



Annual Report
Beautification and Energy Efficiency Board
City of Melbourne

March 2024

Introduction

The Beautification and Energy Efficiency Board (BEEB) of Melbourne, Brevard County, Florida serves as the City's roadmap for making recommendations to City Council concerning affordable strategies associated with conservation, renewable energy, energy efficiency and achieving 100 percent clean energy by 2035 in City operations. The BEEB is committed to pause each year to review our progress and course correct as needed to quickly advance towards City goals. This report highlights the BEEB's projects from March 2023 – March 2024.

This report has been prepared with input from BEEB members and approved by the BEEB on March 15, 2024. The report is submitted to the City Council and available publicly on the City of Melbourne Beautification and Energy Efficiency Board website (<https://www.melbourneflorida.org/about/municipal-boards/beautification-and-energy-efficiency-board>). The City of Melbourne is the primary stakeholder for BEEB activities in environmental sustainability. Support from City officials and City Council is vital to the City's energy and sustainability efforts.

BEEB Background

The BEEB was established in 2017 and charged with developing an environmental sustainability plan for City operations, assessing implementation of the plan and providing an annual report to the City Council. In addition, the BEEB reviews ordinances and policies having an environmental impact on the City. Also, the BEEB recognizes the efforts of others who contribute to the beautification, environmental protection and enhancement of the City.

For this reporting period, the BEEB met 10 times on the following dates: March 17, 2023, April 21, 2023, June 16, 2023, July 21, 2023, August 18, 2023, September 15, 2023, October 20, 2023, November 17, 2023, January 19, 2024 and February 16, 2024. These meetings were open to the public. Minutes for all meetings are posted at the City of Melbourne Beautification and Energy Efficiency Board website.

The BEEB is comprised of five regular members and two alternate members appointed by City Council. The following individuals currently serve on the BEEB: Dr. Randall Parkinson, chair; Joy Morris, vice-chair; Bruce Lindsay, regular member; Dr. John Windsor, regular member; Wade Senti, regular member; Bob Klaproth, alternate member; and Andrew Pappas, alternate member.

The BEEB would like to thank the following City Staff for their support to the board: Todd Cook, Cheryl Caldwell, Jennifer Spagnoli, and Jennifer Wilster. Also, the BEEB would like to thank past member, Dr. Troy Nguyen and City Staff member Megan Ruben for their contributions to the board.

Environmental Sustainability Plan for City Operations

In 2017, City Council adopted Resolution number 3360 to transition City operations to clean energy. As part of this commitment the City continues to make incremental

progress to integrate sustainability in operations to meet Resolution number 3360 requirements.

Each month the City Public Works and Utilities Department continues to publish the Public Works & Utilities Connection newsletter, which showcases energy conservation, water conservation, environmental protection, reclaimed water, stormwater protection and recycling projects the City is working on. The publication also outlines the monthly water usage and raw/finished water quality statistics which identifies an energy savings for the City. Statistics for wastewater treatment operations, streets and stormwater management and capital projects status summaries are also provided. The City also publishes a quarterly environmental conservation newsletter with helpful environmental news and tips.

Four focus areas are discussed during BEEB meetings. They are City Energy Efficiency Evaluations, Strategic Energy Plan, Alternative Fuel Vehicles, Brevard County Sustainability Working Group and Beautification. These focus areas, along with the City's environmental sustainability commitment, have been the foundation for the advancement of reaching the City's beautification and energy efficiency goals.

BEEB Focus Areas

The following BEEB focus areas serve as a venue for City staff, members of the general public and subject matter experts to participate and voice recommendations for the City's engagement in sustainability efforts.

Energy Efficiency Evaluations. The City continues to audit the use of energy connected to fossil fuels and CO2 emissions providing a sense of the City's consumption and associated costs.

A Greenhouse Gas Inventory was completed through support from the Florida Audubon, International Council for Local Environmental Initiatives (ICLEI) and the Florida Institute of Technology (Student – Liana Van Woesik). This inventory compiled information from the City's greenhouse gas emissions from City operations during the 2021 calendar year. The report was completed in December 2023, indicates City facilities use the most energy (51%), water/wastewater (33%), vehicle fleet (16%) and employee commute (6%). The City should further expand on this report in future years and possibly separate the water and wastewater to further understand the full depth of energy use versus cost.

Joseph Pellicano Law Enforcement Center Thermal Ice Plant – In April 2023, construction began on the new City police headquarters which will include a thermal ice-storage air conditioning system; the BEEB recommended to take advantage of a \$600 kilowatt rebate. Incorporating the thermal ice-storage system qualifies the City to receive a 40% tax credit through the Inflation Reduction Act. The BEEB provided suggestions and documentation to the City engineering team and the general contractor for the IRA incentive application to submit to the IRS in 2024 at construction completion.

City Hall Chiller System – The BEEB supports the future replacement of City Hall’s current chiller-cooled system to a thermal ice storage chiller system as an internal energy efficiency strategy. The BEEB notified the City Manager via memorandum August 30, 2023 (attachment 1) to request evaluation of potential locations for the installation of the external elements of the chiller system. In addition, the BEEB requested authorization of the City’s continuing consultant to perform a location cost-benefit analysis prior to formally considering a capital improvement project for the thermal ice storage chiller system. An initial evaluation completed by an engineering student indicates it may be cost prohibitive due to the underground utilities which has directed the City Engineering Department to evaluate other locations.

Strategic Energy Plan. The BEEB continues to follow the City’s usage of energy by year.

The City is in their third year of participating in the FPL Solar Together Program. The program approved the city for 29 million kilowatt-hours where the City uses 37 kilowatt-hour which is seventy-five percent renewable energy. There is a 2.35% increase in pricing; utility bills increased by 19% from 2022 which is mostly due to the natural gas prices. This increase in pricing should break even within 10 years of participating in the program. Two articles in Florida Today newspaper, shared with board members, showed other government organizations participation in this program and the benefits from future participation. They were titled “FPL, Duke programs aim to spur solar,” dated Feb. 18, 2024 and “Wind and solar work in extreme weather,” dated Feb. 17, 2024.

The City has budgeted to replace the existing high-pressure sodium streetlights to LEDs on US Highway 1 from Post Road to Aurora Road.

Alternative Fuel Vehicles (AFV). In 2023, the City purchased two Ford Maverick hybrid trucks and the City Council approved the purchase of 10 additional hybrid vehicles. BEEB continues to research and evaluate the use of electric vehicles (EV) versus hybrid vehicles.

The City is working with Florida Power and Light (FPL) to evaluate installing EV chargers on City property. The City is also evaluating other aspects of incorporating charging opportunities within the City. City staff met with FPL representatives regarding public charging stations at City Hall and fleet charging stations on Harper Road. They discussed placing four EV chargers at City Hall. The City found that the location for the FPL-required easement would not be feasible and is looking for other locations in the downtown area. Four chargers at the Harper Road complex would not be part of the FPL Evolution Program and could be paid through the DOE Energy Efficiency and Conservation Block Grant Program. The BEEB voted to support the two initiatives being investigated by the City and notified the interim City Manager via memorandum on April 24, 2023 (attachment 2).

Brevard County Sustainability Working Group (BSWG). The BSWG was formed as a catalyst for the advancement of sustainability in Brevard County. Members consist of individuals from government agencies, non-profit and non-governmental organizations,

academia and businesses who focus on natural, social and economic resources. The BSWG identifies needs and anticipates sustainability issues as well as provide potential for stronger impacts for change in Brevard County by working together across boundaries. Staff and BEEB members continue to participate in BSWG and discuss BSWG topics during the monthly BEEB meeting. The BSWG is in the process of being reformed into the Brevard Resilience Interagency Collaborative (BRIC) which will focus on Brevard County municipalities working together to create a resilient and sustainable future for Brevard County communities. The BEEB supports this ongoing collaboration.

Beautification. The City continues to improve the beauty of the City by updating signage throughout City parks, partnering with outside organizations to update landscaping at City memorial sites and parks.

In November 2023, the City Parks Division hosted a delegation from the City of Ft. Pierce to tour downtown Melbourne and Eau Gallie to discuss their best management practices.

The City has been certified as a Tree City USA participant for 34 years. The Tree City USA program provides communities with a framework to maintain and grow their tree cover and to show residents and visitors they're committed to the mission of environmental change. Being a part of Tree City USA not only beautifies the community but also improves urban forestry, stormwater management and an overall healthier environment.

Other activities. Throughout the year, the BEEB may engage in other activities deemed to be included as an appropriate action(s) for the group to pursue.

a. Indian River Lagoon (IRL) Day. IRL Day, held at Front Street Park on November 18, 2023, was hosted by the cities of Melbourne and Satellite Beach, The Brevard County Natural Resources Management Department and the Indian River Lagoon National Estuary Program to provide the local community with environmental sustainability education, exhibits and resources.

b. Seminar and Forum. The City cosponsored the annual Florida Friendly Landscaping Seminar at the Melbourne Auditorium on March 23, 2023 and the Make a Green Noise Forum on October 28, 2023 to foster community engagement while addressing environmental concerns for the City.

c. Earth Day/Arbor Day. The City celebrated Arbor Day and Earth Day April 21-22, 2023 at the Joe Davis Community Center. On April 21, students from University Park Elementary School participated in environmental sustainability activities and then with the Melbourne Garden Club gathered for a tree planting ceremony in honor of Arbor Day and the 100th anniversary of the Florida Federation of Garden Clubs Inc. On April 22, the City cosponsored the Make a Green Noise: Rising Tide Forum which focused on sea level rise, climate migration and climate gentrification.

d. Presentations. The following briefings were presented to the BEEB during this reporting period.

- Downtown Beautification and Stormwater Retrofit Project presented by Dani Straub, City of Melbourne Engineering Project Manager. Ms. Staub provided information on the current and future green infrastructure projects throughout the City. The City was looking into installing Bio-Mods in the existing landscape in the downtown area, which would help remove nitrogen and phosphorus from runoff. However, due to significantly higher bid amounts than budgeted and a downtown streetscaping project that will interfere, the project will not move forward.

- Fire Department Building Design Criteria presented by James Ennis, City Engineer. Mr. Ennis provided information on the four upcoming fire station replacement projects. The City Engineering Department is evaluating energy efficiency within the development of these facilities.

BEEB Awards

Clean Energy Award. In 2021, the BEEB developed a Clean Energy Award to encourage and publicly celebrate those in the Melbourne community who adopt efficient, sustainable and resilient technologies. The BEEB recruited four engineering/sustainability organizations to review the technical merits of the projects and recommend award approval. The four organizations are the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE), Association of Energy Engineers (AEE), US Green Building Council (USGBC) and Drive Electric-Florida (DEFL). There were no Clean Energy Awards presented in this reporting period.

The City of Melbourne received the USGBC award for their efforts in government advocacy and policy for the Clean Energy Awards program.

GEMS Award. The GEMS award was established to raise awareness about the efforts of the BEEB while recognizing a Melbourne citizen's home or business for their landscape beautification. There were no GEMS Awards presented during this reporting period.

Conclusion/Way Forward

The BEEB is in the process of evaluating the likelihood of the City reaching its goal of 100% clean energy by 2035. At this point, achieving 100% clean energy by 2035 does not seem realistic. The timeline for reaching this laudable goal is under review. For the upcoming reporting period, the BEEB will continue discussions in key focus areas as well as other activities deemed appropriate for the board to pursue.



Memorandum

To: Jenni Lamb, City Manager
From: Randall Parkinson, Chair, Beautification & Energy Efficiency Board
Date: August 30, 2023
Subject: City Hall Thermal Ice Storage Cost-Benefit Analysis Request

The City of Melbourne Beautification & Energy Efficiency Board (BEEB) has been actively studying and discussing the conversion of the current chiller-cooled system to a thermal ice storage chiller system at City Hall as an internal energy efficiency strategy. The project would qualify for the federal Inflation Reduction Act (IRA) 40% Section 48 investment tax credit and an FPL rebate of \$600/kW if it is started by December 31, 2024. Projects started after January 1, 2025, should still qualify for the tax credit, but may require adding solar PV to the project scope. Rory Dittmer explained to BEEB city liaison Jennifer Wilster that the city completed a thermal system conversion project at the Babcock Police Department building about 10 years ago and the project has been largely successful. Therefore, the city has experience with the design and installation of this type of system. The BEEB was previously successful in its efforts to champion thermal ice storage in the design of the new police headquarters building, now under construction.

Before moving forward, an evaluation of potential locations for the installation of the external elements of the chiller system needs to be completed. At present, two locations have been proposed and others may emerge: (1) the parking lot on the north side of City Hall and in proximity to the dumpster and (2) the northwest corner of the parking garage floor 1.

At this time, BEEB is respectfully requesting your authorization of the City's continuing consultant to perform a location cost-benefit analysis prior to formally considering a capital improvement project for the thermal ice storage chiller system at City Hall.

Attachment 2



City of Melbourne Beautification & Energy Efficiency Board

Memorandum

To: Jenni Lamb, Interim City Manager
Through: Jennifer Spagnoli, Acting Public Works & Utilities Director
From: Dr. Randall W. Parkinson, Chair, Beautification & Energy Efficiency Board
Via: Jennifer Wilster, Staff Liaison to the Board
Date: April 24, 2023
Subject: BEEB Support of EV Initiatives

The Beautification and Energy Efficiency Board (BEEB) voted unanimously to support two initiatives being investigated by the City, as follows:

#1) For the City to move forward with an agreement with FPL to install four public fast-charge EV charging stations at City Hall, in front of the parking garage. These would be paid for and maintained by FPL for 10 years..

#2) For the City's application for a \$146,130 award through the DOE Energy Efficiency Block & Conservation Block Grant Program to use this funding for an EV pilot program for installing EV chargers at the City's Public Works Complex and the purchase of an EV vehicle(s) for use by Public Works staff.