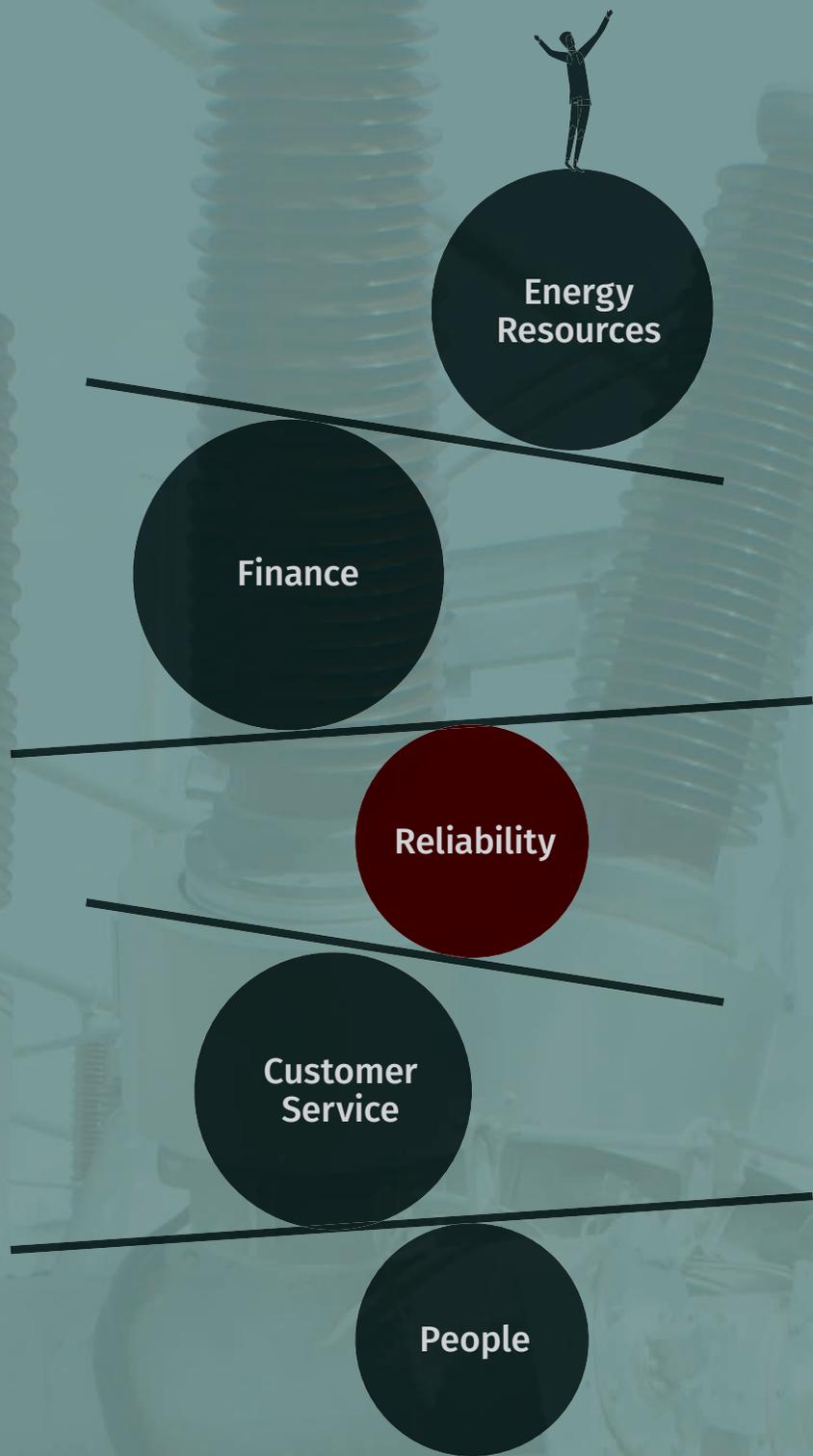




# The Five Balanced Elements of Progress

Lake Worth Beach Electric Utility  
2021 Annual Report



# From the Electric Utility Director

## Balance Beams



Our strategy must balance five interrelated elements

Welcome to our third issue of our Annual Report. In this year's issue we've chosen to highlight the balancing of interrelated Elements that shape the future of our electric utility; Energy Resources, Finance, Reliability, Customer Service, and People. These five Elements must remain in balance to achieve a sustainable successful outcome for the community we serve, if any one falters it has an immediate effect on the others and of course our customers.

**Energy Resources;** these are the sources of our energy supply. We rely on a diverse mix of energy supplies, both by fuel type and location, to provide reliability of supply and to avoid price spikes or shortages due to market forces or delivery path interruption. At various times in our 100 plus year history we've relied on a mix of nuclear, coal, natural gas, and oil to fuel our energy needs, and more recently rapidly growing solar energy. Each has its advantages and disadvantages, but together they have served our customers well. Today we enjoy one of the lowest costs of wholesale power of any municipal electric utility in the state of Florida, which has allowed us to provide rate stability and competitive prices. Beginning in mid-2023 we will see a major change as we begin receiving significant quantities of solar energy from our commitments to the Florida Municipal Power Agency Solar Projects, so much so that by 2025 we will see periods of time during daylight hours when 100% of our energy will be coming from carbon-free resources.

Energy conservation plays a role as well as customers become more energy conscious. Energy use per customer has declined slightly since 2016 and we've seen declines in peak demand since 2019, likely due in part to customer upgrades of their lighting, refrigerators, air conditioning systems, windows and doors together with the effects of growth of energy efficient new homes. And, we're pleased to report that by year-end 2025 we will see energy from coal eliminated completely from our portfolio. Our balanced energy resources will not only greatly reduce our CO2 emissions but in combination with the growing effects of customer energy conservation we will also decrease our exposure to global events and the vagaries of natural gas and oil prices.

**Finance;** this is our ability to access capital markets to fund our capital needs. Our operating and maintenance expenses are adequately covered by our revenues, which of course are determined by the rates we charge our customers and the amount of energy they choose to buy from us. Large scale system improvements such as those underway with our System Hardening and Reliability Improvement Program (SHRIP) however require large amounts of capital investment, which comes from the sale of bonds to investors. Investors in return require a monthly principal and interest payment in exchange for their investment in our future. We must ensure that we maintain the best credit rating possible to be considered "investment grade" and attract investors, and of course we want that interest rate to be low enough that we can afford the improvements in our infrastructure that the sale of bonds enable. A good credit rating is achieved by controlling operating costs, establishing adequate rates for our services, maintaining adequate working capital and reserves for unforeseen events such as hurricanes, maintaining positive income net of expenses, and having a team in place that can execute on the plan

We must always balance the interrelated elements that shape the future of our electric utility; energy resources, finance, reliability, customer service, and people.

**Reliability;** this is our ability to deliver energy to our customers on a reliable basis to provide a better quality of life, operate safely, and attract and retain customers. Having an electric distribution system that can withstand the effects of aging equipment, storm conditions, encroachment of vegetation, and animal contacts is paramount. Our electric system was designed and largely constructed over 50 years ago and needs significant refurbishment. However, we should not simply rebuild it as it exists today, we must upgrade its design to incorporate features our customers demand from the utility of the future. We must deploy projects that result in significantly reduced outage frequency, enable us to recover more rapidly after outages, improve power quality, provide the ability to accommodate growing amounts of distributed generation resources such as customer-owned rooftop solar, enhance the ability to receive energy derived from local battery energy storage, and which do not impede the deployment of emerging vehicle-to-grid energy technology.

**Customer Service;** this is our primary point of contact with customers. Customers expect and deserve ready access to information about their account balances and payment due dates, accurate and understandable bills, help with opening and closing accounts, multiple payment methods and budget billing that better meet their needs, and answers to all aspects of utility questions including rapid information on restoration efforts during outage events. Our Customer Service team has made great strides having implemented local payment locations and call center operators available 7 days per week outside of normal business hours. We also have multiple technology projects underway that will significantly change the product we provide and make it possible to add even more features our customers desire. Our service level has increase greatly over the past few years and will continue to evolve to meet growing customer expectations.



These five elements must remain in balance to achieve a sustainable outcome for the community we serve; if any one of these elements falter it has an immediate effect on the other elements and our customers.

**People;** we have assembled a great team of dedicated and qualified people to deliver our services to our customers and assure our investors that their investment in our utility is a sound one. Everyone on our team has the option to work for our competitors or join other industries, yet they've all elected to work here with us to accomplish a great task together as a team. In exchange we offer competitive salaries and benefits, an opportunity to accomplish something prideful and with demonstrable community benefit, combined with quality of life for themselves and their families. In order to control costs and have access to specialized subject matter experts we also rely on consultants and contractors to operate our business on your behalf, a resource we use variably with great results.

I hope you find this annual report informative and reassuring, and perhaps even spot a few nuggets of information that you were not aware of. As a municipal utility you benefit directly from our success, not only from the demonstration of your values inherent in the electricity we deliver to your homes and businesses, but also from the municipal services that our contributions to the City's General Fund help enable.

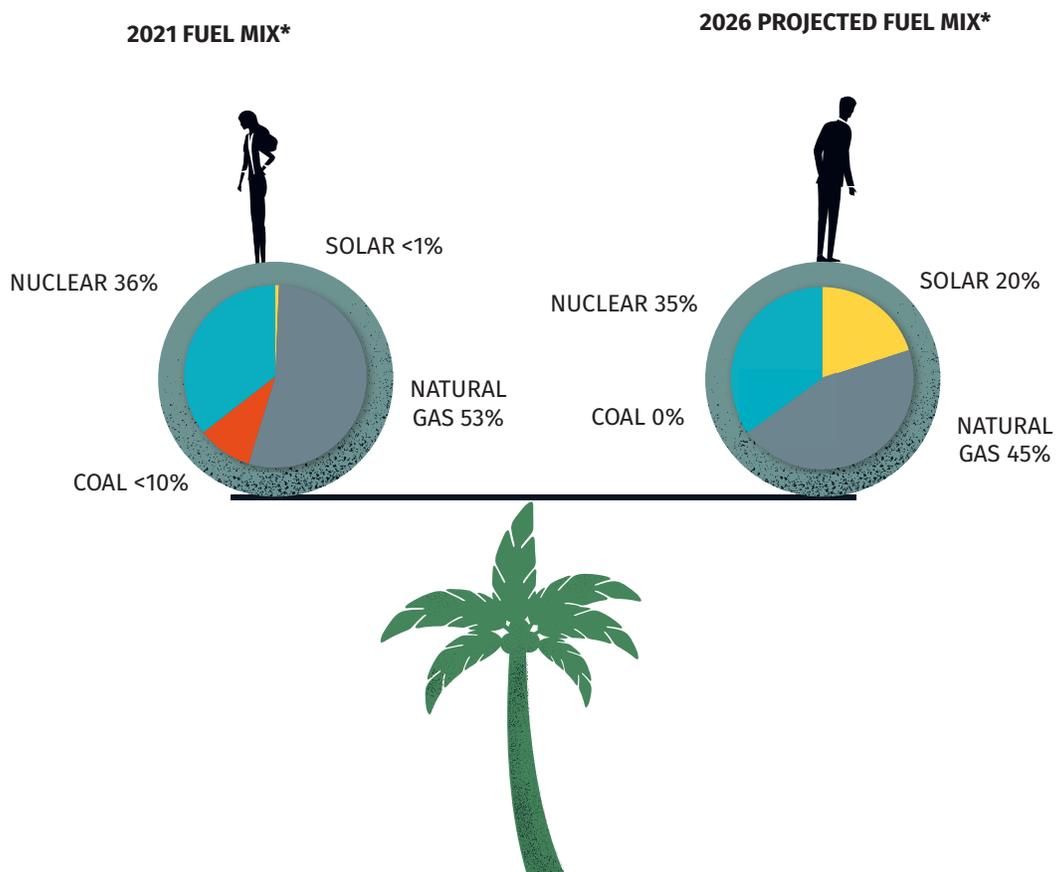
Sincerely,

Ed Liberty  
Electric Utility Director

# Energy Resources

## Balancing our future resources while addressing current needs

Ensuring a low-cost and low carbon supply of energy requires managing the acquisition of energy resources well in advance of when you need it. We balance current demands and market conditions with our aspirations for the lowest carbon footprint possible. Our 2018 resource plan has helped guide to achieving the status of having well over 50% of our energy supplied from carbon-free sources by 2025, with even further reductions by 2026 as we realize the benefits of retiring coal from our resource plan.



**We are on track to greatly reduce our carbon footprint by 2026**

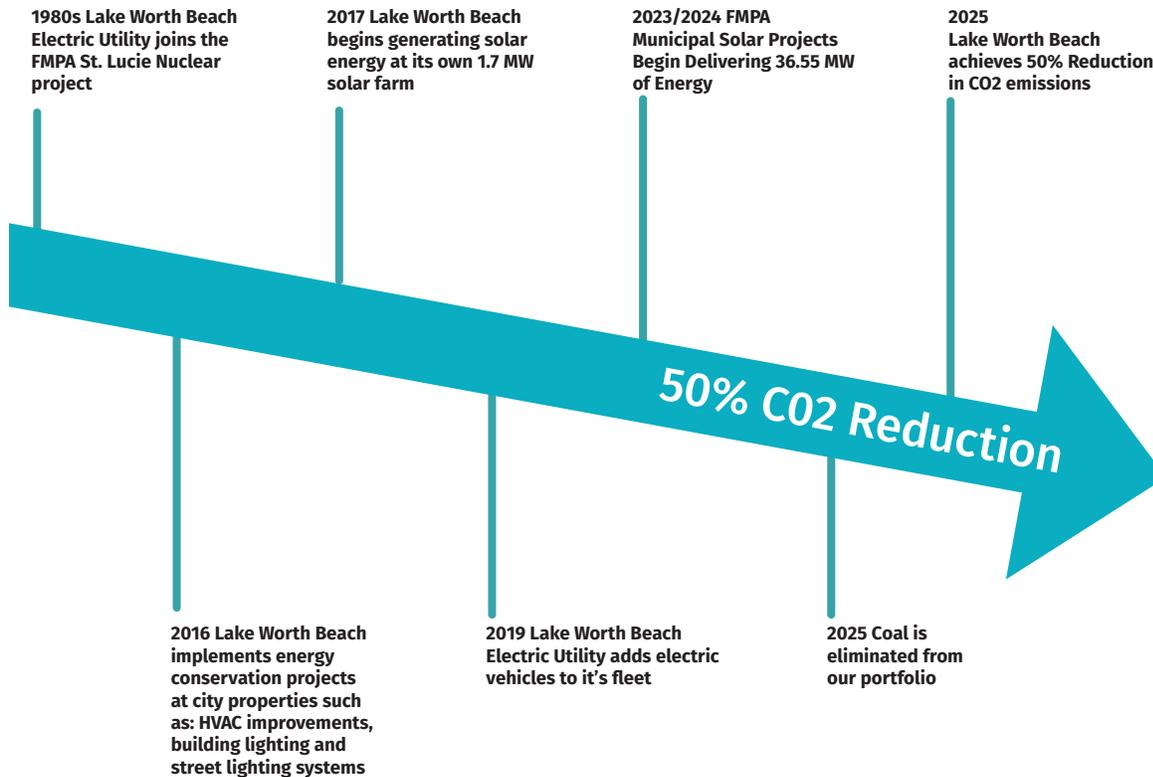
\*The figures above are approximate values



**Our 2018 Resource Plan calling for significant increases in solar energy and our decision in the 1980s to add nuclear to our portfolio has put us on the path to a low carbon future.**



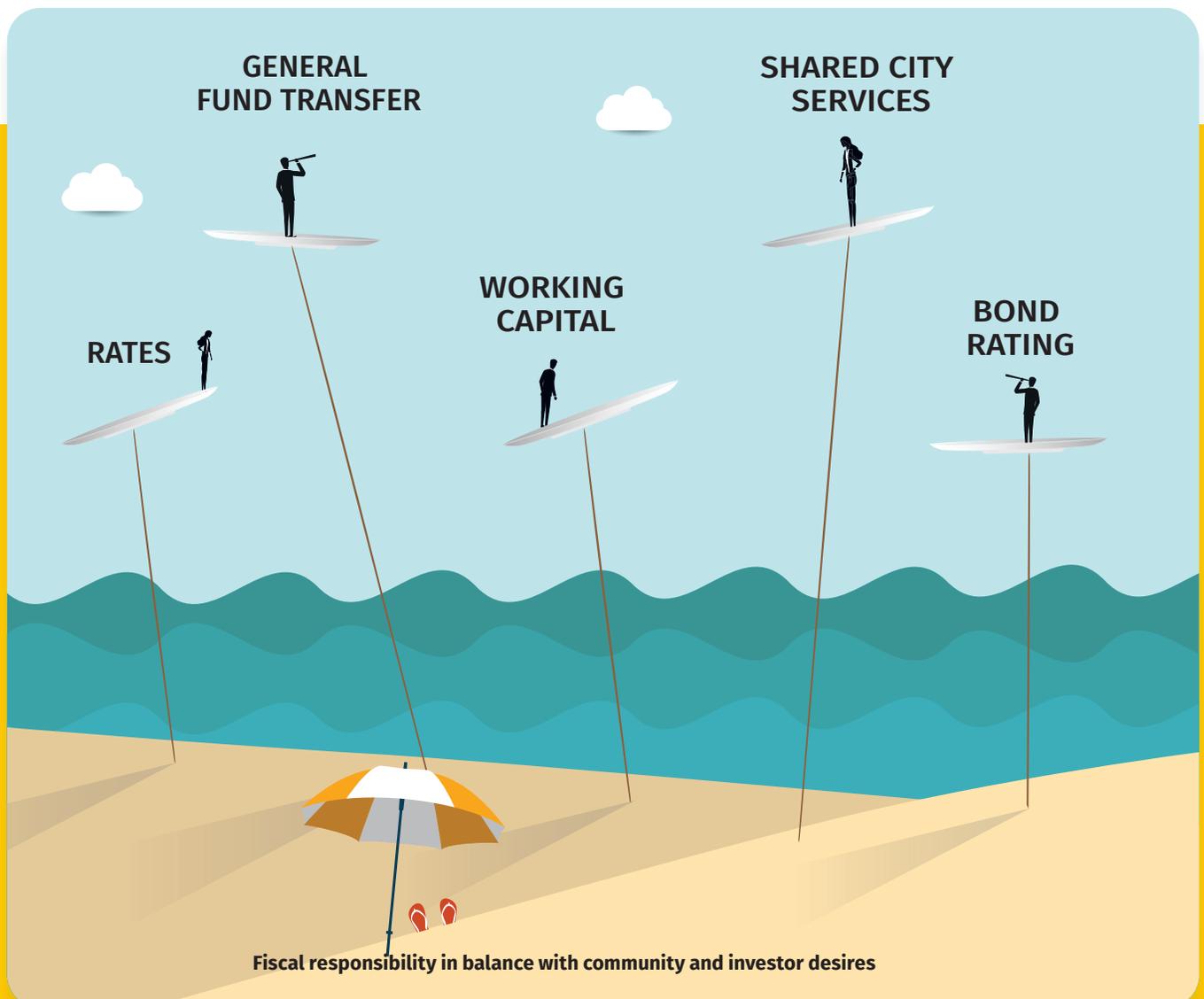
## Our Path to Carbon Reduction



# Finance

## Balancing our interconnected financial commitments for our community benefit

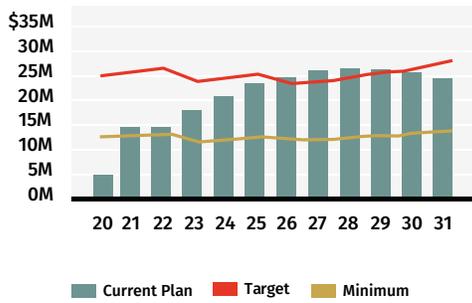
Renewal of aged infrastructure and system hardening is critical in our coastal community to withstand the effects of storms and hurricanes, and with it comes the need to access capital markets and investors who believe in our ability to execute our plans while maintaining a reasonable balance of electric rates and contributions to Lake Worth Beach's general fund. In 2021 we began work on \$44 million in electric utility projects to improve reliability, adding to over \$14 million in work already underway or completed since placing a focus on reliability in 2018. By mid-2022, we anticipate going back the bond market to raise an additional \$40 million in funding to continue with much-needed improvements.



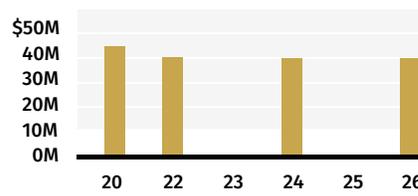


# Interconnected impacts

## Working Capital Fund



## Borrowing



## Revenues vs. Expenses



7 World Trade Center  
250 Greenwich Street  
New York 10007  
www.moody's.com

November 4, 2020

Mr. Bruce Miller  
City of Lake Worth Beach, FL  
7 North Dixie Highway  
Lake Worth, FL 33460

Dear Mr. Miller:

We wish to inform you that on October 22, 2020, Moody's Investors Service reviewed and assigned a rating of **A1** to City of Lake Worth Beach, FL Utility Authority, Consolidated Utility Revenue and Refunding Bonds, Series 2020.

Credit ratings issued by Moody's Investors Service, Inc. and its affiliates ("Moody's") are Moody's current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities and are not statements of current or historical fact. Moody's credit ratings address credit risk only and do not address any other risk, including but not limited to liquidity risk, market value risk, or price volatility.

### E-BOOK-ENTRY ONLY

**RATINGS:** See "RATINGS" herein  
opinion of Bond Counsel, assuming continuing compliance by the City with the Interest Revenue  
is, as amended, interest on the 2020 Bonds is, under existing law, excluded from gross income for  
the tax purposes and is not an item of tax preference for purposes of the federal alternative minimum  
tax ("AMT") herein).

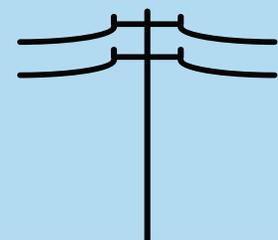
**\$88,880,000** **DAC Bond**  
**CITY OF LAKE WORTH BEACH, FLORIDA**  
**CONSOLIDATED UTILITY REVENUE BONDS, SERIES 2020**

of Delivery **Due: October 1, as shown below**  
Consolidated Utility Revenue Bonds, Series 2020 (the "2020 Bonds") are to be issued by the City of Lake Worth  
Beach, Florida (the "City"), as fully registered bonds, without coupons, in denominations of \$5,000 and integral multiples  
thereof on the 2020 Bonds will be payable April 1, 2021, and semiannually on each April 1 and October 1  
of each or death of U.S. Bank National Association, registrar and paying agent.  
The Bonds will be issued in fully registered form, initially registered in the name of Cede & Co., as nominee of  
City Trust Company ("City Trust"). Individual purchases will be made in book-entry form only in denominations of  
any integral multiple thereof. Actual purchasers of the 2020 Bonds (the "Beneficial Owners") will not receive

# Reliability

## Our goal is to improve system reliability so our customers experience fewer outages.

Much of our electric infrastructure dates back to the 1970s or in some areas of our system even earlier with aged equipment and an outdated design that while having enabled low-cost growth over the past 50 years, is lacking the capabilities of a modern grid that our customers demand in the 2020s and beyond. The good news is we are making significant progress in replacing equipment and upgrading infrastructure and customers are feeling the difference. Across the community customers report that outages are far less frequent than in years past and they appreciate seeing our dedicated IBEW crews repairing equipment and installing new infrastructure in their neighborhoods. We've employed a mix of measures to improve reliability, from conducting infrared thermal imaging to identify system hot spots and potential failure points, aggressive deployment of animal guards, wholesale replacements of problematic components, and stepped up vegetation and tree trimming. These

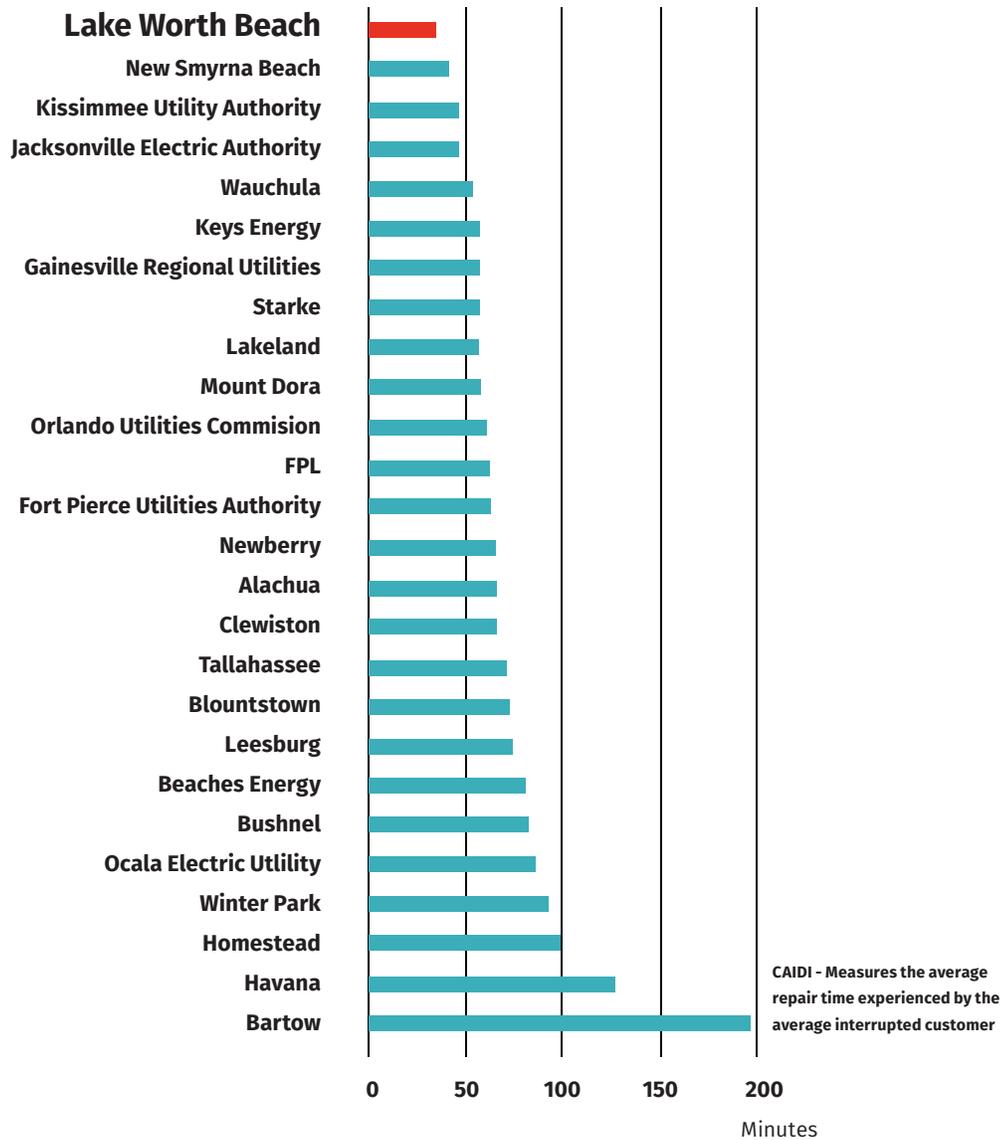


Fiscal responsibility in balance with community and investor desires



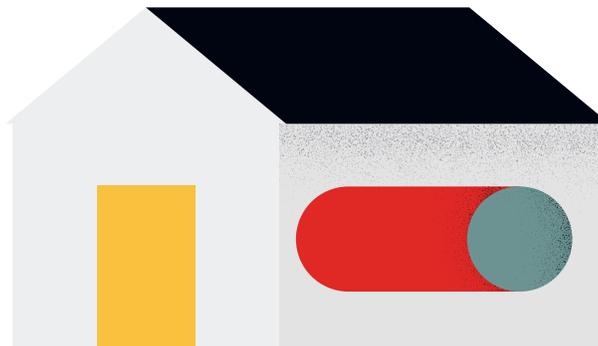
## As of November 2021 we achieved the best Average repair time of all Florida utilities

Customer Average Interruption Duration



measures have reduced outages and we are one of the best utilities in the state in recovering from outages, but larger outages and operational contingencies associated with failing infrastructure remain an issue. Our SHRIP projects are proving to be effective and we recognize that we have multiple years of capital-intensive work ahead of us to achieve system performance and reliability comparable to the best in the state. As we write this annual report new substations are under construction and others are in various stage of design and material procurement. Similarly, poles, wires, and transformers in neighborhoods across the service territory are being upgraded. And, a second tie line to the statewide electric transmission grid has been successfully negotiated and is in the design process with a projected in-service date in 2023. Having multiple points of interconnection to the grid will greatly improve operating flexibility and improve our resiliency.

We benchmark and track our system reliability to utilities statewide, with some noticeable improvements yet with much room for improvement. Our time to clear outages is greatly improved over prior years, a testament to the commitment and experience of our staff, albeit while experiencing a high frequency of outages. We are confident that with SHRIP underway that the frequency and duration of outages will decline.

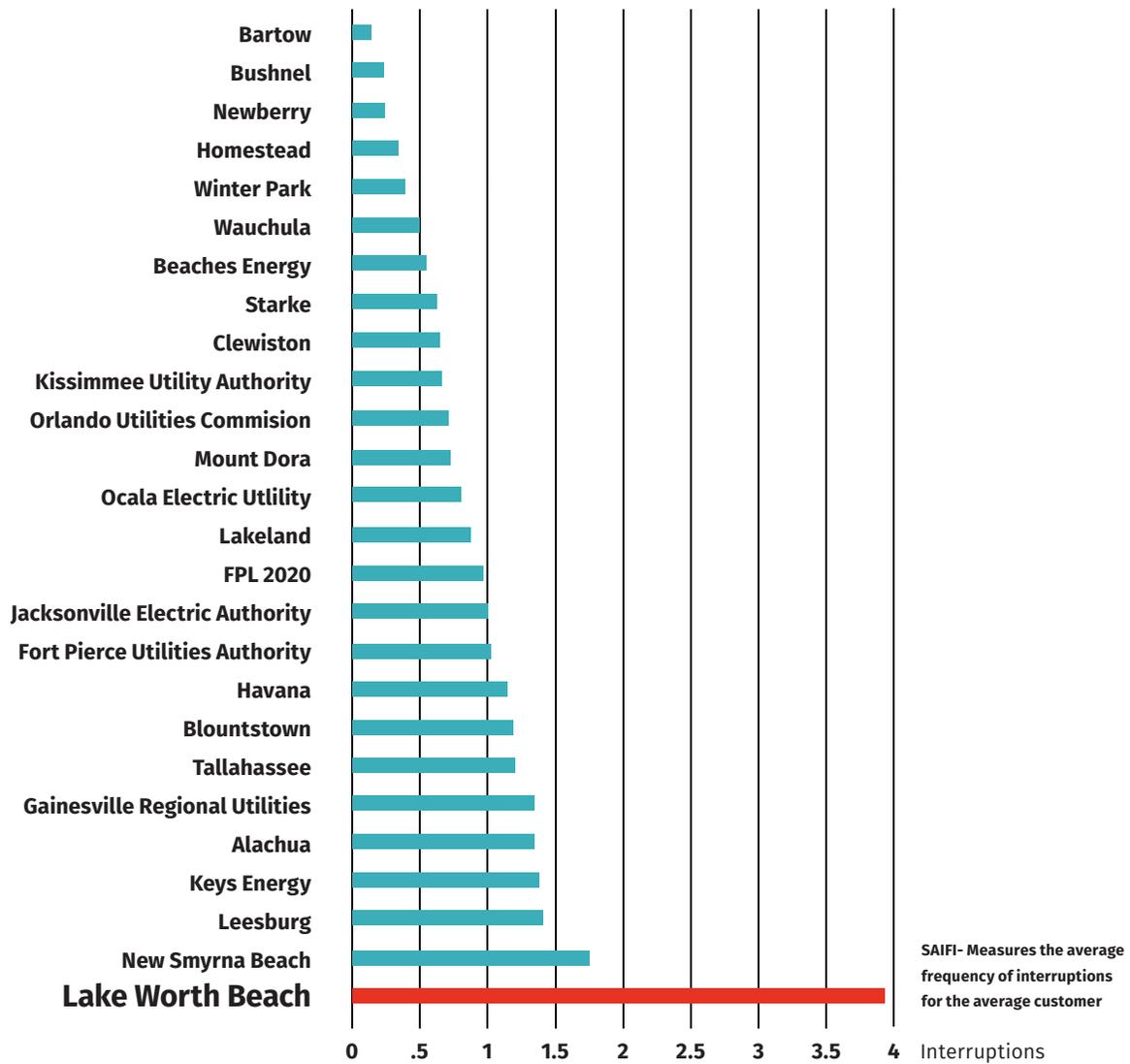


**We are making significant progress in replacing equipment and have received the initial funding to begin executing on our System Hardening and Reliability Improvement Program (SHRIP).**



## We were challenged with a high frequency of interruptions in 2021. We are addressing the underlying issues with our planned system upgrades

Frequency of Interruptions



# Customer Service

## Despite the pandemic we continued to improve on customer experience.

Despite the pandemic and the need to close our doors to in-person visits we made significant progress improving the customer experience by transacting customer requests via email and drop box, greatly expanding call center hours, adding an interactive voice response system (IVR) to allow customers to get answers to their most frequently asked questions seven days per week at any time of day, brought customers seeking to pay with cash the ability to do so at local and national merchant locations outside of normal business hours. We also provided customers who struggled making utility payments with the ability to defer almost \$1 million in payments in total, and guided thousands of customers through the maze of local aid programs.



**Expanded Service Hours**  
**New Ways to get help**  
**More ways to pay**



**We significantly expanded our Customer Service Call Center hours from 5 days a week during business hours only, to 7 days a week, 12 hours per day.**



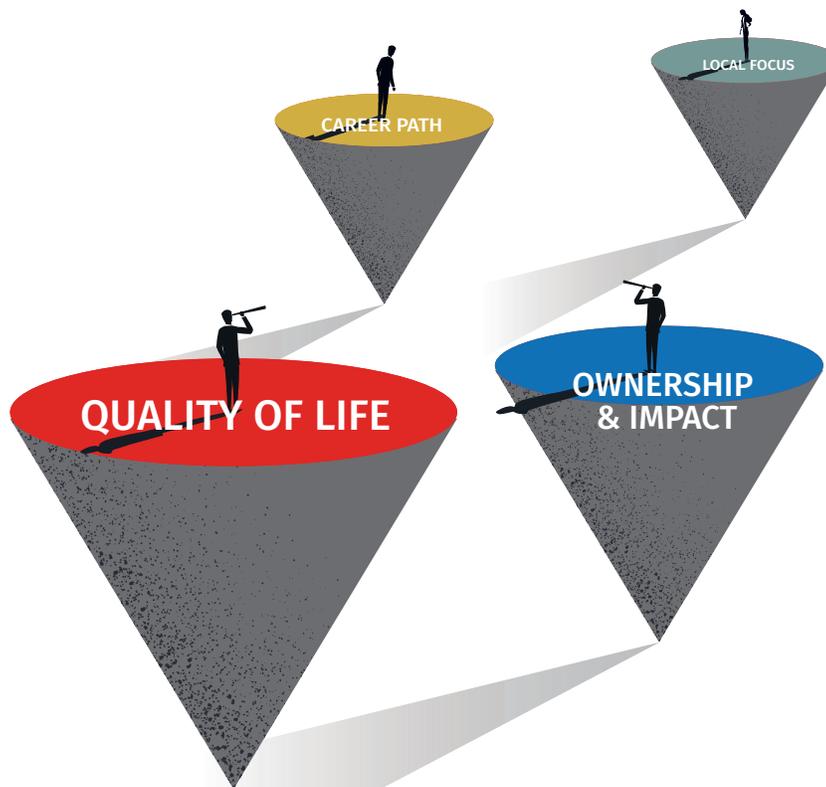
**We've invested in technology to more rapidly locate the source of outages, automatically notify customers that we're on our way, and more quickly respond with repair crews.**



# People

## Balancing attracting and retaining the best people in a competitive market.

Executing on our goal to significantly improve our system reliability requires talented and experienced staff. The competition for people is increasing as utilities nationwide experience retirements of the boomer generation and employees seeking a better life/work balance, all while other utilities strive to upgrade their infrastructure much as we are. Attracting talent from private industry is hard for a small municipal utility like ours, making it even more important to offer an attractive work environment and competitive salaries at all levels of the organization. In 2021 we successfully completed mutually beneficial contract negotiations with all of our represented employees and are actively recruiting for additional line workers, engineers, and compliance staff positions. Augmenting our in-house staff are contractors and consultants that we use as needed on a variable basis to assist us in unique areas where it's not cost effective nor practical for us to create full time positions, such as large-scale construction, specialty high voltage work, engineering, rate analysis, and energy procurement and resource planning.





**We have outstanding people who dedicated their careers and professional life to the residents of the community we serve. Our team is greatly appreciated by City leadership and our customers.**

### Employees



### Contractors & Consultants

**We've assembled a team that blends internal resources with selective use of specialized contractors and consultants when it is impractical or too expensive to retain their services on a full-time basis.**

# Future Progress Progress Timeline.



Item	Project Title
10	Line Truck Replacement
12	EV Charging Station
17	WiFi / Palm Beach County School Board
19	1900 Building Improvements Phase 2 - Breakroom, Mens Lavatory & Lineman Room
20	Cultural

ID	Task Mode	Task Name	Duration	Start	Finish
1	✓	<b>Civil Site Development</b>	21.6 wks	Wed 4/21/21	Fri 9/17/21
2	✓	Site Engineering Design Development to 30%	9 wks	Wed 4/21/21	Tue 6/22/21
3	✓	Site Engineering Design 30% IFR Submittal	1 day	Fri 6/25/21	Fri 6/25/21
4	✓	CLWB - 30% Design Package Review	1 wk	Mon 6/28/21	Fri 7/2/21
5	✓	CLWB - Radise Infiltration Test	4 wks	Mon 7/12/21	Fri 8/6/21
		Site Engineering Design Development to 60%-90%	3.96 wks	Fri 7/2/21	Tue 8/31/21
		Final Package	3 wks	Mon 8/30/21	Fri 9/17/21
			39 wks	Mon 4/26/21	Fri 1/21/22
			55 days	Mon 4/26/21	Fri 7/9/21
			1 day	Fri 6/25/21	Fri 6/25/21
				Mon 7/12/21	Fri 8/27/21

## 2017

## 2018

## 2019

Situational assessment

Renegotiated power contracts

Developed Data Driven  
Prioritized Project Plans

Reorganized and retained key  
staff members

Committed to a Large  
Scale Solar Energy Strategy

Implemented enhanced  
vegetation management and  
maintenance and inspection  
practices



Project: 138KV & 25LKV Date: Fri 1/21/22	Split Milestone
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# 2021 Lake Worth Beach Commissioners



**Betty Resch**  
Mayor



**Sarah Malega**  
District 1



**Christopher McVoy**  
District 2



**Kim Stokes**  
District 3



**Herman Robinson**  
District 4



**Ed Liberty**  
Electric Utility Director