycling and Waste	All ordinances, resolutions, directives or policies pertaining to waste minimization, recycling and outreach. Include waste minimization / recycling goals and targets, waste reduction / recycling data to meet reduction goals, management plans, and product ban data.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Recycling & Waste Minimization
6.5	Pollution Prevention (P2)	All ordinances, resolutions, directives or policies pertaining to reducing the use of potentially hazardous materials. Include info related to integrated pest management, if applicable.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Recycling & Waste Minimization
6.6	Water	All ordinances, resolutions, directives or policies concerning water consumption, including water conservation policies/incentives and water use restrictions.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Natural Resources & Resiliency
6.7	Green Procurement	All ordinances, resolutions, directives or policies promoting green, sustainable, energy-efficient, or environmentally preferable procurement practices.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Natural Resources & Resiliency
6.8	Air Quality	All ordinances, resolutions, directives or policies pertaining to addressing air pollution and quality.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
6.9	Environmentally endangered lands	All ordinances, resolutions, directives or policies pertaining to protecting, restoring and or enhancing sensitive natural areas.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
6.10	Paper reduction policies	All ordinances, resolutions, directives or policies pertaining to reducing paper use, and data related to reduction of paper use, for example by implementing digital filing systems.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Natural Resources & Resiliency
6.11	Electronic Waste	All ordinances, resolutions, directives or policies pertaining to properly managing and reducing electronic waste.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Natural Resources & Resiliency
6.12	Social Sustainability	All ordinances, resolutions, directives or policies pertaining to preserving cultural heritage, enhancing neighborhood viability, and promoting a sense of place. Include information on cultural development programs and grants.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
6.13	Economic Sustainability	All ordinances, resolutions, directives or policies pertaining to promoting and attracting businesses, tourism, and providing quality infrastructure and public services.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
6.14	Sustainable / Green Events	Information on green or sustainability-themed events organized by the City, and ordinances, resolutions, directives or policies designed to reduce the environmental impact of events (i.e. by reducing waste, recycling, local procurement, carbon offsets, etc.)	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
6.15	Open Space	All ordinances, resolutions, directives or policies pertaining to promoting and maintaining parks and trails.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
6.16	Ecosystem and biodiversity conservation	All ordinances, resolutions, directives or policies pertaining to managing and enhancing ecosystems and biodiversity.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
6.17	Operations and Maintenance	All ordinances, resolutions, directives or policies pertaining to building preventive maintenance.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Energy and Resource Conservation
6.18	Local Food / Gardens	All ordinances, resolutions, directives, or policies pertaining to community gardens, local food production, community supported agriculture, and local food movements.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
6.19	Urban Forestry / Tree Preservation	All ordinances, resolutions, directives or policies pertaining to urban forestry / urban greening / tree preservation.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Land use & Transportation
	7. Climate Vulnerability / Resiliency					
7.1	Climate Resiliency Documents	All ordinances, resolutions, directives or policies pertaining to climate resiliency, vulnerable areas (flooding and shoreline erosion), storm preparedness and evacuation plans.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.2	Climate Change / GHG Documents	All ordinances, resolutions, directives or policies concerning climate change, greenhouse gases, and/or CO2. Include Climate Change Plans and other green planning documents.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.3	GHG reduction targets and incentives	Specific reduction targets for GHG reduction (City operations and/or community-wide) and incentives encouraging GHG reductions or renewable energy.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.4	Climate Adaptation Plans and Partnerships	Climate adaptation plans, staff reports showing City is monitoring climate change ("CC"), committees/partnerships addressing CC, zoning/building codes addressing CC.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.5	Industrial Sector Efficiency	Industrial sector efficiency data including plans to improve efficiency in industrial sector, policies promoting improved data collection, regulations promoting reduced energy/water use in industrial sector, education/training to reduce energy/water use.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
7.6	Resource Efficient Building Codes and Policies	All ordinances, resolutions, directives or policies pertaining to green / resource efficient buildings, including building code sections requiring efficiency, and energy and water use information disclosure ordinances.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.7	Resource Efficient Public Infrastructure	Resource efficient public infrastructure data including data on targeted strategies to improve efficiency, codes/design standards for public infrastructure to increase efficiency, partnerships to reduce energy/water usage, sub-metering data	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.8	Green Infrastructure	Green Infrastructure (GI) data including data on green infrastructure and distribution in City, community-wide GI plan, partnerships to ensure GI practices used, incentive programs to encourage adoption of GI practices, GI monitoring programs, data on investment in GI within the City.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.9	Outdoor Air Quality	Outdoor air quality data including data on air quality attainment for criteria pollutants showing decreases, policies incentivizing employment density and diversity in transit use, partnerships to support transportation management associations or rideshare programs, data on traffic signal improvements to relieve congestion/idling.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.10	Historically Vulnerable Areas	Description, digital elevation maps, topography, 100-year flood maps, priority areas with specific vulnerabilities.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF / GIS	Climate Vulnerability / Resiliency
7.11	Storm surge, Evacuation Routes and Sea Level Rise Projections	Storm surge maps, evacuation route maps, sea level rise projections, overlay zones for special adaptation action areas.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF / GIS	Climate Vulnerability / Resiliency
7.12	Infrastructure and Natural Resource Resiliency	Conservation easements	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF / GIS	Climate Vulnerability / Resiliency
7.13	Vulnerable Assets	1. Digital maps identifying vulnerable transportation, potable water, waste water, stormwater, electric and communication infrastructure, as well as facilities. 2. Data on renovation of public facilities to improve resiliency.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF / GIS	Climate Vulnerability / Resiliency
7.14	Adaptation Action Areas	1. Criteria for adaptation action areas, with associated planning and risk-based decision support tools for infrastructure, water resources, natural systems and hazard mitigation. 2. Resolutions, policies, and memorandums of understanding regarding adaptation action areas. 3. Regulations, land use amendments and building codes regarding adaptation action areas.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.15	Adaptation improvements	List of climate adaptation improvement projects in capital improvement plans.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
7.16	Partnerships and stakeholder relationships	List environmental, conservation, sustainability, and higher education partners and or/stakeholders the City has established relationships with or has worked with to further sustainability/environmental initiatives (i.e. Nature Conservancy, University of Miami, etc.)	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.17	Emergency Preparedness and Response	All ordinances, resolutions, directives or policies pertaining to storm preparedness, emergency response and evacuation plans. Include ISO ranking, compliance with National Fire Protection Association standards, National Incident Management System compliance, whether participating in regional emergency planning commission, and annual reports/reviews of emergency response efforts.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.18	Natural and Human Hazard Data	Data showing: reduction in number of homes below code standards located in high risk areas, reduction in percentage of residents living in designated high risk areas, increased resilience to hazard threats over time, insurance or incentive structures to remove residents from high hazard areas.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.19	Hazard Area Zoning and Building Codes	Zoning regulations limiting development in high hazard areas, building codes/standards for building in areas of high hazard vulnerability.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.20	Hazard Mitigation and Post-disaster plans	Hazard mitigation action plans and post-disaster plans addressing long range development issues.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
7.21	Community Rating System Data	Data pertaining to the National Flood Insurance Program's s community rating system (CRS) program, if applicable, including: community CRS rating, CRS application materials, maps or GIS data showing Special Flood Hazard Areas, and description of mitigation actions planned or completed by the City.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Climate Vulnerability / Resiliency
	8. Education and Outreach					
8.1	Education / Outreach Programs, Campaigns, and Plans	List and examples of programs, campaigns, and plans for outreach and education on sustainability, climate change, greenhouse gas reduction, resource-efficient buildings, waste reduction and recycling, community awareness of natural hazards and hazard resiliency, and other City initiatives.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
8.2	Sustainability training / employee engagement / hiring and retention	List and examples of sustainability related training for City employees, employee engagement programs and incentives, integration into hiring and retention policies.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
8.3	Sustainability / green marketing, tourism and business development	List and examples of programs or policies to promote the City of Sunrise as a sustainable/green tourism destination or business community.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

	Datum	Description	Unit of Measure	Period*	Format	Focus Area
8.4	Education / Outreach points of contact	Contact person(s) responsible for City's public education and outreach programs, and contact(s) for public relations firm retained by the City, if applicable.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
8.5	Communications Plan	List and examples of Communications Plan(s) prepared or utilized by the City, if applicable.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
8.6	Past performance of public outreach campaigns	Survey or other data indicating past performance of public outreach campaigns or programs.	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Education & Outreach
	9. Funding / Local Economy					
9.1	Annual Budget	Total budget under control of the City	Dollars ($)	2014-2016	Word / PDF	Funding / Local Economy
9.2	Capital Improvement Plan	Current or Proposed Capital Improvement Plan for the City	Final or proposed	Current	Outlook/Word/ PDF	Funding / Local Economy
9.3	Existing sources of revenue	Information on fees / revenues that could potentially be used to fund sustainability initiatives (example: impact fees, permitting fees, transaction fees, etc.)	Final or proposed	Current	Outlook/Word/ PDF	Funding / Local Economy
9.4	Sustainability Incentives	Information on incentives currently provided by the City to encourage energy efficiency, water efficiency, recycling, alternative transportation, GHG emissions reduction, or other green/sustainable behaviors among the community or City employees.	Final or proposed	Current	Outlook/Word/ PDF	Funding / Local Economy
9.5	Revolving Funds	Information on revolving fund(s) currently in use in the City, if applicable.	Final or proposed	Current	Outlook/Word/ PDF	Funding / Local Economy
9.6	Sustainability Financing	Information on funding mechanisms used or available for use by the City to finance sustainability initiatives (e.g. grants, revolving funds, PACE, performance-based contracts, etc.)	Final or proposed	Current or by year if multi-year	Citation & Hyperlink / Word / PDF	Funding / Local Economy
9.10	Business Tax Receipts	Annual Business Tax Receipts, by business type or NAICS code.	Dollars ($)	2014-2016	Word / PDF	Funding / Local Economy
9.11	Minority business ownership	Percent of businesses within the community boundary which are minority-owned.	Percentage (%)	2014-2017	Word / PDF	Funding / Local Economy

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.

Datum		Description	Unit of Measure	Period*	Format	Focus Area
10. Contacts						
10.1	Electric Utility Contact(s)	Contact person(s) for City accounts at FPL	Name, Address, Phone #, Email	Current	Outlook/Word/ PDF	General
10.2	Natural Gas Utility Contact(s)	Contact person(s) for City accounts at Natural Gas Utility Providers, and any other distributed energy providers	Name, Address, Phone #, Email	Current	Outlook/Word/ PDF	General
10.3	Distributed Energy Contact(s)	Contact person(s) for propane distributers and providers, and any other distributed energy providers serving the City	Name, Address, Phone #, Email	Current	Outlook/Word/ PDF	General
10.4	County Services Contact(s)	Contact person(s) at County for services provided on behalf of Sunrise	Name, Address, Phone #, Email	Current	Outlook/Word/ PDF	General
10.5	HVAC Maintenance Contact(s)	Contact person(s) for City's HVAC Maintenance Provider	Name, Address, Phone #, Email	Current	Outlook/Word/ PDF	General

* Provide 12 months of continuous data for each year / fiscal year specified.

**May require coordination with external data providers.