



# City Commission Regular Meeting

## Agenda

**May 24, 2023 @ 3:30 pm**

City Hall - Commission Chambers  
401 S. Park Avenue

### welcome

Agendas and all backup material supporting each agenda item are accessible via the city's website at [cityofwinterpark.org/bpm](http://cityofwinterpark.org/bpm) and include virtual meeting instructions.

### assistance & appeals

Persons with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk's Office ([407-599-3277](tel:407-599-3277)) at least 48 hours in advance of the meeting.

"If a person decides to appeal any decision made by the Board with respect to any matter considered at this hearing, a record of the proceedings is needed to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based." (F.S. 286.0105).

### please note

Times are projected and subject to change.

**1. Meeting Called to Order****2. Invocation**

- a. Reverend Maggie Alderman, Unity of Central Florida 1 minute

**Pledge of Allegiance****3. Approval of Agenda****4. Mayor Report**

- a. Green Business Award: Center for Health and Wellbeing and Nourish Coffee Bar + Kitchen 5 minutes
- b. Presentation: Winter Park Sidewalk Art Festival 2023 Best of Show 5 minutes

**5. City Manager Report**

- a. Winter Park Sunshine Project Presentation 5 minutes
- b. Update from staff on Winter Park Playhouse. 5 minutes

**6. City Attorney Report****7. Non-Action Items****8. Public Comments | 5 p.m. or soon thereafter**

(If the meeting ends earlier than 5:00 p.m., public comments will be at the end of the meeting)

(Three minutes are allowed for each speaker)

**9. Consent Agenda**

- a. Approve the minutes of the regular meeting, May 10, 2023 1 minute
- b. Approve the minutes of the work session, May 11, 2023. 1 minute
- c. Approve the following contracts: 1 minute
1. Allcrete, Inc. - IFB23-22 - Continuing Concrete Services; For services on an as-needed basis for the remainder of the current term of the Agreement through October 7, 2023; Amount: \$150,000.
  2. Patel, Greene & Associates, LLC - RFQ7-22 - Transportation Planning & Engineering Services - Amendment 1; For professional services on an as-needed basis during the term of the Agreement through July 8, 2024; Amount: \$75,000.

3. Tom's Sod Services, Inc. - IFB20-22 - Purchase, Delivery & Installation of Sod; For services on an as-needed basis for the remainder of the current term of the Agreement through July 14, 2024; Amount: \$500,000.
  4. LaFleur Nurseries & Garden Center, LLC - IFB22-22 - Landscape and Tree Installation; For services on an as-needed basis for the remainder of the current term of the Agreement through August 30, 2024; Amount: \$100,000.
- d. [Approve the following piggyback contracts:](#) 1 minute
1. Lytx, Inc. - GSA Contract #GA-35F-0623S - Video Subscription Services for Fleet Vehicles; For services on an as-needed basis during the term of the Agreement through September 7, 2026; Amount: \$200,000.
  2. Optimus Solar, LLC - Sourcewell Contract #RFP 042221 - Electric Vehicle Supply Equipment & Related Services; For goods and services on an as-needed basis during the term of the Agreement through July 20, 2025; Amount: \$150,000.
  3. AVIS Budget Group, Inc. - State of Florida Contract #78111808-20-1 - Rental Vehicles; For services on an as-needed basis during the term of the Agreement through September 30, 2025; Amount: \$75,000.
  4. CDW Government - Sourcewell Contract #081419-CDW - Technology Catalog Solutions; For goods and services on an as-needed basis during the term of the Agreement, contract term through November 1, 2024; Amount: \$500,000
  5. Wex, Inc. - State of Florida Contract #78181701-21-NASPO-ACS - Fuel Card Services; For services on an as-needed basis during the term of the Agreement through December 31, 2025; Amount: \$24,000

## **10. Action Items Requiring Discussion**

### **11. Public Hearings: Quasi-Judicial Matters**

**(Public participation and comment on these matters must be in-person.)**

### **12. Public Hearings: Non-Quasi Judicial Matters**

**(Public participation and comment on these matters may be virtual or in-person.)**

- a. [Ordinance amending Chapter 58, "Land Development Code", Article III, "Zoning Regulations" Section 58-87 and amending Chapter 114 "Waterways" to update the regulations concerning docks and boathouses. \(1st reading - tabled from April 26,](#) 15 minutes

**2023)**

- b. Ordinances relating to approximately 2.07 acres of real property at 1896; 1934; 1964; 1968; 1970 AND 1990 Kentucky Avenue. 10 minutes
- Annexation
  - Establish Commercial Future Land Use on the annexed parcels.
  - Establish Commercial (C-3) Zoning on the annexed parcels.
- c. Feasibility Study Recommendations 10 minutes
- Adopt City of Winter Park's Roadmap to 100% Renewable Energy.
  - Approve recommendations of Electric Utilities and Natural Resources and Sustainability Departments.
  - Resolution 2271-23 adopting amended Sustainability Action Plan containing new climate resiliency targets.

**13. City Commission Reports**

**14. Summary of Meeting Actions**

**15. Adjournment**





# City Commission **agenda item**

item type Invocation	meeting date May 24, 2023
prepared by Kim Breland	approved by
board approval	
strategic objective	

## subject

Reverend Maggie Alderman, Unity of Central Florida

## motion / recommendation

## background

## alternatives / other considerations

## fiscal impact



# City Commission **agenda item**

item type Mayor Report	meeting date May 24, 2023
prepared by Victoria Tabor	approved by Michelle del Valle, Randy Knight
board approval Completed	
strategic objective	

## subject

Green Business Award: Center for Health and Wellbeing and Nourish Coffee Bar + Kitchen

## motion / recommendation

## background

The Department of Natural Resources & Sustainability is recognizing the Center for Health and Wellbeing and Nourish Café + Kitchen, both as a Platinum level Green Businesses. Their efforts to divert food waste, lower their carbon footprint, as well as their LEED building certification makes them stand out in our community. Mayor Anderson will present an award to The Center for Health and Wellbeing and Nourish after Mia Brady's brief presentation recognizing the green businesses.

## alternatives / other considerations

## fiscal impact

## ATTACHMENTS:

[Green Business Recognition CFHW and Nourish](#)

# Green Business Recognition Program

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This program acknowledges businesses in Winter Park that have made substantial efforts to be more sustainable in terms of building efficiency, waste reduction, and consumer choices

There are currently 25+ recognized business in Winter Park

# Green Business Recognition Program





# LEED certified building



## How LEED works

LEED-certified buildings save money, improve efficiency, lower carbon emissions and create healthier places for people. They are critical to addressing climate change and meeting ESG goals, enhancing resilience, and supporting more equitable communities. LEED categories can also contribute toward meeting the U.N.'s Sustainable Development Goals. [Explore synergies between LEED and SDGs.](#)

To achieve LEED certification, a project earns points by adhering to prerequisites and credits that address carbon, energy, water, waste, transportation, materials, health and indoor environmental quality. Projects go through a verification and review process by GBCI and are awarded points that correspond to a level of LEED certification: Certified (40-49 points), Silver (50-59 points), Gold (60-79 points) and Platinum (80+ points).



**Platinum**

80+ points earned



**Gold**

60-79 points earned



**Silver**

50-59 points earned



**Certified**

40-49 points earned



# Education and community engagement



# Growing and prepping food onsite





# Sustainable packaging and waste reduction



# Green Business Recognition Program

Our Green Businesses help keep our city sustainable!



**PLATINUM**

WINTER PARK  
**GREEN BUSINESS**  
recognition program

**Center for  
Health & Wellbeing**

*Sustainability is at the core of everything we do at the Center for Health & Wellbeing. Through environmental wellbeing-focused community education programs, partnerships with community organizations that focus on sustainability and environmental awareness, and our status as a LEED-Silver certified facility, CHWB aims to promote green practices to our community in an impactful way.*

**THANK YOU FOR YOUR OUTSTANDING EFFORTS**

THE CITY OF WINTER PARK **sustainability** DIVISION

**PLATINUM**

WINTER PARK  
**GREEN BUSINESS**  
recognition program

**Nourish Coffee  
Bar + Kitchen**

*Nourish Coffee Bar + Kitchen aims to promote sustainability in our business practices and in the way we serve our customers in several ways. We use biodegradable serving products, produce our own hydroponic greens in our on-site garden, partner with local and organic vendors, and offer vegan and vegetarian menu options. And, as our business continues to grow, we will continue to evolve our sustainability practices as well.*

**THANK YOU FOR YOUR OUTSTANDING EFFORTS**

THE CITY OF WINTER PARK **sustainability** DIVISION



# City Commission **agenda item**

<b>item type</b> Mayor Report	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Craig O'Neil	<b>approved by</b> Clarissa Howard, Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## **subject**

Presentation: Winter Park Sidewalk Art Festival 2023 Best of Show

## **motion / recommendation**

- WPSAF board members will present artwork to the City Commission

## **background**

## **alternatives / other considerations**

## **fiscal impact**



# City Commission agenda item

item type City Manager Report	meeting date May 24, 2023
prepared by Rene Cranis	approved by Michelle del Valle, Randy Knight
board approval Completed	
strategic objective	

## subject

Winter Park Sunshine Project Presentation

## motion / recommendation

## background

Dr. Robb Lauzon, Project Director, will present the research of [WinterParkSunshine.org](http://WinterParkSunshine.org), a project of the University of Central Florida's Nicholson School of Communication and Media. Its purpose is to serve citizens of Winter Park by providing curated, indexed and searchable public data pertaining to the city's government to promote transparency, awareness, empowerment and civic engagement.

## alternatives / other considerations

## fiscal impact



# City Commission **agenda item**

item type City Manager Report	meeting date May 24, 2023
prepared by Rene Cranis	approved by
board approval	
strategic objective	

## subject

Update from staff on Winter Park Playhouse.

## motion / recommendation

## background

## alternatives / other considerations

## fiscal impact



# City Commission **agenda item**

<b>item type</b> Consent Agenda	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Rene Cranis	<b>approved by</b> Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## **subject**

Approve the minutes of the regular meeting, May 10, 2023

## **motion / recommendation**

## **background**

## **alternatives / other considerations**

## **fiscal impact**

## **ATTACHMENTS:**

[CC-min-2023-05-10.pdf](#)





# City Commission Regular Meeting Minutes

May 10, 2023 at 3:30 p.m.

City Hall, Commission Chambers  
401 S. Park Avenue | Winter Park, Florida

## Present

Mayor Phil Anderson, Commissioners Marty Sullivan, Sheila DeCiccio, Kris Cruzada, and Todd Weaver; City Manager Randy Knight; Assistant City Manager Michelle del Valle and City Clerk Rene Cranis.

### 1) Meeting Called to Order

Mayor Anderson called the meeting to order at 3:30 p.m.

### 2) Invocation

The invocation was provided by Father Stuart Shelby, All Saints Episcopal Church, followed by the Pledge of the Allegiance.

### 3) Approval of Agenda

**Motion made by Commissioner Sullivan to approve the agenda removing Item 5a; seconded by Commissioner DeCiccio. Motion carried unanimously with a 5-0 vote.**

### 4) Mayor Report

- a. Proclamation - Historic Preservation Month

Mayor Anderson read the proclamation declaring May 2023 as Historic Preservation Month and presented it to Director of Planning and Zoning Jeff Briggs.

He gave an update EDAB's evaluation of a retail report that speaks to "how to keep the magic" on Park Avenue. The report and recommendations will be presented to the Commission in the next couple of months. The report is available on the city's website.

### 5) City Manager Report

- a. Winter Park Sunshine Project Presentation

This was postponed to a future meeting.

Mr. Knight advised the agreement on the sale of the Kiwanis property will be on the next agenda and that the Kiwanis Club withdrew their application with Orange County for redevelopment of the property.

He noted the topic for the work session on May 25<sup>th</sup> is renewable energy. Approval of the Sustainability Action Plan is scheduled for the May 24<sup>th</sup> regular meeting and if approved the work session could be canceled.

## **6) City Attorney Report**

Mr. Ardaman advised that an Executive Session may be needed in the next month regarding an open case.

## **7) Non-Action Items**

- a. Board Appointment: Community Redevelopment Advisory Board (Mayor Anderson)

Mayor Anderson noted that in order to correct an error of an appointment to the CRAB, he reappointed Anjali Vaya to CRAB.

## **8) Public Comments | 5 p.m. or soon thereafter** (heard after old library discussion)

## **9) Consent Agenda**

- a. Approve the minutes of the regular meeting, April 26, 2023.
- B. Approve the minutes of the work session, April 27, 2023.
- c. Approve the following contracts:
  - 1. Kimley-Horn and Associates, Inc. - RFQ7-22 - Transportation Planning & Engineering Services - Amendment 1; For professional services on an as-needed basis during the term of the Agreement through June 3, 2024; Amount: \$75,000.
  - 2. Kisinger Campo & Associates Corp. - RFQ7-22 - Transportation Planning & Engineering Services - Amendment 1; For professional services on an as-needed basis during the term of the Agreement through June 15, 2024; Amount: \$75,000.
  - 3. Toole Design Group, LLC - RFQ27-21 - Continuing Urban Design Services - Amendment 1; For professional services on an as-needed basis during the term of the Agreement through June 15, 2024; Amount: \$25,000.
  - 4. Yang, Inc. - IFB13-19 - Electrician Services - Amendment 4; For services on an as-needed basis during the term of the Agreement through June 25, 2024; Amount: \$200,000.
  - 5. SGM Engineering, Inc. - RFQ9-19 - Professional MEP Engineering Services - Amendment 4; For professional services on an as-needed basis during the term of the Agreement through June 27, 2024; Amount: \$75,000.
  - 6. Calvin, Giordano & Associates, Inc. - RFQ9-19 - Professional MEP Engineering Services - Amendment 4; For professional services on an as-needed basis during the term of the Agreement through June 27, 2024; Amount: \$75,000.
  - 7. Electric Supply of Tampa - IFB16-19 - Purchase & Delivery of Conduit/Pipe - Amendment 10; For goods on an as-needed basis during the term of the Agreement through July 23, 2024; Amount: \$500,000.



8. GRESKO Utility Supply, Inc. - IFB16-19 - Purchase & Delivery of Conduit/Pipe - Amendment 10; For goods on an as-needed basis during the term of the Agreement through July 23, 2024; Amount: \$100,000.
9. Wesco Distribution - IFB16-19 - Purchase & Delivery of Conduit/Pipe - Amendment 31; For goods on an as-needed basis during the term of the Agreement through July 23, 2024; Amount: \$100,000.
10. Anixter, Inc. - IFB20-19 - Electric Utility O&M Materials - Amendment 4; For goods on an as-needed basis during the term of the Agreement through July 31, 2024; Amount: \$100,000.
11. GRESKO Utility Supply, Inc. - IFB20-19 - Electric Utility O&M Materials - Amendment 3; For goods on an as-needed basis during the term of the Agreement through July 31, 2024; Amount: \$150,000.
12. Electric Supply of Tampa - IFB20-19 - Electric Utility O&M Materials - Amendment 4; For goods on an as-needed basis during the term of the Agreement through July 31, 2024; Amount: \$250,000.
13. Howard Industries, Inc. - IFB8-20 - Single-Phase Transformers - Amendment 6; For goods on an as-needed basis during the term of the Agreement through August 12, 2024; Amount: \$2,000,000.
- d. Approve the following formal solicitations:
  1. GAI Consultants, Inc. - RFQ8-23 - General Planning Services
  2. Inspire Placemaking Collective, Inc. - RFQ8-23 - General Planning Services
  3. Redevelopment Management Associates, LLC - RFQ8-23 - General Planning Services
  4. GRESKO - IFB13-23 - Three Phase Transformers; Amount: \$828,710.
- e. Approve the following piggyback contracts:
  1. Top Line Recreation, Inc. - Clay County Contract RFP18/19-2 - Equipment & Amenities for Parks & Playgrounds; For goods on an as-needed basis during the term of the Agreement through May 28, 2024; Amount: \$175,000.
  2. Musco Lighting, Inc. - Clay County Contract RFP18/19-2 - Equipment & Amenities for Parks & Playgrounds; For goods on an as-needed basis during the term of the Agreement through May 28, 2024; Amount: \$100,000.
  3. Rep Services, Inc. - Clay County Contract RFP 18/19-2 - Equipment & Amenities for Parks & Playgrounds; For goods on an as-needed basis during the term of the Agreement through May 28, 2024; Amount: \$125,000.
- f. Approve Interlocal Agreement with the City of Maitland allowing Winter Park to execute Safe Routes to School - Hungerford work plan in the Maitland rights of way.

- g. Approve ARPA Funding Allocations - Stormwater Mobile Pump

**Motion made by Commissioner DeCiccio to approve the Consent Agenda; seconded by Commissioner Weaver.** There were no public comments. **Motion carried unanimously with a 5-0 vote.**

## **10) Action Items Requiring Discussion**

- a. Solicitation Scope Review & Approval

Mayor Anderson opened the discussion on the RFP for the old library and suggested starting with a review of the scope of services. He addressed Section 1.4, Project Design Guidelines, noting the preferred zoning is C-3A and suggested striking "no residential units on first floor" in the 2nd bullet and change the 4<sup>th</sup> bullet to state preference will be given to arts, culture, and non-profits on one of the floors.

Director of Planning and Zoning Jeff Briggs explained that C-3A zoning does not allow residential use on the first floor and that the existing R-4 zoning designation allows only residential units. If non-residential use is preferred on the first floor and residential use on the remaining floors, the property would need to be rezoned to C-3A. Discussion followed on zoning, potential limitations of residential use and whether to consider full residential use and risk losing flexibility.

Mayor Anderson withdrew his suggested changes and supported C-3A zoning since it allows mixed use but prohibits residential on the first floor. He spoke about allowed square footage under commercial zoning and increased square footage allowed with residential use which could be accomplished with an additional floor.

Commissioner Weaver feels it would not be economically viable to add another floor but additional square footage could be accomplished with a building annex or new building. Discussion followed on maximum height. Mayor Anderson said his intent is to set maximum parameters so neighbors are aware of limitations and that proposals are similar in terms of size. He suggested limiting the height to four stories or 55 feet.

Mayor Anderson said he would also like to set parameters for impervious surface and building footprint. Staff responded to questions on the property's current building coverage and code requirements. Mayor Anderson suggested adding a guideline that impervious coverage will not exceed existing impervious space and that the building footprint is no larger than 30%.

Commissioner Sullivan asked whether these parameters are hard or flexible. Mayor Anderson said he believes the parameters have to be met in order for responses to be considered conforming, but it does not prohibit the submittal of a non-conforming proposal. Discussion followed on the feasibility of having preferred design guidelines as opposed to hard requirements.

Commissioner Cruzada supported preferences. Commissioner Weaver suggested that more points/weight be given to proposals that preserve the existing building. Mayor Anderson disagreed as it may diminish responses.

Mayor Anderson suggested a neighborhood meeting with the commission before the RFP is released so the neighborhood is made aware of what is being considered and can provide input. Agreed to by consensus.

Mayor Anderson asked whether the letters of interest received by a number of organizations will be provided to the potential respondents to the RFP. Mr. Knight said the intent was to provide the letters of interest to the potential respondents who would contact organizations directly and be part of the respondent's proposal, unless an organization intends to submit a proposal separately.

Mayor Anderson said the message is that the city is trying to balance financial and community benefit and the financial benefit will likely be a land lease payment.

Commissioner Sullivan said he believes this was not intended to be a financial benefit, but for primarily a community asset, and that there would be no cost to the city and a desire to make little money or break-even.

**Motion made by Mayor Anderson to approve the scope of work as stated with the addition of preferences for a building lot coverage not to exceed 30%, impervious coverage not to exceed current impervious coverage and a maximum height of 4 stories and 55 feet; seconded by Commissioner Weaver.**

**Motion made by Commissioner Weaver to amend the motion to add a preference to retain the existing building without bias to add on to it; seconded by Commissioner Sullivan.**

Heather Alexander, Executive Director of Winter Park Playhouse, thanked city for its consideration for looking at best use of the old library site. They are open to ideas and looking for long-term land lease and would work with other non-profits for some space.

Bill Swartz, 2020 Taylor Avenue, suggested that the Playhouse could use the third floor for performances, the second floor for props, and the first floor for rental space to generate income. He said parking will be a problem regardless of use.

Theresa Smith Levin, Central Florida Vocal Arts, thanked the commission for their support of arts and culture. They do not have a physical location and are seeking space but would need the city's help to bring the building up to code. She spoke about their recent successful fundraising efforts, their mission, programs and partnerships.

Gary Deuce, SOAR, spoke about the program and partnerships. They have funding in place from private donors, partnerships and grants and will require no assistance from the city to upgrade the building. Their plan for the entire building includes an aerospace museum, auditorium, planetarium, and education and incubation programs.

Lawanda Thompson, 664 W. Lyman Avenue, asked if the city is giving under-represented non-profits operating in Hannibal Square the opportunity to be in the building. She spoke about programs offered by her non-profit that support the local community and asked the city to consider non-profits outside of arts and culture organizations.

Mayor Anderson explained that the city did an RFP soliciting letters of interest from non-profits and advised that non-profits can still submit letters which will included in RFP when it is released.

**Motion made by Mayor Anderson to amend the second bullet under Section 1.4 to add "restricted version of C-3A" and insert the exclusions agreed to in prior meetings; seconded by Commissioner Weaver. Motion carried a 5-0 vote.**

In response to comments, Mayor Anderson asked that the exclusions be circulated to the commission.

**Motion on the amendment to add a preference to retain the existing building carried with a 3-2 vote. Mayor Anderson and Commissioner DeCiccio voted no.**

**Main motion as amended carried with a 5-0 vote.**

This item was continued after Public Comments. A recess was held from 4:57 to 5:08 p.m.

## **8) Public Comments | 5 p.m. or soon thereafter**

Lawanda Thompson, 664 W. Lyman, noted and showed images of a large house being built next to the Heritage Center which she feels is inappropriate as it shows gentrification of the area which is in contrast to the history depicted in the Heritage Center. She asked that the city acquire the property through eminent domain for use as a city park or garden that compliments Heritage Center.

Angela Hinton, 2324 Berkshire Avenue, said she is interested in submitting a letter of interest for the old library space but was unable to find the link to submit a letter. Procurement Manager Jennifer Maier advised that it will be reopened and on the website under Procurement/OpenGov.

Bill Swartz spoke about his inability to obtain another board's agenda from a board member and confusion regarding approval of a dock permit and suggested that board members be reminded of the Government in the Sunshine Law and proper procedures for making motions.

## **10) Action Items Requiring Discussion (continued)**

### **a. Solicitation Scope Review & Approval**

Mayor Anderson opened the discussion on Seven Oaks Park and the city contributing air rights, but no funding, for a building to be constructed over the existing parking area.

He noted there are approximately 124 total spaces, which he feels will serve the current need with only 40-50 spaces being used regularly, but questioned how to ensure there is sufficient parking for the intended use. He said an air rights deal means the city is foreclosing the opportunity to use the pad as additional activation and to add parking to accommodate potential redevelopment. He spoke about the walking time from parking to destination as outlined in the OAO and whether the current Winter Park Playhouse is within that specified walking distance.

Commissioner DeCiccio noted that in OAO committee meetings, one thing promised to businesses was parking – at either end of Orange Avenue and Seven Oaks Park and she feels development will be curtailed if parking is not provided as promised.

Commissioner Weaver outlined other options: provide onsite parking by building over parking lot or provide diagonal rather than parallel parking (if Orange Avenue were narrowed to three lanes). He is reluctant to support a city funded parking garage without a revenue source. He said a staff parking study showed that only 40 spaces are needed.

Mayor Anderson explained his concern for building massing (volume), gating and compatible uses. He expressed a preference to establish parameters similar to the old library RFP and questioned whether there are additional uses to piggy back on a performance venue i.e., food establishments/bistro. With the walking distance parameters, he asked if the Playhouse could purchase its existing facility and use some of this parking to meet parking requirements. Discussion followed on time and distance to walk from venue to parking.

Mayor Anderson summarized his comments: make sure the city is ready to foreclose other parking options, determine a volume parameter of what could be allowed and discuss willingness to consider compatible uses.

Mr. Knight said staff would recommend that a decision be made first on whether to move forward on this “air space” proposal before preparing and releasing an RFP. He said it will be more difficult to meet parking requirements for the corridor if opportunity for parking garage is eliminated.

Mayor Anderson said he would like to revisit parking needs before making a decision that would forego the parking lot. He asked what future redevelopment looked like. Assistant Director of Planning and Zoning Allison McGillis advised that renovation of existing space is more likely as most redevelopment would happen on big parcels on either end of Orange Avenue. Commissioner DeCiccio suggested looking Jewett parking as well.

Commissioner Sullivan said the impetus for this was to assist WP Playhouse. Even if the city moves forward tonight, he feels a building cannot be constructed in time to keep

them operational given the upcoming lease termination. He believes building the playhouse above the existing parking lot is not a practical solution.

Commissioner Weaver asked for a brief recess which was held from 5:51 to 5:56 p.m.

Commissioner Weaver, after speaking with Ms. Alexander, said their architect advised that they could construct the building in nine months. The predicament is the city must own the property to secure TDT funding and the Playhouse needs a commitment from the city before securing donations or grant funding. He said that the Playhouse traffic is mainly in the evening and traffic for matinees during the week is from busses which does not impact parking. He feels it is a disservice to not support the Playhouse.

Commissioner DeCiccio asked whether the Playhouse could raise funds to purchase its existing location (listed for sale at \$4.2m) and utilize parking at Seven Oaks Park. Discussion followed on funding options and need for a waiver of the parking requirements since Seven Oaks Park exceeds the maximum walking distance.

Commissioner Cruzada said he is struggling with doing something now or not doing something while developing a strategy that will allow for growth in the area. He supported exploring TDT money that could help buy the current location but he does not want to preclude the Playhouse from moving to the Seven Oaks Park location. He is not inclined to allow no more than snacks and drinks with hope that patrons would support the surrounding restaurants.

Mayor Anderson summarized that there is not a consensus to push for a compatible additional use, that any food service would be an accessory use and that building parameters are defined by the OAO, leaving the matter of parking to be discussed.

Heather Alexander, Executive Director of the Playhouse, thanked the city for continuing discussions. She stated they have options to use other venues if construction takes longer and have asked the existing owner to allow them to stay longer after the sale, and have prepared a request for TDT funding which can be used for its current location.

**Motion made by Mayor Anderson to table to May 25, 2023; seconded by Commissioner Weaver.**

Commissioner DeCiccio asked that opportunities for purchasing the existing location be explored and potential funding sources for the next meeting. Division Director of OMB Peter Moore said he will confirm that CRA has a restriction to pay only fair market value and responded to questions on use of CRA funds.

Discussion returned to parking and consensus was to commit spaces at Seven Oaks Park in the evening for the Playhouse existing location.

**Motion to table carried unanimously with a 5-0 vote.**

### 11) Public Hearings: Quasi-Judicial Matters

- a. ORDINANCE 3271-23 - AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA, APPROVING THE PARTIAL VACATION OF THE HAVILAH PARK PLAT (PLAT BOOK O, PAGE 144) WITHIN THE BOUNDARIES OF THE PROPERTY LOCATED AT 900 AND 950 N. ORLANDO AVENUE OWNED BY HILL/GRAY SEVEN, L.L.C. AND HAVING ORANGE COUNTY TAX PARCEL NUMBERS 01-22-29-3452-02-010 AND 01-22-29-3452-01-080; PROVIDING FOR THE VACATION AND ABANDONMENT OF THE UTILITY EASEMENT RESERVED BY ORDINANCE NO. 1399; APPROVING THE TERMINATION OF VARIOUS EASEMENTS IN FAVOR OF THE CITY OF WINTER PARK ENCUMBERING THE PROPERTY LOCATED AT 900 AND 950 N. ORLANDO AVENUE AND AUTHORIZING THE EXECUTION OF NECESSARY TERMINATION INSTRUMENTS; PROVIDING FOR CONFLICTS, SEVERABILITY, AN EFFECTIVE DATE AND RECORDING. (2nd reading)

Attorney Ardaman read the ordinance by title.

**Motion made by Commissioner Weaver to adopt the ordinance; seconded by Commissioner DeCiccio.** There were no public comments. **Upon a roll call vote, Commissioners Sullivan, DeCiccio, Cruzada and Weaver and Mayor Anderson voted yes. Motion carried unanimously with a 5-0 vote.**

### 12) Public Hearings: Non-Quasi-Judicial Matters

### 13) City Commission Reports

Mayor Anderson -

- Said a Fix 426 neighborhood meeting is scheduled and feels it is better for it to remain a neighborhood meeting with only one commissioner present. After discussion, Commissioner Cruzada agreed to attend.

Commissioner DeCiccio -

- Thanked Parks and Recreation Director Jason Seeley for participating with the Rollins College environmental class who developed an Emerald Necklace strategy, which included a study of crosswalks. She asked staff to look at this portion of the report to consider addition of crosswalks in the area of Seven Oaks Park.

Commissioner Cruzada -

- Advised of Orange County Public School kickoff for the construction design for the high school on May 17<sup>th</sup> at 6 p.m. at the high school.

Mayor Anderson -

- Asked staff to research Heritage Center lot. Mr. Knight noted the city exchanged these lots for some Habitat lots but will provide additional details.

#### **14) Summary of Meeting Actions**

- Issued a proclamation for Historic Preservation Month, May 2023.
- Received report of EDAB work on “keeping the magic” on Park Avenue.
- Received notice of the reappointment of Anjali Vaya to Community Redevelopment Advisory Board.
- Approved the Consent Agenda.
- Old Library RFP:
  - Approved RFP for old library reuse with conditions: C-3 zoning with restrictions: impervious space does not exceed existing, building footprint can be expanded to 30% under certain conditions, building height maximum of 4 stories/55 feet.
  - Staff to reopen solicitation for letters of interest giving preference to reuse of existing building.
  - Schedule public meeting with surrounding neighbors to receive comments on the RFP.
- Tabled Seven Oaks Park discussion to look at parking and to explore potential of existing Playhouse property.
- Adopted Ordinance 3271-23 vacating portions of easements.
- Commissioner Cruzada agreed to attend the Fix 426 meeting.
- Mr. Knight to provide information on Heritage Center and adjacent property noted by Ms. Thompson.
- Provide report to Engineer Hong Lim to review information on crosswalks.

#### **15) Adjournment**

The meeting was adjourned at 6:31 p.m.

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Mayor Phillip M. Anderson

ATTEST:

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City Clerk Rene Cranis





# City Commission **agenda item**

<b>item type</b> Consent Agenda	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Rene Cranis	<b>approved by</b> Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## **subject**

Approve the minutes of the work session, May 11, 2023.

## **motion / recommendation**

## **background**

## **alternatives / other considerations**

## **fiscal impact**

## **ATTACHMENTS:**

[CCmin20230511 ws.pdf](#)



# City Commission Work Session Minutes

May 15, 2023 at 1:00 p.m.

City Hall, Commission Chambers  
401 S. Park Avenue | Winter Park, Florida

## Present

Mayor Phil Anderson, Commissioners Marty Sullivan, Sheila DeCiccio, Kris Cruzada, and Todd Weaver; City Manager Randy Knight; Assistant City Manager Michelle De Valle and City Clerk Rene Cranis.

### 1) Call to Order

Mayor Anderson called the meeting to order at 1:00 p.m.

### 2) Discussion Item(s)

#### a. West Fairbanks Annexation Cost-Benefit Study Results

Division Director of OMB Peter Moore identified the proposed annexation areas (Killarney, Kentucky/Oglesby and Lawndale) and the assumptions used in the analysis including inflation, cost and property tax estimates, growth, service levels, and population-driven intergovernmental tax revenue.

Mr. Moore reviewed area demographics and revenue sources. He noted that the Killarney area includes Killarney Elementary which would require a school resource officer. He spoke about EMS transport fees, water utility taxes, and revenues and noted the premium the city currently receives for accounts outside of city jurisdiction would end once the areas are annexed. The same rule would apply to electric utility taxes and revenues. He spoke about stormwater revenue fees based on citywide average and said the revenues may not cover costs.

Mr. Moore addressed present-day needs of police and fire for additional personnel, which are needed regardless of these annexations due to Ravaudage and other development. He reviewed costs for increased personnel and financial results over the course of five years. Mr. Knight added that increased development has increased response times. Ms. del Valle confirmed that 12 officers are needed regardless of any of these proposed annexations with hiring phased in over five years.

Mr. Moore noted Orange County's \$1M stormwater project on the west side of Lake Killarney and stormwater issues and identified opportunities for improvements. Mr. Knight said it may be financially feasible to divide the Killarney area into two areas; everything north and west of Cambridge and everything east of Cambridge. He spoke about the impacts of this idea as they relate to the stormwater project and police/fire response times.

Mayor Anderson asked about the response to emergency calls in the area. Fire Chief Dan Hagedorn explained which agency responds to calls for service - Orlando, Orange County, or Winter Park. Police Chief Tim Volkerson said Orange County typically will handle calls and will request Winter Park backup when needed. Discussion followed on staffing/costs for the new fire station and SRO for Lake Killarney Elementary.

Mr. Moore gave a summary of opinions for the annexation areas and spoke about additional staffing for public safety positions. He suggested the commission consider annexing the southern end of Fairbanks (Killarney and Lawndale) first because of development opportunities and preserving clear jurisdictional boundaries. In addition, he suggested annexing the Killarney area in phases to determine responsibility for stormwater improvement needs.

Discussion followed on financial results, net surplus/deficit, and redevelopment impacts. Mr. Moore noted the Killarney annexation will require a referendum. Mr. Briggs remarked that the city needs to consider marketing to move ahead with the Killarney annexation. He said marketing the annexation would be more appealing to the annexed area if the commission were to commit to hiring the needed public safety officers and suggested other marketing options. Discussion followed on ways to break the areas into segments by population and referendum costs. Mr. Knight added that a referendum could be put on the November ballot county-wide for area residents and put on the city-wide March ballot.

Staff responded to questions regarding bond issuance for stormwater improvements, developer responsibility for sanitary sewer improvements and Orange County's planned infrastructure improvements. In-depth discussion followed. Mr. Knight explained the limitations of a bond issue and the potential for lower interest rates.

Mayor Anderson asked for consensus to move forward with the Kentucky/Oglesby annexation. Commissioner DeCiccio said she would like to move forward with the annexation since the city would have control over redevelopment of the area. She spoke about the possibility of having affordable housing in the area. Discussion followed on a vision for the area and marketing.

Commissioner Weaver spoke about growth potential without the need to rezone and suggested focusing on the area as a way to pick up some of the costs. Commissioner Cruzada agreed. Mr. Briggs explained that it is difficult to predict how registered voters/renters will vote and may be dependent on property owners. Discussion followed on strategies for annexing the area and issues related to stormwater. Mayor Anderson remarked the city should be prudent with the end result and anticipate that stormwater needs should be fixed regardless of the outcome. Consensus was to move forward with Kentucky/Oglesby annexation.

Commissioner Weaver asked about the city gaining electric customers from Duke Energy through the annexations. Mr. Knight said Duke would have to agree and explained that with Ravaudage, the city had to pay 2 1/2 times the first year's gross revenue for the area to provide those customers and future customers with the city's electrical services. He said the scenario would be the same for the newly annexed areas. Mr. Knight explained that the city could have electric utility outside the city's boundaries but is effectively buying the territory. Ms. del Valle added that the city has requested to buy some of the other areas, but Duke is not interested.

Mayor Anderson asked if there is consensus to consider annexation of the Lawndale area north of Minnesota. He feels the city should start the process to see if there is interest from the residents and questioned whether the commercial area north of Minnesota should be annexed separately. Mr. Briggs said the commercial property owners don't want to be annexed and the only way to get the commercial area is to annex residential. Commissioner Cruzada said he would like to know Orange County's Vision 2050 plan for the area. Commissioner DeCiccio said to include the residential area or the annexation may not happen. Commissioner Weaver said he feels annexing the Kentucky/Oglesby area is a better option as it will generate the most revenue with the least impact and Commissioner Sullivan feels the Lawndale area should be brought into the city.

Mayor Anderson suggested revisiting whether to annex the main Killarney area until after the next election and the outcome of Orange County's planned infrastructure improvements. Consensus was to move forward with annexations of the Lawndale and Kentucky/Oglesby areas. Mayor Anderson asked about the vision for the Kentucky/Oglesby area. Mr. Briggs said the plan will be part of the upcoming comp plan discussion.

### **3) Adjournment**

The meeting adjourned at 2:26 p.m.

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Mayor Phillip M. Anderson

ATTEST:

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City Clerk Rene Cranis



# City Commission **agenda item**

<b>item type</b> Consent Agenda	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Michael Hall	<b>approved by</b> Rebecca Watt, Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b> Fiscal Stewardship.	

## **subject**

Approve the following contracts:

## **item list**

1. Allcrete, Inc. - IFB23-22 - Continuing Concrete Services; For services on an as-needed basis for the remainder of the current term of the Agreement through October 7, 2023; Amount: \$150,000.
2. Patel, Greene & Associates, LLC - RFQ7-22 - Transportation Planning & Engineering Services - Amendment 1; For professional services on an as-needed basis during the term of the Agreement through July 8, 2024; Amount: \$75,000.
3. Tom's Sod Services, Inc. - IFB20-22 - Purchase, Delivery & Installation of Sod; For services on an as-needed basis for the remainder of the current term of the Agreement through July 14, 2024; Amount: \$500,000.
4. LaFleur Nurseries & Garden Center, LLC - IFB22-22 - Landscape and Tree Installation; For services on an as-needed basis for the remainder of the current term of the Agreement through August 30, 2024; Amount: \$100,000.

## **motion / recommendation**

Commission approve items as presented and authorize the Mayor to execute the Agreements.

## **background**

1. A formal solicitation was issued on July 29, 2022. The City received 5 bid responses and awarded the contract to Allcrete, Inc. on October 6, 2022. The contract was signed on October 7, 2022 and the term was for one year with the option of 4 one-year renewals. Additional Funds are needed for the upcoming work on the New York Streetscape Project.
2. A formal solicitation was issued on February 2, 2022. The City received 6 bid responses and awarded the contract to Patel, Greene & Associates, LLC on April 13, 2022. The contract was signed on July 8, 2022 and the term was for one year with the option of 4 one-year renewals. Amendment 1 will renew the contract for an

additional year.

3. A formal solicitation was issued on May 27, 2022. The City received 1 bid response and awarded the contract to Tom's Sod Services, Inc. on July 13, 2022. The contract was signed on July 14, 2022 and the term was for one year with the option of 4 one-year renewals. Amendment 1 will renew the contract for an additional year.
4. A formal solicitation was issued on July 8, 2022. The City received 1 bid response and awarded the contract to LaFleur Nurseries & Garden Center, LLC on August 24, 2022. The contract was signed on August 30, 2022 and the term was for one year with the option of 4 one-year renewals. Amendment 1 will renew the contract for an additional year.

#### alternatives / other considerations

N/A

#### fiscal impact

Total expenditure included in approved budgets.



# City Commission **agenda item**

<b>item type</b> Consent Agenda	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Michael Hall	<b>approved by</b> Jennifer Maier, Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b> Fiscal Stewardship.	

## **subject**

Approve the following piggyback contracts:

## **item list**

1. Lytx, Inc. - GSA Contract #GA-35F-0623S - Video Subscription Services for Fleet Vehicles; For services on an as-needed basis during the term of the Agreement through September 7, 2026; Amount: \$200,000.
2. Optimus Solar, LLC - Sourcewell Contract #RFP 042221 - Electric Vehicle Supply Equipment & Related Services; For goods and services on an as-needed basis during the term of the Agreement through July 20, 2025; Amount: \$150,000.
3. AVIS Budget Group, Inc. - State of Florida Contract #78111808-20-1 - Rental Vehicles; For services on an as-needed basis during the term of the Agreement through September 30, 2025; Amount: \$75,000.
4. CDW Government - Sourcewell Contract #081419-CDW - Technology Catalog Solutions; For goods and services on an as-needed basis during the term of the Agreement, contract term through November 1, 2024; Amount: \$500,000
5. Wex, Inc. - State of Florida Contract #78181701-21-NASPO-ACS - Fuel Card Services; For services on an as-needed basis during the term of the Agreement through December 31, 2025; Amount: \$24,000

## **motion / recommendation**

Approve items as presented and authorize the Mayor to execute the Agreements.

## **background**

1. The Cooperative Purchasing Program issued a formal solicitation to award this contract.
2. The Cooperative Purchasing Program in partnership with the State of Minnesota issued a formal solicitation to award this contract.
3. The State of Florida issued a formal solicitation, #78111808-20-1 for Rental Vehicles, to award this contract.

4. The Cooperative Purchasing Program in partnership with the State of Minnesota issued a formal solicitation to award this contract.
5. The Cooperative Purchase Program in partnership with the State of Florida issued a formal solicitation to award this contract.
- 6.

**alternatives / other considerations**

N/A.

**fiscal impact**

Total expenditures included in approved budgets.





# City Commission agenda item

<b>item type</b> Public Hearings: Non-Quasi Judicial Matters (Public participation and comment on these matters may be virtual or in-person.)	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Jeffrey Briggs	<b>approved by</b> Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## subject

Ordinance amending Chapter 58, "Land Development Code", Article III, "Zoning Regulations" Section 58-87 and amending Chapter 114 "Waterways" to update the regulations concerning docks and boathouses. **(1st reading - tabled from April 26, 2023)**

## motion / recommendation

Staff Recommendation and Recommendation from P&Z; Lake Killarney Board and Lakes and Waterways Board is for approval.

## background

This ordinance was tabled by the City Commission on April 26th to explore modifications that would prevent circumstances involving egregious impacts upon lake views and navigation. The Lakes and Planning staff met with the City Attorney and developed new text (*in italics*) as follows, that was also reviewed by the Lakes and Waterways Board:

(4) All new docks and boathouses shall be constructed no closer than ten (10) feet from a side lot line, as measured on the land and may not extend beyond the property line extended into the lake for that distance of the structure. This side setback can be reduced to five (5) feet if written approval is presented from the adjacent property owners, but may not extend beyond the projected property line extended. *In order to mitigate or avoid impediments to navigation at the entrances and exit of canals, within streams, within narrow areas of lakes, or proximate to weirs, dams and drainage structures, the applicable Lake Board conducting reviews of proposed docks and boathouses shall have the authority to condition approval on: (i) the reduction of the width and size of docks and boathouses; (ii) the alteration of the location of dock and boathouses; (iii) alteration of the configuration of docks and boathouses; or (iv) any combination thereof; in such determination the applicable Lake Board may, among other relevant factors of safe navigation, consider the logistics of cues of*

boats awaiting clearance as well as the features of weirs, dams, drainage structures and stream drainage for any waterfront property. The applicable Lakes Board shall also have the authority to condition approval on the alteration of the location of a dock and boathouse when untypical property lines would create a situation of a new dock and/or boathouse being located directly behind a single-family residential dwelling unit (as the two side walls of the house are extended from the rear of the house to the shoreline/waterline) on an adjacent property regardless of the affected property owners objection or lack of objection to such a chosen location.

The intent of this new text is to clearly indicate that the applicable Lake Board can require relocation of a proposed dock or boathouse if it impedes navigation or when it is located on the lake directly behind a home. The applicable Lake Board also has the ability to reduce the size of such a dock or boathouse.

Otherwise, the ordinance as previously presented:

1. Transfers variance authority from the Board of Adjustment to the applicable Lakes Board.
2. Clarifies the purpose and intent of the Lake Board reviews.
3. Specifies the minimum submittals required for application for review by the applicable Lakes Board.
4. Specifies the required setbacks and roof pitch.
5. Incorporates maintenance requirements for waterfront structures.

## **alternatives / other considerations**

## **fiscal impact**

## **ATTACHMENTS:**

[May 2023\\_Ord. Updating Boathouse Regs\\_City Attorney version.docx](#)

ORDINANCE \_\_\_\_-23

AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA AMENDING CHAPTER 58, "LAND DEVELOPMENT CODE", ARTICLE III, "ZONING REGULATIONS" SECTION 58-87 "LAKEFRONT LOTS, CANALFRONT LOTS, STREAMFRONT LOTS, REPEALING THE REGULATIONS ON BOATHOUSES AND DOCKS AND AMENDING CHAPTER 114 "WATERWAYS" TO INCORPORATE AND UPDATE THE REGULATIONS CONCERNING DOCKS AND BOATHOUSES, PROVIDING FOR CODIFICATION, SEVERABILITY, CONFLICTS AND AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Winter Park deems it necessary for the purpose of providing environmental protections for the City in the management of construction on waterfront properties on lakes, canals and streams to clarify the authority and requirements of the appointed boards having jurisdiction in the review of waterfront construction and of docks, boathouses and gazebos and in furtherance of the protection of due process and the general welfare of the City as set forth in this Ordinance.

WHEREAS, the City Commission hereby finds that this Ordinance serves a legitimate government purpose and is in the best interests of the public health, safety, and welfare of the citizens of Winter Park, Florida and is intended to promote, enable and facilitate economic competition;

NOW THEREFORE, BE IT ENACTED by the City Commission of the City of Winter Park, Florida, after due notice and public hearing, that:

SECTION 1. That Chapter 58 "Land Development Code", Article III "Zoning Regulations, Section 58-87 "Lakefront lots, canalfront lots, streamfront lots, boathouses and docks" of the City of Winter Park Land Development Code is hereby amended as shown below to repeal the regulations for docks and boathouses in order to transfer such regulations as may be amended to Chapter 114 "Waterways". ( ~~stricken through~~ language are deletions):

- ARTICLE III ZONING REGULATIONS.
- Sec. 58-87. - Lakefront lots, canalfront lots, streamfront lots, boathouses and ~~docks~~ other waterfront properties.

~~(c) Docks and boathouses. The following minimum or maximum standards shall apply to all construction or renovation of docks and boathouses:~~

~~(1) Before a building permit is issued, the plans for docks and boathouses shall be approved by the lakes and waterways board after review of comments from city staff and notification of the adjacent lakefront property owners.~~

~~(2) The total area of docks and boathouses built at the water's edge over land and water shall not exceed 600 square feet. In the case of canalfront lots (other than~~

~~boathouse lots on canals as set forth in subsection (f) hereafter), the maximum total area of docks, boathouses, decks, stairs and any other attachments shall be based on the length of the canal frontage as follows:~~

- ~~a. Seventy five feet or less of frontage, 450 sq. ft.~~
- ~~b. Seventy six feet to 100 feet of frontage, 500 sq. ft.~~
- ~~c. Over 100 feet of frontage, 550 sq. ft.~~
- ~~d. The maximum width of canal boathouses shall be 20 feet.~~

~~(3) All new docks and boathouses shall be constructed ten feet from a side lot line. This side setback can be reduced to five feet if written approval is presented from the adjacent property owners.~~

~~(4) All new docks and boathouses shall not extend over 30 feet into the water from the elevations specified in this section. However, on Lake Killarney the maximum distance may be 50 feet.~~

~~(5) The highest point of a boathouse or gazebo roof or any railing shall not exceed 11 feet and the roofs must be pitched so as to eliminate flat roofs and use of such areas as sundecks. The height shall be measured from the surface of the dock or floor to the highest point of the roof or railing. In addition, the surface of any dock, sundeck or floor of any boathouse, gazebo, etc., shall not be more than two feet above the elevations specified in this subsection.~~

~~(6) In order that all docks or boathouses be utilized only for boating and other recreational activities and not as living space, there shall be no bathrooms or cooking facilities permitted in them, nor as an improvement to any existing boathouse. There also shall not be any enclosed rooms over water except for storage rooms limited in size to a maximum of 80 square feet.~~

~~(7) Only one boathouse shall be permitted for each lakefront property owner. In the case of common ownership of lakefront property such as in a condominium arrangement or property owned by a subdivision, there shall only be one boathouse permitted.~~

~~(8) The sale or lease of a portion of lakefront after January 1, 1980, shall be construed as a subdivision and shall not enable the owners to make application for a dock and boathouse unless that subdivision has received the approval of the city commission.~~

~~(9) Canal boathouses shall be located so as not to interfere with navigation and to result in the minimum loss of existing large oak, pine or cypress trees. Electric service shall be provided via underground wiring. On lots that are divided by a public street, landscape buffering shall be required to substantially cover 50 percent of the structure as viewed from the street. Boathouses shall only be painted or have exterior covering of a color that blends in with and does not~~

~~detract from the natural surroundings. Off-street parking areas shall remain without asphalt, concrete, brick, gravel, grass paver or other improved surface.~~

~~(10) As a condition for a permit to build or repair any lakefront dock or boathouse, the lakefront water area along shorelines that do not meet the vegetation standards of subsection 114-6(a) of this Code shall be required to be planted so that no more than 50 feet, or 50 percent (whichever is less) of the shoreline remains clear of vegetation.~~

~~(f) Boathouse lots on canals. The boathouse lots which exist along the canals interconnecting the lakes within the city were platted and accepted by the city under the premise that these lots would serve as lake access for the residents of that subdivision. As such, the purpose and intention of these boathouse lots is to serve as accessory lots to the main residential properties within that subdivision. In accordance with the policies contained within the comprehensive plan, the following regulations shall apply:~~

~~(1) The buildability and use of all canal boathouse lots, which are determined to be accessory lots, shall be restricted to the owners of real property within the subdivision in which these accessory boathouse lots were platted.~~

~~(2) Canal boathouse lots which are held January 1, 1981, by property owners residing outside of the subdivision for which they are platted shall be nonconforming boathouse lots which may still be used for constructing a boathouse and for lake access. However, any canal boathouse lots owned by real property owners on January 1, 1981, in the subdivision for which they were platted, shall only be buildable and used to serve the lake access needs of residents of that subdivision.~~

~~(3) Minimum lot widths shall be 50 feet.~~

~~(4) Canal boathouses shall be constructed a minimum of five feet from side lot line. There shall be no front setback.~~

~~(5) The highest point of a canal boathouse shall be no more than ten feet above the ordinary high water elevation of the closest lake as detailed in this section.~~

~~(6) Canal boathouses shall not exceed 400 square feet in size for all areas of boathouses, stairs, and decking.~~

~~(7) Canal boathouses shall be located so as not to interfere with navigation and to result in the minimum of loss of existing large oak, pine or cypress trees. Electric service shall be provided via underground wiring. Landscape buffering shall be required to substantially cover 50 percent of the structure as viewed from the street. Boathouses shall only be painted or have exterior covering of a color that blends in with and does not detract from the natural surroundings. Off-street~~

~~parking areas shall remain without asphalt, concrete, brick, gravel, grass paver or other improved surface.~~

SECTION 2. That Chapter 114 "Waterways", is hereby amended by establishing a new Section 114-31 in order to transfer the existing regulation of boathouse and docks from the Chapter 58, "Zoning Regulations" to the Chapter 114, "Waterways" Section 114-31 as shown below as amended. (underlined language are additions; ~~stricken through~~ language are deletions; subsections not included are not being modified):

Sec. 114-31 – Regulations for boathouses, docks and other waterfront structures.

(a) Boathouses, docks and other waterfront structures. It is the intent of this section to insure that boathouses, docks, gazebos and any other structures on the waterfront of properties including canalfront lots, lakefront lots and streamfront lots are constructed or placed such that no boating hazards will be created, that views of water from adjoining waterfront properties will not be unduly impaired; that existing trees shall be preserved to the degree reasonably possible and that the appearance of the property and the shore when viewed from the water will be kept as natural as reasonably possible. The city's lakes, canals and streams are among the city's greatest assets, and it is in the public interest to require that their aesthetic appeal. The following minimum or maximum standards and procedures shall apply to all construction or renovation of boathouses, docks and other waterfront structures.

(1) Board approval required: Before a building permit is issued, the plans for boathouses, docks and any other waterfront structures shall be approved by either the Lakes and Waterways Board or Lake Killarney Board, pursuant to their jurisdictions. This shall be done at a public hearing after review of comments from city staff and notification of the adjacent waterfront property owners. Applicants are encouraged to provide plans to the adjacent waterfront neighbors in order for them to provide consent or objection to such applications. However, review and approval of boathouses, docks and gazebos shall not be required if the structure is replacing an existing boathouse, dock or gazebo and is in the same location and is meeting the code requirements set forth in this section. The review and approval by the Lakes and Waterways Board or Lake Killarney Board is only required when variances are requested or when there is not an existing boathouse, dock or gazebo on the property/water or when the location of the boathouse, dock or gazebo is being changed by more than five feet from the current location.

(2) Application submission requirements: Applications for docks, boathouses, gazebos or any other construction over the water must contain the following information and references thereto of "dock" shall also include boathouses, gazebos and any other construction over the water:

(a) The original signature(s) of the property owner(s) of the upland portion of the parcel where the dock is to be constructed;

(b) The original signature(s) of the applicant(s), on an application form and payment of any fees, as provided for by the city, and if the applicant is not the property owner, an authorization to apply on their behalf;

(c) Satisfactory evidence of title such as an instrument or property appraiser information indicating ownership extends to the shoreline or legal permission to construct or modify a dock and use of the submerged lands;

(c) A copy of a survey of the real property that accurately depicts current conditions including any trees within the shoreline area proposed for the construction or within 15 feet of such construction;

(d) A site plan based upon the survey depicting the exact location of the proposed dock including proposed setbacks as measured on the land and from the projection of the property line in a straight line following the angle of the property line out into the water for the distance of the dock and which includes the following:

1. An arrow indicating the northerly direction of the sketch and scale of the drawing and the name of the water body (surface water) that the dock structure is to be located;

2. The exact distance between the existing shoreline measured from the OHWE to the furthest point where the dock is to be constructed or is currently located;

3. The exact setback distance from the closest property line measured on the land and the projected property line out into the lake to all portions of the dock and setback thereto;

(e) Floor plan, elevations, deck and roof height above OHWE and construction materials of the dock;

(f) The current water depth at the end of the dock and at all proposed mooring locations;

(g) The length of the dock, as measured from the OHWE to the point most waterward of the OHWE;

(h) The location of any conservation easement area or wetland, if applicable, within twenty (20) feet from any portion of the dock;



(i) A description of submerged and emergent vegetation types occurring within the area proposed for construction.; and a mitigation plan offsetting adverse impacts to the vegetative areas if applicable;

(j) If the request includes a variance from any of the terms of this section regarding the setbacks, height or size of a structure, then a signed letter or email of no objection from the abutting or affected shoreline property owner(s). The letter or email of no objection must identify the variance request on the site plan for the proposed dock and a copy of the site plan and site plan must be attached to the letter.

(3) Development standards: The total area of boathouses, docks and any other waterfront structure built over land and/or water shall not exceed six hundred (600) square feet. In the case of canal-front lots (other than the Venetian Canal boathouse lots as set forth in subsection (b) hereafter), the maximum total area of docks, boathouses, decks, stairs and any other attachments shall be based on the length of the canal frontage as follows:

(a) Seventy-five feet or less of frontage, 450 sq. ft.

(b) Seventy-six feet to 100 feet of frontage, 500 sq. ft.

(c) Over 100 feet of frontage, 550 sq. ft.

(d) The maximum width of canal boathouses shall be 20 feet.

(4) All new docks and boathouses shall be constructed no closer than ten (10) feet from a side lot line, as measured on the land and may not extend beyond the property line extended into the lake for that distance of the structure. This side setback can be reduced to five (5) feet if written approval is presented from the adjacent property owners, but may not extend beyond the projected property line extended. In order to mitigate or avoid impediments to navigation at the entrances and exit of canals, within streams, within narrow areas of lakes, or proximate to weirs, dams and drainage structures, the applicable Lake Board conducting reviews of proposed docks and boathouses shall have the authority to condition approval on: (i) the reduction of the width and size of docks and boathouses; (ii) the alteration of the location of dock and boathouses; (iii) alteration of the configuration of docks and boathouses; or (iv) any combination thereof; in such determination the applicable Lake Board may, among other relevant factors of safe navigation, consider the logistics of cues of boats awaiting clearance as well as the features of weirs, dams, drainage structures and stream drainage for any waterfront property. The applicable Lakes Board shall also have the authority to condition approval on the alteration of the location of a dock and boathouse when untypical property lines would create a situation of a new dock and/or boathouse being located directly behind a single-family residential dwelling unit (as the two side walls of the house are extended from the rear of the house to the shoreline/waterline) on an adjacent property regardless



of the affected property owners objection or lack of objection to such a chosen location.

(5) All new docks and boathouses shall not extend over thirty (30) feet into the water from the elevations specified in this article. However, on Lake Killarney the maximum distance may be fifty (50) feet.

(6) The highest point of a boathouse or gazebo roof or any railing shall not exceed eleven (11) feet and the roofs must be pitched with a minimum 2:12 slope on all sides of the peak, so as to eliminate flat roofs and use of such areas as sundecks. The height shall be measured from the surface of the dock or floor to the highest point of the roof or railing. In addition, the surface of any dock, sundeck or floor of any boathouse, gazebo, etc., shall not be more than two (2) feet above the elevations specified in this subsection.

(7) In order that all boathouses or other waterfront structure, be utilized only for boating and other recreational activities and not as living space, there shall be no bathrooms or cooking facilities permitted in them, nor as an improvement to any existing boathouse. There also shall not be any enclosed rooms over water except for storage rooms limited in size to a maximum of eighty (80) square feet.

(8) Only one (1) boathouse shall be permitted for each lakefront or waterfront property owner. In the case of common ownership of lakefront property such as in a condominium arrangement or property owned by a subdivision, there shall only be one (1) boathouse permitted. However, based upon the relative lake frontage of a multi-family residential the respective board may consider that factor in the consideration of variances.

(9) The sale or lease of any portion of lakefront or waterfront, shall be construed as a subdivision and shall not enable the owners to make application for a dock and boathouse unless that subdivision has received the approval of the City Commission.

(10) Canal boathouses shall be located so as not to interfere with navigation and which result in the minimum loss of existing large oak, pine or cypress trees. Electric service shall be provided via underground wiring. In situations where canal-front or waterfront lots are separated by a public street from the principal structure, landscape buffering shall be required to substantially cover fifty (50%) percent of the structure as viewed from the street. Boathouses shall only be painted or have exterior covering of a color that blends in with and does not detract from the natural surroundings. Off-street parking areas shall remain without asphalt, concrete, brick, gravel, artificial turf, grass paver or other types of impervious surface.

(11) As a condition for a permit to build or repair any lakefront dock or boathouse, the lakefront water area along shorelines that do not meet the vegetation standards of this Code shall be required to be planted so that no more than fifty (50) feet, or fifty (50%) percent (whichever is less) of the shoreline remains clear of vegetation.

(12) The dock or boathouse must not adversely affect the rights of other persons or other property owner's use of, and access to, the surface water or constitute a navigation hazard.

(b) Boathouse lots on the Venetian Canal and Kraft Gardens. The Kronenberger subdivision boathouse lots which exist along the Venetian Canal interconnecting Lake Osceola and Lake Maitland or that exist on Lake Maitland adjacent to Kraft Gardens were platted and accepted by the city under the premise that these lots would serve as lake access and accessory uses only for the residents of that subdivision. As such, the purpose and intention of these boathouse lots is to serve as accessory lots to the main residential properties within that subdivision. In accordance with the policies contained within the comprehensive plan, the following regulations shall apply to these properties:

(1) The buildability and use of all canal boathouse lots, which are determined to be accessory lots, shall be restricted to the owners of real property within the Kronenberger subdivision in which these accessory boathouse lots were platted.

(2) Such canal or lake boathouse lots which are held January 1, 1981, by property owners residing outside of the subdivision for which they are platted shall be nonconforming boathouse lots which may still be used for constructing a boathouse and for lake access. However, any such canal or lake boathouse lots owned by real property owners on January 1, 1981, in the subdivision for which they were platted, shall only be buildable and used to serve the lake access needs of residents of that subdivision.

(3) Minimum lot widths shall be fifty (50) feet.

(4) Canal boathouses shall be constructed a minimum of five (5) feet from side lot line. There shall be no front setback.

(5) The highest point of a canal boathouse shall be no more than ten (10) feet above the ordinary high-water elevation of the closest lake as detailed in this section.

(6) Canal boathouses shall not exceed four hundred (400) square feet in size for all areas of boathouses, stairs, and decking. Lake lots shall be permitted the typical lake dimensions.

(7) Canal boathouses shall be located so as not to interfere with navigation and to result in the minimum of loss of existing large oak, pine or cypress trees. Electric service shall be provided via underground wiring. Landscape buffering shall be required to substantially cover fifty (50%) percent of the structure as viewed from the street. Boathouses shall only be painted or have exterior covering of a color that blends in with and does not detract from the natural surroundings. Off-street parking areas shall remain without asphalt, concrete, brick, gravel, pavers, or other improved surface. The remainder of the boathouse lot shall remain composed entirely of

landscape materials which shall preclude gravel, fire pits, patios, sheds, storage bins or any other accessory structure or use, other than landscaped area.

(c) Dock maintenance and repair; minor modifications.

(a) Dock maintenance and repair. Docks must be maintained in a safe and useable condition. All maintenance and repair activities must maintain the original design and original footprint of the dock, as approved in the boat dock construction permit. If the design and footprint of the dock will change as a result of a maintenance or repair activity, approval of a minor modification or a new permit will be required. Best management practices must be used during all maintenance and repair activities to prevent soil erosion and water quality violations in the project area.

(b) Owner's duty to repair, replace, or remove unsafe structures. The owner(s) of property where a dock is located must promptly repair, replace, or remove a dock structure, or part(s) of the structure, that because of dilapidation, deterioration, decay, faulty construction, is deemed structurally deficient or is in deteriorated sufficient to indicate such as evidenced by rotten or missing wood, peeling paint, missing shingles and the like.

(d) Retaining walls or seawalls. The construction of retaining walls within fifteen (15) feet of the ordinary high-water elevation or seawalls shall be done in accordance with the Lakeshore Protection regulations within this Code of Ordinances.

SECTION 3. CODIFICATION. Sections 1 and 2 of this Ordinance shall be incorporated into the City of Winter Park Code of Ordinances.

SECTION 4. SEVERABILITY. The divisions, sections, subsections, paragraphs, sentences, clauses and phrases of this Ordinance are severable, and if any phrase, clause, sentence, paragraph, subsection, section, or division of this Ordinance shall be declared invalid, unconstitutional or unenforceable by the valid judgment or decree of a court of competent jurisdiction, such invalidity, unconstitutionality or unenforceability shall not affect any of the remaining phrases, clauses, sentences, paragraphs, subsections, sections, and divisions of this Ordinance. The City Clerk is given liberal authority to ensure proper codification of this Ordinance, including the right to correct scrivener's errors.

SECTION 5. CONFLICTS. In the event of a conflict between this Ordinance and any other ordinance of the City of Winter Park, this Ordinance shall control to the extent of such conflict.

SECTION 6. EFFECTIVE DATE. This Ordinance shall take effect on April 1, 2023 upon its passage and in accordance with Florida law. Any project which has applied for or

received an approval from the Lakes and Waterways Board or Lake Killarney Board prior to that date or has submitted an application for an approval by either of those boards prior to that date shall be vested under the previous code related to waterfront lots.

ADOPTED at a regular meeting of the City Commission of the City of Winter Park, Florida held in City Hall, Winter Park, on this \_\_\_\_ day of \_\_\_\_\_, 2023.

---

Phillip M. Anderson, Mayor

ATTEST:

---

Rene Cranis, City Clerk



# City Commission agenda item

<b>item type</b> Public Hearings: Non-Quasi Judicial Matters (Public participation and comment on these matters may be virtual or in-person.)	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Jeffrey Briggs	<b>approved by</b> Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## subject

Ordinances relating to approximately 2.07 acres of real property at 1896; 1934; 1964; 1968; 1970 AND 1990 Kentucky Avenue.

## item list

- Annexation
- Establish Commercial Future Land Use on the annexed parcels.
- Establish Commercial (C-3) Zoning on the annexed parcels.

## motion / recommendation

Staff recommendation is for approval.

## background

The City of Winter Park received a request to annex the four properties at 1934, 1964, 1968, and 1970 Kentucky Avenue, from unincorporated Orange County, into the City.

When approved, the City needs to establish a Commercial Future Land Use designation in the Comprehensive Plan and Commercial (C-3) zoning on these properties. The properties currently have the same Commercial future land use and Commercial (C-3) zoning in Orange County.

Per the policies of the Comprehensive Plan, the City is interested in annexing all of the properties on the south side of Kentucky Avenue in this block From Formosa Avenue to Clay Street. They are all currently zoned Commercial (C-3). Chapter 171 of Florida Statutes regarding annexation allows cities, when annexing commercial property, to include other contiguous properties as long as more than 50% of the property and parcels have voluntarily requested annexation. As a result, the City has included the two adjacent properties at 1896 and 1990 Kentucky within the annexation.

There is a proposed development plan included in the agenda materials to show how the owners intend to develop this vacant site as well as their property across on the north side of Kentucky Avenue. That development plan is included just for informational purposes. The City Commission is not approving the development plans. Just the annexation and new city future land use and zoning designations, again same as now in Orange County.

#### [alternatives / other considerations](#)

#### [fiscal impact](#)

ATTACHMENTS:

[Kentucky Annex Map.pdf](#)

ATTACHMENTS:

[Annexation Ordinance 3270-23.pdf](#)

ATTACHMENTS:

[Ord. Comp. Plan\\_FLU 1990-1896 Kentucky Ave.doc](#)

ATTACHMENTS:

[Ord. Zoning \\_1990-1896 Kentucky Ave.doc](#)

ATTACHMENTS:

[Annex Ad.docx](#)

ATTACHMENTS:

[Concept Site Plan.pdf](#)

ATTACHMENTS:

[Building Rendering.pdf](#)






## PROPOSED ANNEXATION

### Kentucky Avenue Properties

City of Winter Park  
Florida

#### LEGEND

-  Annexation Area
-  Orlando
-  Unincorporated
-  Winter Park





## **ORDINANCE 3270-23**

**AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA, PROVIDING FOR THE ANNEXATION OF APPROXIMATELY 2.07 ACRES OF REAL PROPERTY LOCATED AT 1896; 1934; 1964; 1968; 1970 AND 1990 KENTUCKY AVENUE PLUS THE RIGHT-OF-WAY OF KENTUCKY AVENUE FROM FORMOSA AVENUE TO CLAY STREET, AS MORE SPECIFICALLY DESCRIBED HEREIN, INTO THE MUNICIPAL BOUNDARIES OF THE CITY OF WINTER PARK; REDEFINING THE CITY BOUNDARIES TO GIVE THE CITY OF WINTER PARK JURISDICTION OVER SAID PROPERTY; PROVIDING FOR SEVERABILITY; PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, the City of Winter Park proposes to annex six parcels on Kentucky Avenue and has received a voluntary annexation petition from the owners of four of the six parcels; and

**WHEREAS**, the Subject Properties proposed for annexation consist of 1896 Kentucky Avenue (12-22-29-6172-03-100); 1934 Kentucky Avenue (12-22-29-6172-03-110); 1964 Kentucky Avenue (12-22-29-6172-03-120); 1968 Kentucky Avenue; (12-22-29-6172-03-130); 1970 Kentucky Avenue (12-22-29-6172-03-140); and 1990 Kentucky Avenue (12-22-29-6172-03-150); such private properties constituting Lots 10 through 15, Block C, Olympia Heights as recorded in Plat Book "J", Page 61 of the Public Records of Orange County, Florida.

**WHEREAS**, the City of Winter Park has determined that the Subject Properties are reasonably compact and contiguous to the municipal limits of the City of Winter Park, that annexation of the Subject Properties will not result in the creation of an enclave and that the Subject Properties meet the prerequisites and standards set forth in Section 171.0413 and 171.043, Fla. Stat., for a commercial area with no registered voters within which the owners of four of the six parcels to be annexed have consented to the annexation which constitutes more than 50% of the parcels to be annexed and more than 50% of the private land area included in the annexation into the City of Winter Park; and

**WHEREAS**, the City of Winter Park has provided adequate notice required by general law for the annexation of the Subject Properties and has conducted the required public hearings prior to the adoption of this Ordinance.

**NOW, THEREFORE, BE IT ENACTED BY THE CITY OF WINTER PARK, FLORIDA:**

**SECTION 1:** *Recitals.* The above "Whereas" clauses are true and correct and constitute legislative findings of the City of Winter Park City Commission and are incorporated herein by this reference.

**SECTION 2:** *Property Annexed.* That, after conducting two public hearings and having found that the Owners' petition for annexation of the Subject Properties meet the prerequisites and standards for annexation under Chapter 171, FL. Stat., the Subject Properties, as further legally defined in Exhibit "A" and as shown on the map attached hereto as Exhibit "B".

**SECTION 3:** *Effect of Annexation.* That the City of Winter Park, shall have all of the power, authority, and jurisdiction over and within the Subject Properties as described in Section 2

hereof, and the inhabitants thereof, and property therein, as it does and have over its present corporate limits and laws, ordinances, and resolutions of said City shall apply and shall have equal force and effect as if all territory had been part of said City at the time of the passage of such laws, ordinances, and resolutions.

**SECTION 4:** *Apportionment of Debts and Taxes.* Pursuant to § 171.061, Fla. Stat., the area annexed to the City shall be subject to all taxes and debts of the City upon the effective date of annexation. However, the annexed area shall not be subject to municipal ad valorem taxation for the current year if the effective date of the annexation falls after the City levies such tax.

**SECTION 5:** *Instructions to Clerk.* Within seven (7) days following the adoption of this Ordinance, the City Clerk or her designee is directed to file a copy of this Ordinance with the clerk of the circuit court and the chief administrative officer of Orange County as required by § 171.044(3), Fla. Stat.

**SECTION 6:** *Severability.* Should any portion of this Ordinance be held invalid, then such portions as are not declared invalid shall remain in full force and effect.

**SECTION 7:** *Effective Date.* This Ordinance shall become effective after its adoption at its second reading.

**ADOPTED** this \_\_\_\_\_ day of \_\_\_\_\_, 2023, by the City Commission of the City of Winter Park, Florida.

**APPROVED:**

\_\_\_\_\_  
Phillip Anderson, Mayor

**ATTEST:**

\_\_\_\_\_  
Rene Cranis, City Clerk

# EXHIBIT "A"

## LEGAL DESCRIPTION

### PARCELS AND RIGHT OF WAY TO BE ANNEXED

LOTS 10, 11, 12, 13, 14 AND 15, BLOCK "C", OLYMPIA HEIGHTS, AS RECORDED IN PLAT BOOK "J", PAGE 61, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.  
TOGETHER WITH:

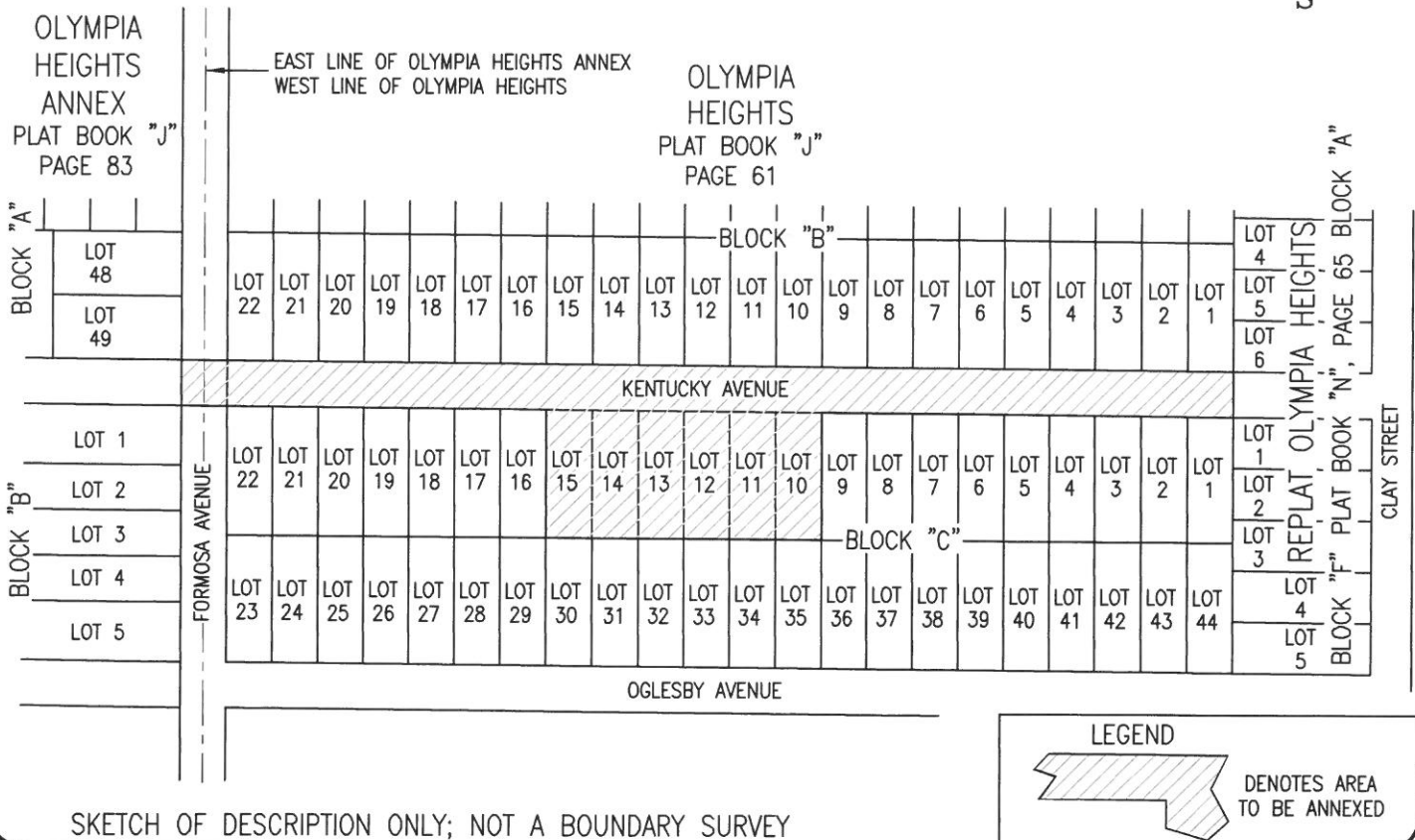
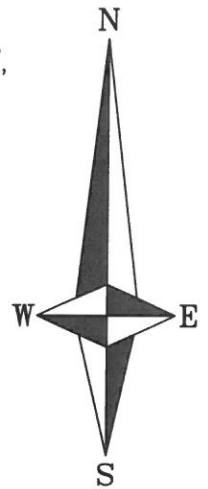
THAT PORTION OF KENTUCKY AVENUE PLATTED BY OLYMPIA HEIGHTS, AS RECORDED IN PLAT BOOK "J", PAGE 61, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; LYING NORTH OF BLOCK "C" AND SOUTH OF BLOCK "B", SAID OLYMPIA HEIGHTS.

TOGETHER WITH:

THAT PORTION OF FORMOSA AVENUE PLATTED BY OLYMPIA HEIGHTS, AS RECORDED IN PLAT BOOK "J", PAGE 61, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; LYING SOUTH OF A WESTERLY PROJECTION OF THE SOUTH LINE OF BLOCK "B" AND NORTH OF A WESTERLY PROJECTION OF THE NORTH LINE OF BLOCK "C"; SAID OLYMPIA HEIGHTS.

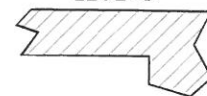
TOGETHER WITH:

THAT PORTION OF FORMOSA AVENUE PLATTED BY OLYMPIA HEIGHTS ANNEX, AS RECORDED IN PLAT BOOK "J", PAGE 83, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; LYING SOUTH OF AN EASTERLY PROJECTION OF THE SOUTH LINE OF BLOCK "A" AND NORTH OF AN EASTERLY PROJECTION OF THE NORTH LINE OF BLOCK "B"; SAID OLYMPIA HEIGHTS ANNEX.

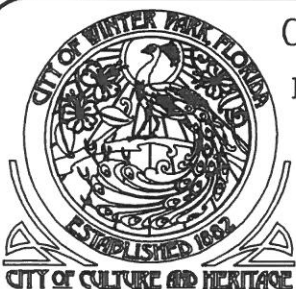


SKETCH OF DESCRIPTION ONLY; NOT A BOUNDARY SURVEY

## LEGEND



DENOTES AREA TO BE ANNEXED



## CITY OF WINTER PARK

### PUBLIC WORKS DEPARTMENT

#### ENGINEERING DIVISION

#### SURVEY SECTION

500 N. Virginia Avenue

Winter Park, Florida 32789

Phone: (407) 599-3233

## SKETCH OF DESCRIPTION

### ANNEXATION PARCELS

### OLYMPIA HEIGHTS

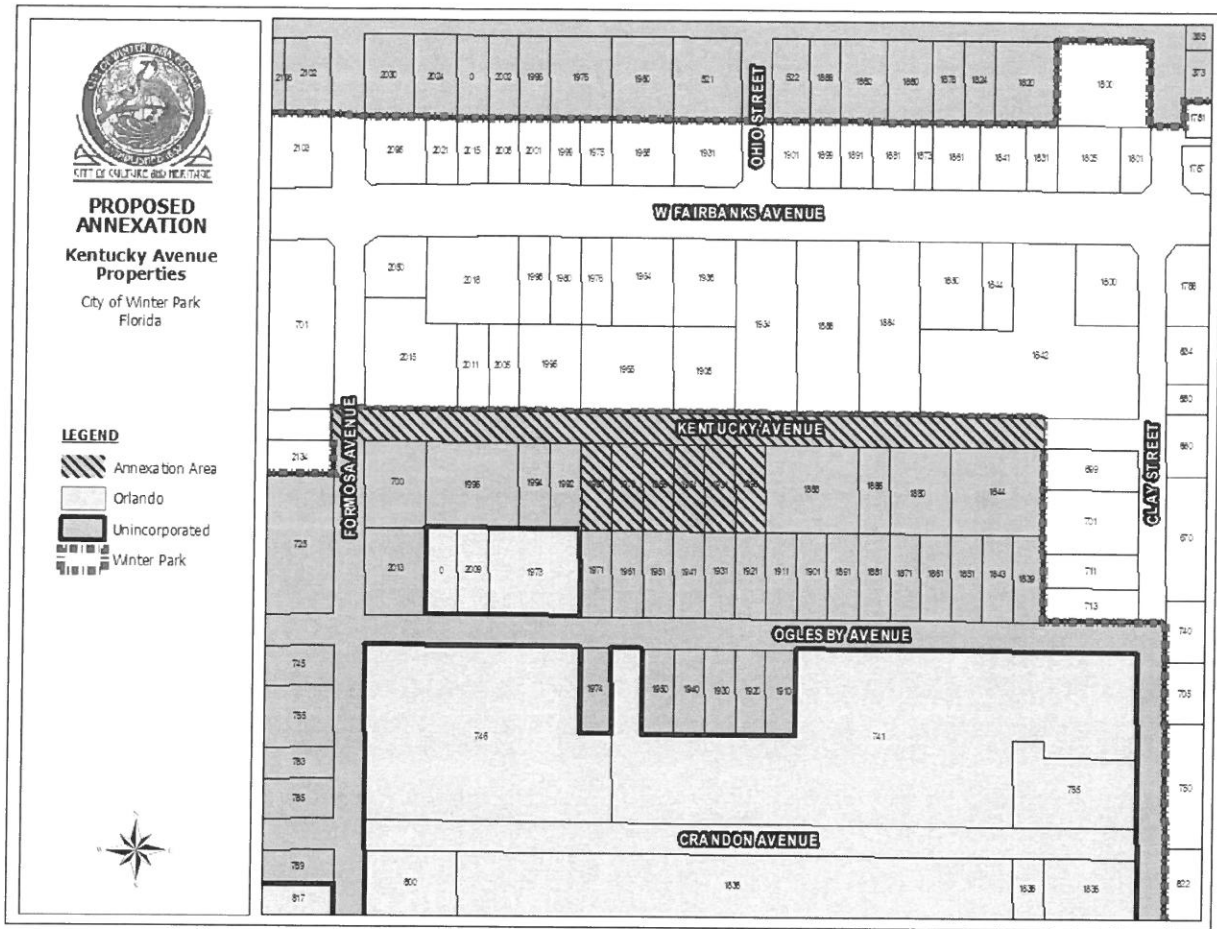
CITY OF WINTER PARK, ORANGE COUNTY, FL

SCALE : 1" = 200' DATE : 04/17/23

KENTUCKY AVENUE ANNEXATION SKETCH.DWG

PREPARED BY THOMAS L. CONNER, CITY SURVEYOR  
FLORIDA LICENSED SURVEYOR AND MAPPER LS4340  
ON BEHALF OF THE CITY OF WINTER PARK, FLORIDA

# Exhibit "B"



ORDINANCE XXXX-23

AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA AMENDING CHAPTER 58, "LAND DEVELOPMENT CODE", ARTICLE I "COMPREHENSIVE PLAN" FUTURE LAND USE MAP SO AS TO ESTABLISH COMMERCIAL FUTURE LAND USE ON THE ANNEXED PROPERTY AT LOCATED AT 1896; 1934; 1964; 1968; 1970 AND 1990 KENTUCKY AVENUE AND TO INDICATE THE ANNEXATION ON THE OTHER MAPS WITHIN THE COMPREHENSIVE PLAN, MORE PARTICULARLY DESCRIBED HEREIN.

WHEREAS, the City of Winter Park has officially annexed the property more particularly described below in compliance with Chapter 171, Florida Statutes, and

WHEREAS, the City Commission intends to amend its Comprehensive Plan to establish a municipal Comprehensive Plan future land use map designation as a small-scale amendment to the Comprehensive Plan, and

WHEREAS, on May 2, 2023, the Planning and Zoning Board held a public hearing on the proposed future land use map amendment set forth herein and made a recommendation to the City Commission concerning the same, and

WHEREAS, the amendment of the Comprehensive Plan maps and the establishment of a future land use designation meets the criteria established by Chapter 163, Florida Statutes and pursuant to and in compliance with law.

NOW THEREFORE BE IT ENACTED, AS FOLLOWS:

SECTION 1. That Chapter 58 "Land Development Code", Article I, "Comprehensive Plan" future land use plan map is hereby amended so as to establish a Commercial future land use designation on the annexed properties comprised of 1896 Kentucky Avenue (12-22-29-6172-03-100); 1934 Kentucky Avenue (12-22-29-6172-03-110); 1964 Kentucky Avenue (12-22-29-6172-03-120); 1968 Kentucky Avenue; (12-22-29-6172-03-130); 1970 Kentucky Avenue (12-22-29-6172-03-140); and 1990 Kentucky Avenue (12-22-29-6172-03-150; such private properties constituting Lots 10 through 15, Block C, Olympia Heights as recorded in Plat Book "J", Page 61 of the Public Records of Orange County, Florida.

SECTION 2. This Ordinance shall become effective 31 days after its adoption unless timely challenged pursuant to Florida Statutes Section 163.3187 within 30 days after adoption. If timely challenged, this Ordinance will not become effective until the State Land Planning Agency or the Administration Commission, respectively, issues a Final Order determining compliance pursuant to Chapter 163, Florida Statutes.

ADOPTED at a regular meeting of the City Commission of the City of Winter Park, Florida, held in City Hall, Winter Park, on this \_\_\_\_ day of \_\_\_\_\_, 2023.

\_\_\_\_\_  
Mayor Phillip Anderson

Attest:

\_\_\_\_\_  
Rene Cranis, City Clerk

ORDINANCE XXXX-23

AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA AMENDING CHAPTER 58, "LAND DEVELOPMENT CODE", ARTICLE III, "ZONING" AND THE OFFICIAL ZONING MAP SO AS TO ESTABLISH COMMERCIAL (C-3) ZONING ON THE ANNEXED PROPERTIES AT 1896; 1934; 1964; 1968; 1970 AND 1990 KENTUCKY AVENUE, MORE PARTICULARLY DESCRIBED HEREIN.

WHEREAS, the City Commission intends to establish a municipal zoning designation on this property in compliance with the establishment of a similar Comprehensive Plan future land use designation for said property, and

WHEREAS, on May 2, 2023, the Planning and Zoning Board held a public hearing on the rezoning set forth herein and made a recommendation to the City Commission regarding such rezoning, and

WHEREAS, the City Commission finds that the zoning set forth herein is consistent with the Comprehensive Plan and land development regulations which includes establishment of a ten foot rear setback for any future building or parking area. and

WHEREAS, the establishment of municipal zoning meets the criteria established by Chapter 166, Florida Statutes and pursuant to and in compliance with law, notice has been given to Orange County and to the public by publication in a newspaper of general circulation to notify the public of this proposed Ordinance and of public hearings to be held.

NOW THEREFORE BE IT ENACTED BY THE CITY COMMISSION OF THE CITY OF WINTER PARK, FLORIDA, AS FOLLOWS:

SECTION 1. That Chapter 58 "Land Development Code", Article III, "Zoning" and the Official Zoning Map is hereby amended so as to establish Low Density Residential (R-2) district zoning on the annexed parcel at 1896 Kentucky Avenue (12-22-29-6172-03-100); 1934 Kentucky Avenue (12-22-29-6172-03-110); 1964 Kentucky Avenue (12-22-29-6172-03-120); 1968 Kentucky Avenue; (12-22-29-6172-03-130); 1970 Kentucky Avenue (12-22-29-6172-03-140); and 1990 Kentucky Avenue (12-22-29-6172-03-150; such private properties constituting Lots 10 through 15, Block C, Olympia Heights as recorded in Plat Book "J", Page 61 of the Public Records of Orange County, Florida.

SECTION 2. This Ordinance shall become effective immediately upon the effectiveness of the companion ordinance amending the City of Winter Park Comprehensive Plan to designate the property described in Section 1 of this Ordinance with the Commercial future land use.

ADOPTED at a regular meeting of the City Commission of the City of Winter Park, Florida, held in City Hall, Winter Park, on this \_\_\_\_ day of \_\_\_\_\_, 2023.

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Mayor Phillip Anderson

Attest:

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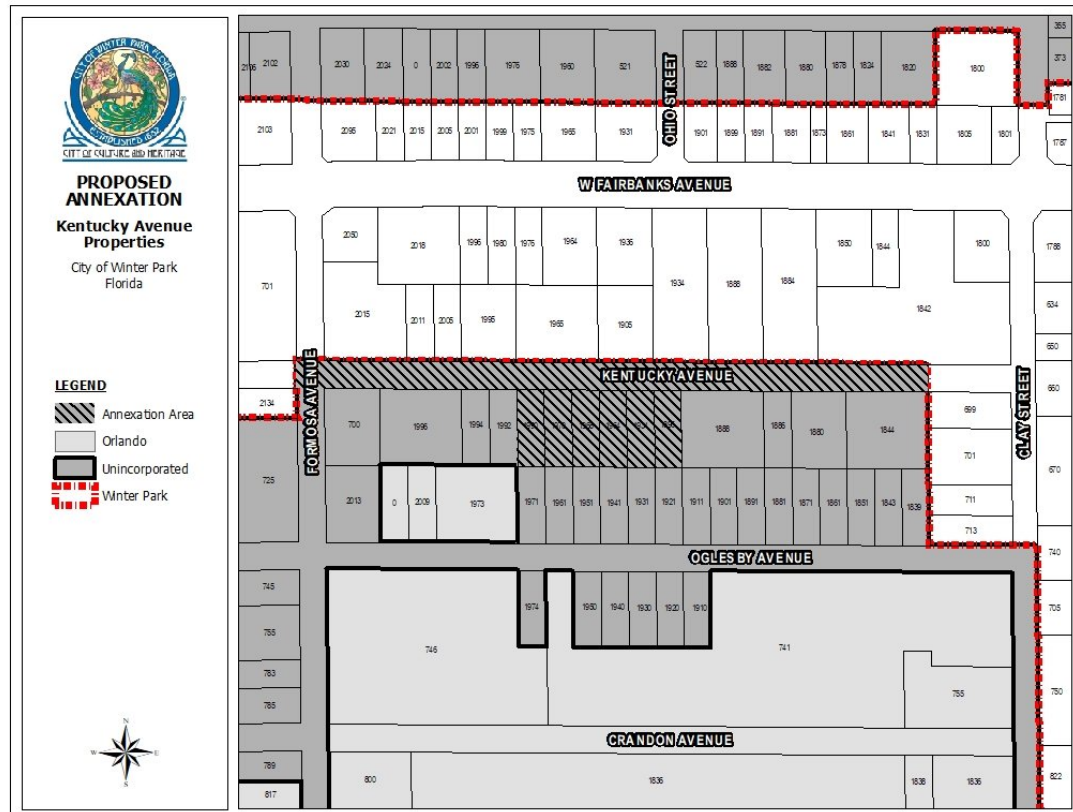
Rene Cranis, City Clerk

# NOTICE OF ANNEXATION

NOTICE is hereby given that public hearings will be held by the Winter Park City Commission on Wednesday, May 24, 2023 at 3:30 p.m. and on Wednesday, June 14, 2023 at 3:30 pm in the Commission Chambers of City Hall, 401 S. Park Avenue, Florida, or by virtual meeting to consider the following:

## ORDINANCE NO. 3270-23

**AN ORDINANCE OF THE CITY OF WINTER PARK, FLORIDA, PROVIDING FOR THE ANNEXATION OF APPROXIMATELY 2.07 ACRES OF REAL PROPERTY LOCATED AT 1896; 1934; 1964; 1968; 1970 and 1990 KENTUCKY AVENUE AND INCLUDING THE RIGHT-OF-WAY OF KENTUCKY AVENUE FROM FORMOSA AVENUE TO CLAY STREET, AS MORE SPECIFICALLY DESCRIBED HEREIN, INTO THE MUNICIPAL BOUNDARIES OF THE CITY OF WINTER PARK; REDEFINING THE CITY BOUNDARIES TO GIVE THE CITY OF WINTER PARK JURISDICTION OVER SAID PROPERTY; PROVIDING FOR SEVERABILITY; PROVIDING FOR AN EFFECTIVE DATE.**



The complete legal description as well as a complete copy of this proposed Ordinance No. 3270-23 may be obtained and inspected at the office of the City Clerk at 401 S. Park Avenue, Winter Park, Florida during regular business hours. All interested parties are invited to attend and be heard. Additional information is available in the City Clerk's office so that citizens may acquaint themselves with each issue and receive answers to any questions they may have prior to the meeting.

NOTE: If a person decides to appeal any decision made by the Commission with respect to any matter considered at such meeting or hearing, he/she will need a record of the proceedings, and that, for such purpose, he/she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based (F.S. 286.0105) Persons with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk's Office (407-599-3277) at least 48 hours in advance of the meeting.



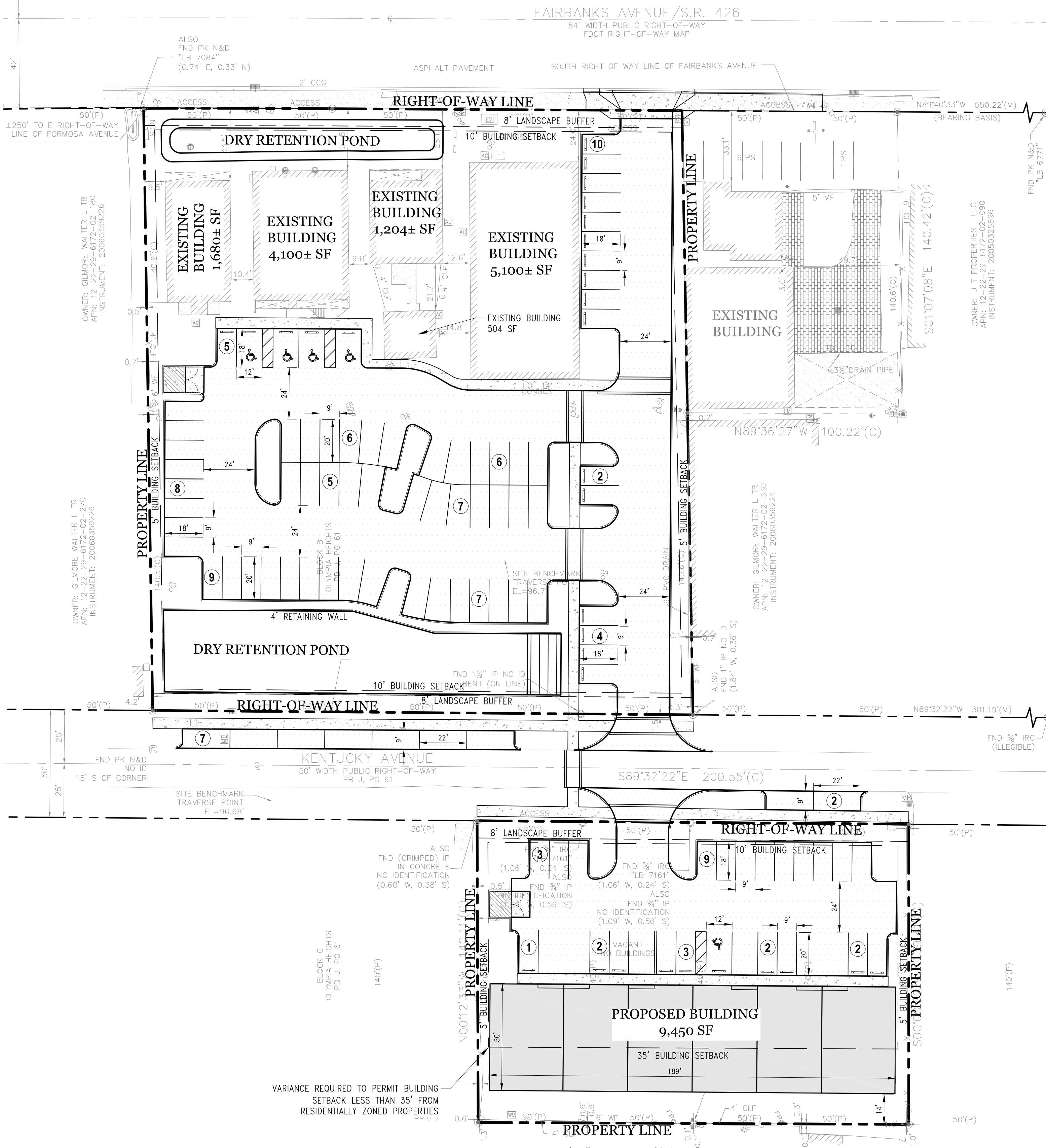
385 Douglas Avenue, Ste 2100  
Altamonte Springs, FL 32714  
Telephone 407.478.8750  
Facsimile 407.478.8749

56991

# SITE PLAN

drawn by: JD & DB  
 checked by: SW  
 date: 03.23.2023  
 plot scale: AS SHOWN  
 project number: N/A  
 file name: C100-SITE-22TSGD003.D

# C100



GRAPHIC SCALE

( IN FEET )

LEGEND:

- CONCRETE WALKS
- DUMPSTER PAD SECTION
- ASPHALT PAVEMENT SECTION

PARKING CALCULATIONS:

NORTH SIDE:

BASIS:  
CITY OF WINTER PARK, GENERAL BUSINESS AND RETAIL COMMERCIAL, AND OFFICE:  
ONE PARKING SPACE FOR EACH 250 SQUARE FEET OF GROSS FLOOR SPACE IN  
THE BUILDING.

REQUIRED:  $(12.588 / 250) = 50$  SPACES

PROVIDED: 65 STANDARD, 4 ACCESSIBLE (69 TOTAL)

SOUTH SIDE:

BASIS:  
CITY OF WINTER PARK, GENERAL BUSINESS AND RETAIL COMMERCIAL, AND OFFICE:  
ONE PARKING SPACE FOR EACH 250 SQUARE FEET OF GROSS FLOOR SPACE IN  
THE BUILDING.  
WAREHOUSE: ONE PARKING SPACE FOR EACH 1,000 SQUARE FEET OF GROSS  
FLOOR SPACE IN THE BUILDING.

REQUIRED:  $(2.835 / 250) + (6.615 / 1,000) = 18$  SPACES

PROVIDED: 21 STANDARD, 1 ACCESSIBLE (22 TOTAL)









# City Commission **agenda item**

<b>item type</b> Public Hearings: Non-Quasi Judicial Matters (Public participation and comment on these matters may be virtual or in-person.)	<b>meeting date</b> May 24, 2023
<b>prepared by</b> Victoria Tabor	<b>approved by</b> Michelle del Valle, Randy Knight
<b>board approval</b> Completed	
<b>strategic objective</b>	

## **subject**

Feasibility Study Recommendations

## **item list**

- Adopt City of Winter Park's Roadmap to 100% Renewable Energy.
- Approve recommendations of Electric Utilities and Natural Resources and Sustainability Departments.
- Resolution 2271-23 adopting amended Sustainability Action Plan containing new climate resiliency targets.

## **motion / recommendation**

Approve the recommendations jointly provided by Electric Utilities and Natural Resources & Sustainability Departments, approve updated Resolution and updated Sustainability Action Plan 2023 containing new Climate Resiliency targets. These recommendations include the support of Keep Winter Park Beautiful & Sustainable Board and Rollins College.

## **background**

The formulation of the City of Winter Park's roadmap to 100% renewable energy has been evaluated and determined to have three feasible scenarios. Through a series of intense study, work sessions and board meetings, scenario 3A has been identified as most preferred with targets of 80% renewable energy supply by 2035, 89% renewable energy supply by 2042 with technology available updated accordingly, and 100% renewable energy supply by 2050. Staff recommendation is to adopt scenario 3A as revised in the attached Sustainability Action Plan and Resolution amendment, and to approve the Feasibility Study Recommendations as outlined in order to achieve targets established.

## **alternatives / other considerations**

## **fiscal impact**

### **ATTACHMENTS:**

[Quanta Technology CWP IRP Results Presentation FINAL V2.0.pdf](#)

### **ATTACHMENTS:**

[Roadmap Next Steps](#)

### **ATTACHMENTS:**

[Feasibility Study Recommendation.pdf](#)

### **ATTACHMENTS:**

[Quanta Technology CWP IRP Report V3.0 - Final.pdf](#)

### **ATTACHMENTS:**

[SAP REVISION MAY 2023.pdf](#)

### **ATTACHMENTS:**

[Resolution 2271-23 SAP amendment.docx](#)

### **ATTACHMENTS:**

[IRP Manager](#)

### **ATTACHMENTS:**

[KWPBS Minutes 04-18](#)

### **ATTACHMENTS:**

[Rollins Statement Supporting CWP SAP](#)

### **ATTACHMENTS:**

[UAB Approval.pdf](#)

### **ATTACHMENTS:**

[Mayor Anderson's SUMMARY OF EDITS REQUESTED.docx](#)



**QUANTA  
TECHNOLOGY**  
A QUANTA SERVICES COMPANY

**MAY 4, 2023**

# **City of Winter Park Final Report Presentation**





## Quanta Technology Team



---

**Jesus Gonzalez, PMP**  
**PRINCIPAL ADVISOR**  
Project Manager  
[jgonzalez@quanta-technology.com](mailto:jgonzalez@quanta-technology.com)  
919-428-9332



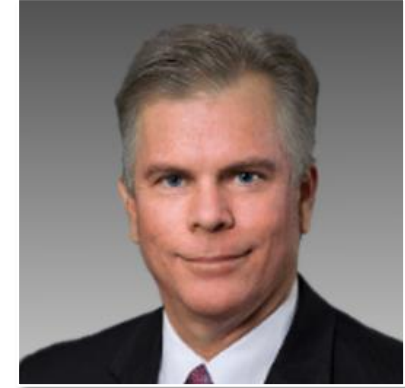
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**Diana Prkacin, PE, PMP**  
**PRINCIPAL ADVISOR**  
Business Development Manager  
Stakeholder Engagement  
[dprkacin@quanta-technology.com](mailto:dprkacin@quanta-technology.com)  
919-737-5519



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**Hisham Othman, PhD**  
**EXECUTIVE ADVISOR**  
Vice-President of Transmission  
Regulatory Technical Lead  
[hothman@quanta-technology.com](mailto:hothman@quanta-technology.com)  
919-744-5096



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**Michael Mount, PE, MBA**  
**EXECUTIVE ADVISOR**  
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203-400-2338



# Quanta Technology Overview

**We are an independent technology, consulting, and testing company serving a wide range of utility customers.**

- Headquartered in Raleigh, NC, and part of Quanta Services (Fortune 300).
- Supporting offices in IL, CA, and Canada.



- + Nearly 300 consultants and industry experts.
- + Expertise in electric power and energy industries, gas and water systems, and solutions.
- + Serving numerous IOUs, and municipalities in transmission and distribution, protection, distribution automation, renewables, grid resiliency.

## *We offer a full spectrum of services in the following:*

- |  |                                  |                                       |
|--|----------------------------------|---------------------------------------|
| • Grid modernization and business strategy | • Transmission and distribution  | • Enterprise integration              |
| • Advanced metering infrastructure         | • Asset operations               | • Microgrids                          |
| • Smart water and gas solutions            | • Protection and control         | • Workforce training and augmentation |
| • Non-revenue water                        | • Transportation electrification | • Regulatory compliance               |
| • Leak detection, pressure monitoring      | • Renewables integration         | • Automation and testing              |
|  | • Energy storage                 | • Asset management                    |
|  | • Grid resiliency                |                                       |





# Agenda



**01.**

Purpose

**02.**

Definition overview

**03.**

Scenarios

**04.**

Current state

**05.**

Assumptions and forecasts

**06.**

Method:

**07.**

Results

**08.**

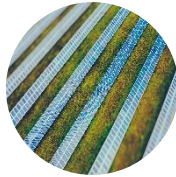
Roadmap



## Purpose: Next Steps for a Clean Energy Plan



Which mix of energy? What timeframe? What cost?



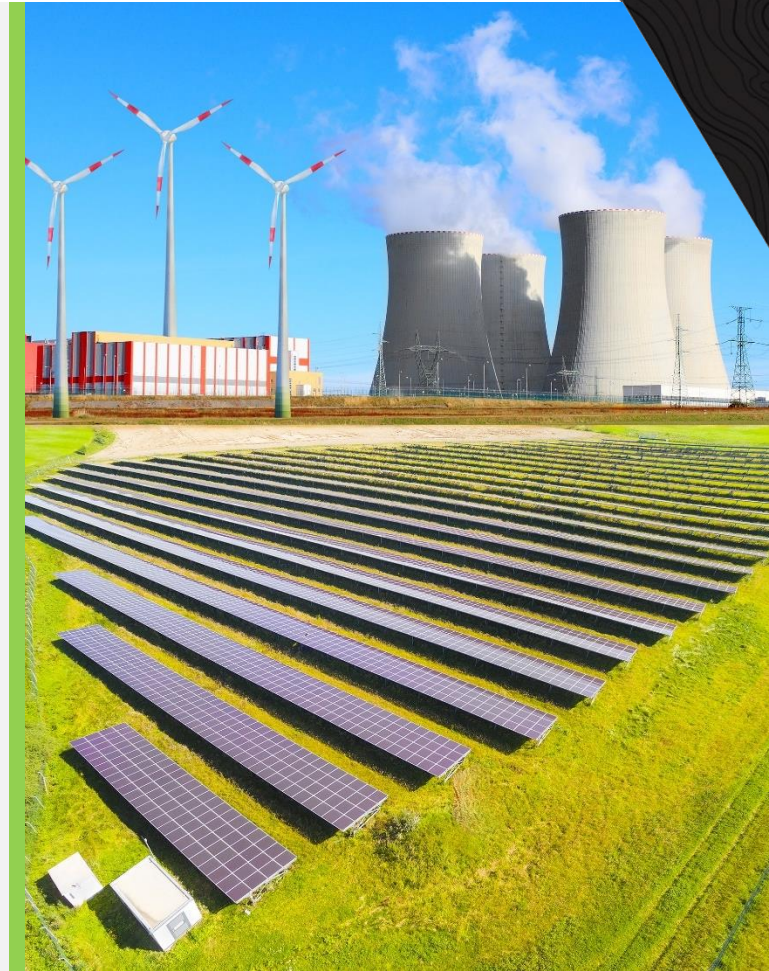
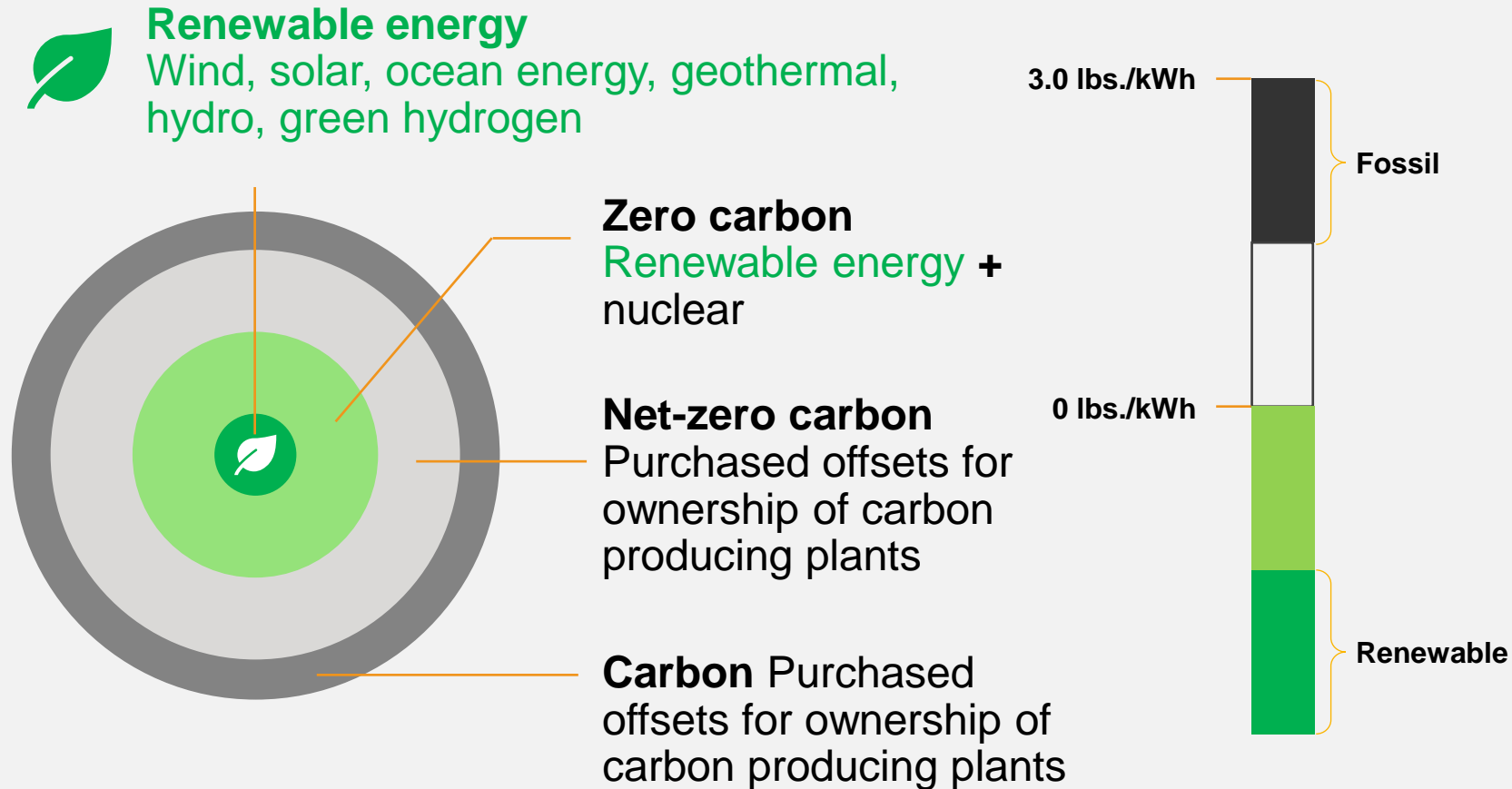
To support clean energy in the City of Winter Park.







# Definition Overview





## Outline of Three Base Targets Defined in Study Scope

Scenario Element	Targets		
	100% Renewable Scenario 1	Net-Zero Carbon Scenario 2	80% Renewable Scenario 3
2050 renewable target	100%		
2050 net-zero carbon target		100%	
2035 renewable electric target			80%

Electric consumption forecasts do include charging requirements for forecasted EV adoption but do not include building electrification (e.g., changing space and water heating from gas to electric appliances).



## Three Possible Targets – Each Expanded with Multiple Scenarios

Scenario Count    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15

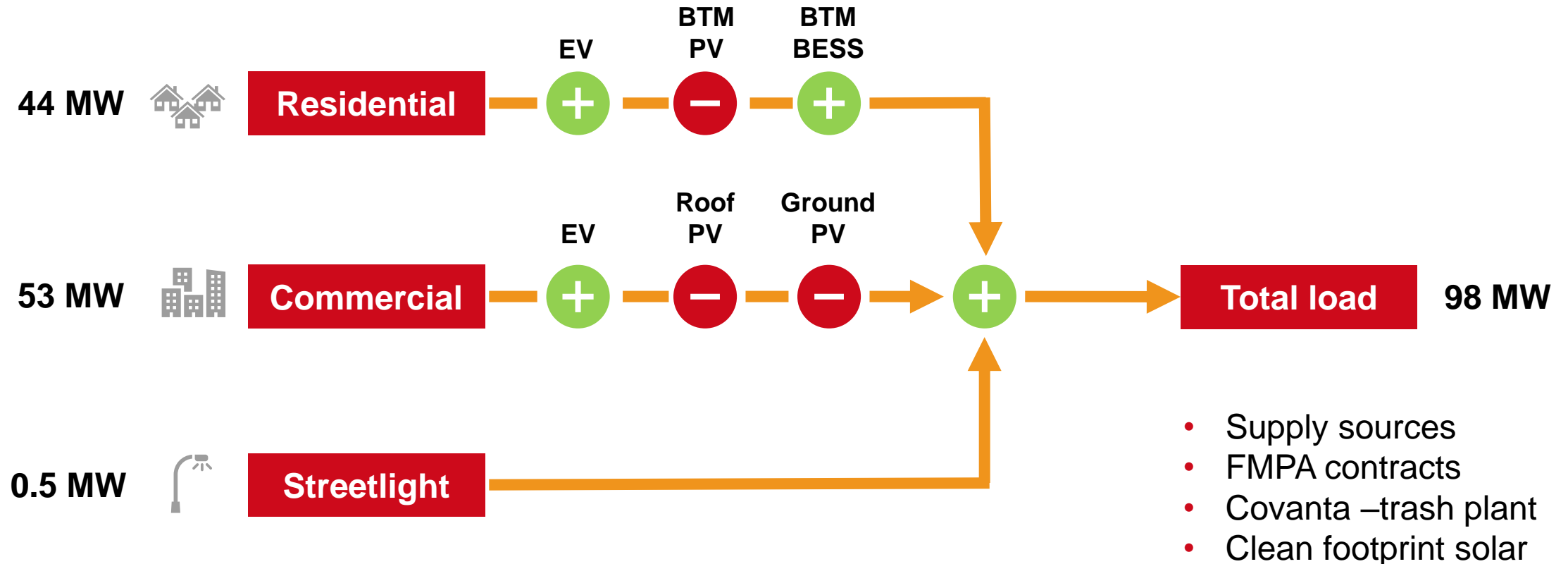
### Scenarios

Scenario Element	100% Renewable by 2050						Net-Zero Carbon by 2050					80% Renewable by 2035			
	1A	1B	1C	1D	1E	1F	2A	2B	2C	2D	2E	3A	3B	3C	3D
2050 renewable target	100%	100%	100%	100%	100%	100%	-			-	-	100%	100%	100%	100%
2050 net-zero carbon target							100%	100%	100%	100%	100%				
2035 renewable energy target												80%	80%	80%	80%
Load forecast	Expected	High	Expected	Expected	Expected	Expected	Expected	High	Expected	Expected	Expected	Expected	Expected	Expected	Expected
Natural gas fuel price forecast	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	High	Low	Expected	Expected	High	Low
Distributed solar + storage	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	Expected	Expected	Expected
Electric-vehicle growth	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	Expected	Expected	Expected
REC pricing	N/A	N/A	N/A	N/A	N/A	N/A	Expected	Low	High	Expected	Expected	N/A	N/A	N/A	N/A
Developer cost of capital for generation	8.00%	8.00%	8.00%		8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%		8.00%	8.00%
CWP cost of debt for generation				3.50%									3.50%		

Most likely scenarios



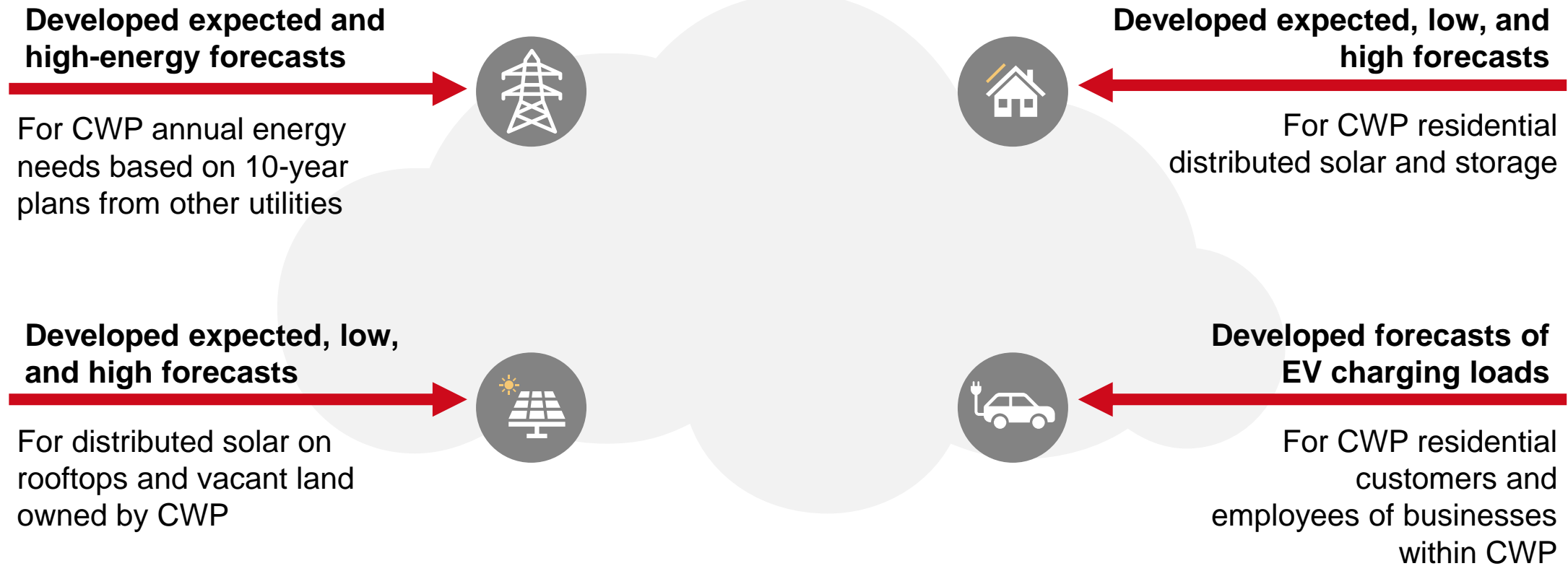
## Current State – Load and Generation



MW is peak load in 2021; energy consumption was 421 GWh



# Forecasts and Assumptions







## Assumptions: Generation and Energy Storage



Energy source	Wind	Solar	Ocean	Geothermal	Biofuels	Green Hydrogen	Battery Storage
Mature technology	✓	✓	R&D	✓	✓	Likely 2035	✓
Viable for location		✓			Limited	✓	✓
Resident owned		✓					✓
CWP owned		✓				✓	✓
CWP Purchase Potential	✓	✓	✓			✓	✓

**Solar and green hydrogen are the best fit for City of Winter Park, coupled with battery storage.**



# Forecast: Generation



## City of Winter Park Assets



### Single family homes

- Energy neutral
- Timeline based on conservative EV adoption rates



### Multi-family dwellings

- Consumer
- Energy neutral difficult to achieve
- Rooftop solar to support EV



### Commercial buildings

- Consumer
- Energy neutral difficult to achieve
- Rooftop solar + parking lot solar to support EV



### Governmental buildings

- Consumer
- Energy neutral difficult to achieve on some buildings may be possible for others
- Timeline based on roof replacement



### Industrial areas

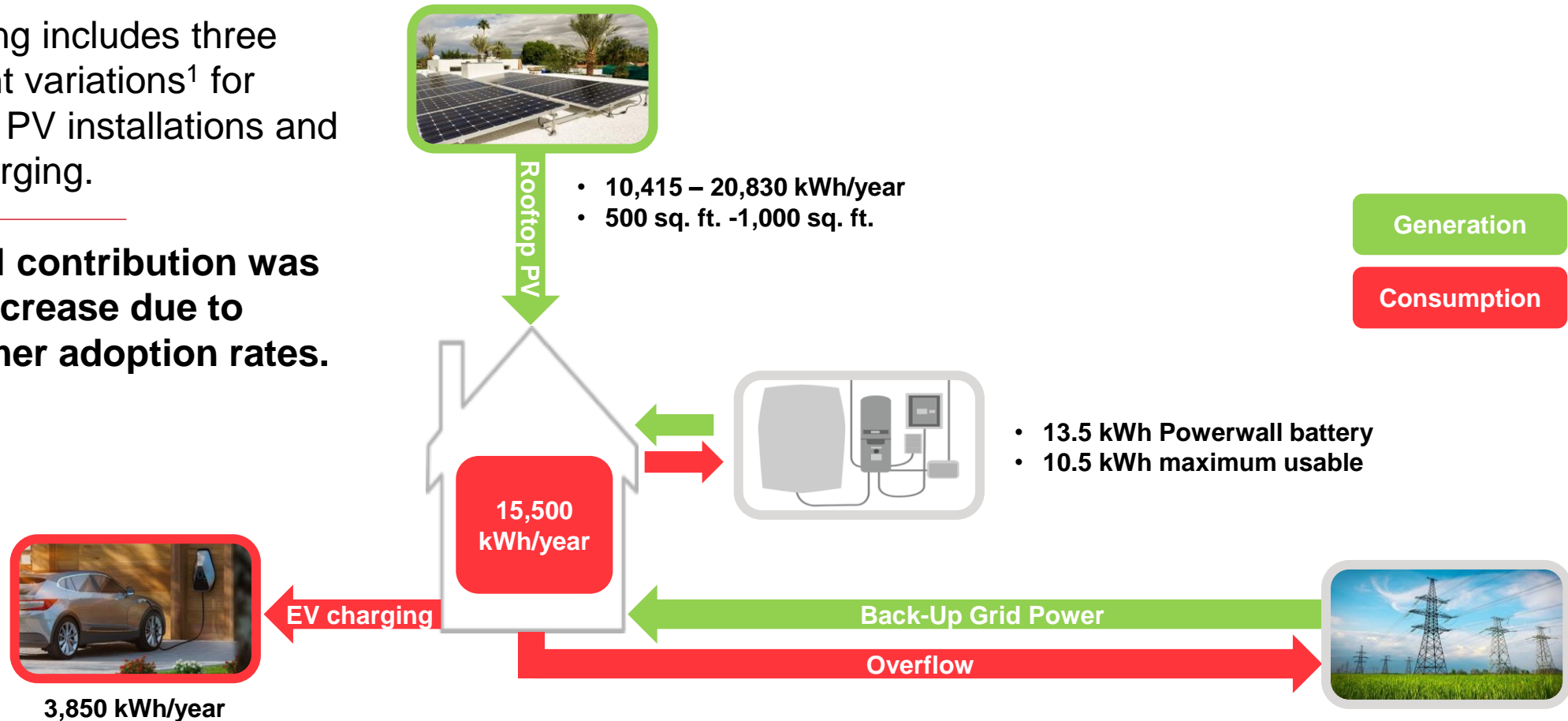
- Consumer
- Energy neutral difficult to achieve
- Timeline allocated evenly per year



# Single Family Home Forecasts: Target Reduced Load

Modeling includes three different variations<sup>1</sup> for rooftop PV installations and EV charging.

**Overall contribution was load increase due to customer adoption rates.**



Note: <sup>1</sup> Residence kWh/year figure based on the approximate average residential consumption in 2021. Solar and EV kWh/year values based on Quanta Technology projections.



# City of Winter Park Assets: Target Load Reduction

Generation

Consumption

- 20,830 – 208,300 kWh/year
- ~ 270 sq. ft./spot
- 4-40 spots
- 1000 -10,000 sq. ft.



Parking lot PV



- 5-20 EV chargers/building
- 19,250-77,000 kWh/year



Land PV

Rooftop PV

- 20,830 – 83,320 kWh/year
- 1000 -4000 sq.ft.



Battery sized to charge solar and discharge to EV

Back-Up Grid Power

Overflow

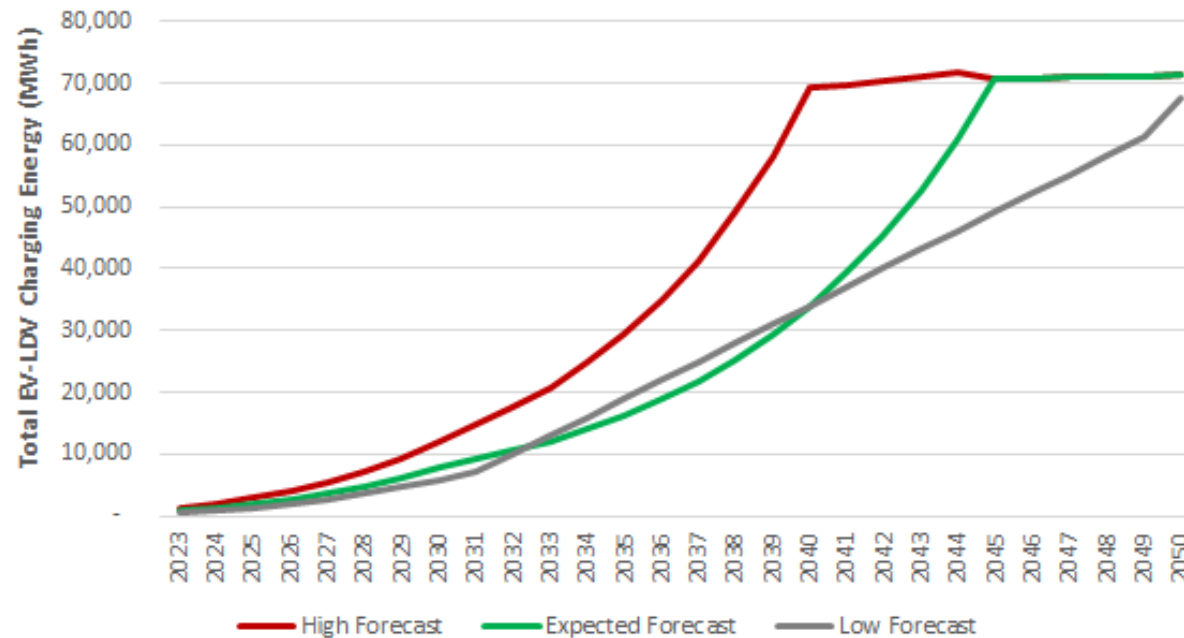


Modeling was not segmented.

Overall contribution was load increase.



## Forecast: Resident and Commuter EV-LDV Charging



- EVs are forecasted to climb to a maximum of 95% of registered vehicles.
- Customers purchasing electric vehicles will likely obtain a Powerwall or similar charger to add storage, and likely rooftop PV.
- Forecast was developed from a 2022 average in the TYSP that includes:
  - IOUs:
  - Munis:





# Maximum Distributed Energy: You Are Still Buying Power



## Single family homes

### Energy Neutral

- Energy neutral
- All SFH's powered by solar
- Rooftop solar maximized



## Multi-family dwellings

### Consumer

- Rooftop Solar to support EV
- Reduced Energy



## Commercial buildings

### Consumer

- Conservation
- Rooftop solar maximized
- Carport solar



## City of Winter Park assets



## Governmental buildings

### Energy Neutral

- Conservation
- Rooftop solar maximized
- Carport Solar



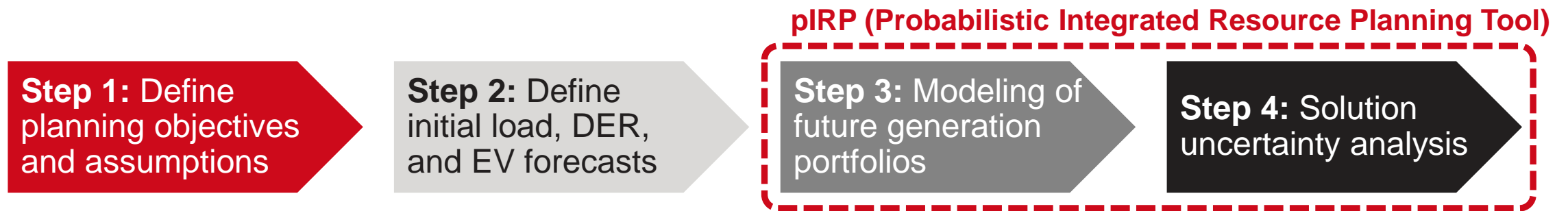
## Industrial areas

### Consumer

- Energy neutral difficult to achieve
- Ground mount solar



## Method: Key Steps in the Development of CWP IRP







## Method: How Portfolios are Identified and Evaluated



- 1 Define scenarios so they describe a range of plausible future conditions.
- 2 Identify baseline assumptions for each scenario.
- 3 Run least cost-expansion plan for each scenario.
- 4 Develop a list of possible portfolios based on results.
- 5 Adjust portfolios as needed.
- 6 Select the best performing portfolio, and identify no-regret, or limited regret strategies across the future scenarios.



# The Following Slides Primarily Focus on the Three Most Likely Scenarios

Scenario Count    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15

## Scenarios

Scenario Element	100% Renewable by 2050						Net-Zero Carbon by 2050					80% Renewable by 2035			
	1A	1B	1C	1D	1E	1F	2A	2B	2C	2D	2E	3A	3B	3C	3D
2050 renewable target	100%	100%	100%	100%	100%	100%	-			-	-	100%	100%	100%	100%
2050 net-zero carbon target							100%	100%	100%	100%	100%				
2035 renewable energy target												80%	80%	80%	80%
Load forecast	Expected	High	Expected	Expected	Expected	Expected	Expected	High	Expected	Expected	Expected	Expected	Expected	Expected	Expected
Natural gas fuel price forecast	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	High	Low	Expected	Expected	High	Low
Distributed solar + storage	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	Expected	Expected	Expected
Electric-vehicle growth	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected	Expected	Expected	Expected	Expected
REC pricing	N/A	N/A	N/A	N/A	N/A	N/A	Expected	Low	High	Expected	Expected	N/A	N/A	N/A	N/A
Developer cost of capital for generation	8.00%	8.00%	8.00%		8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%		8.00%	8.00%
CWP cost of debt for generation				3.50%									3.50%		

Most likely scenarios



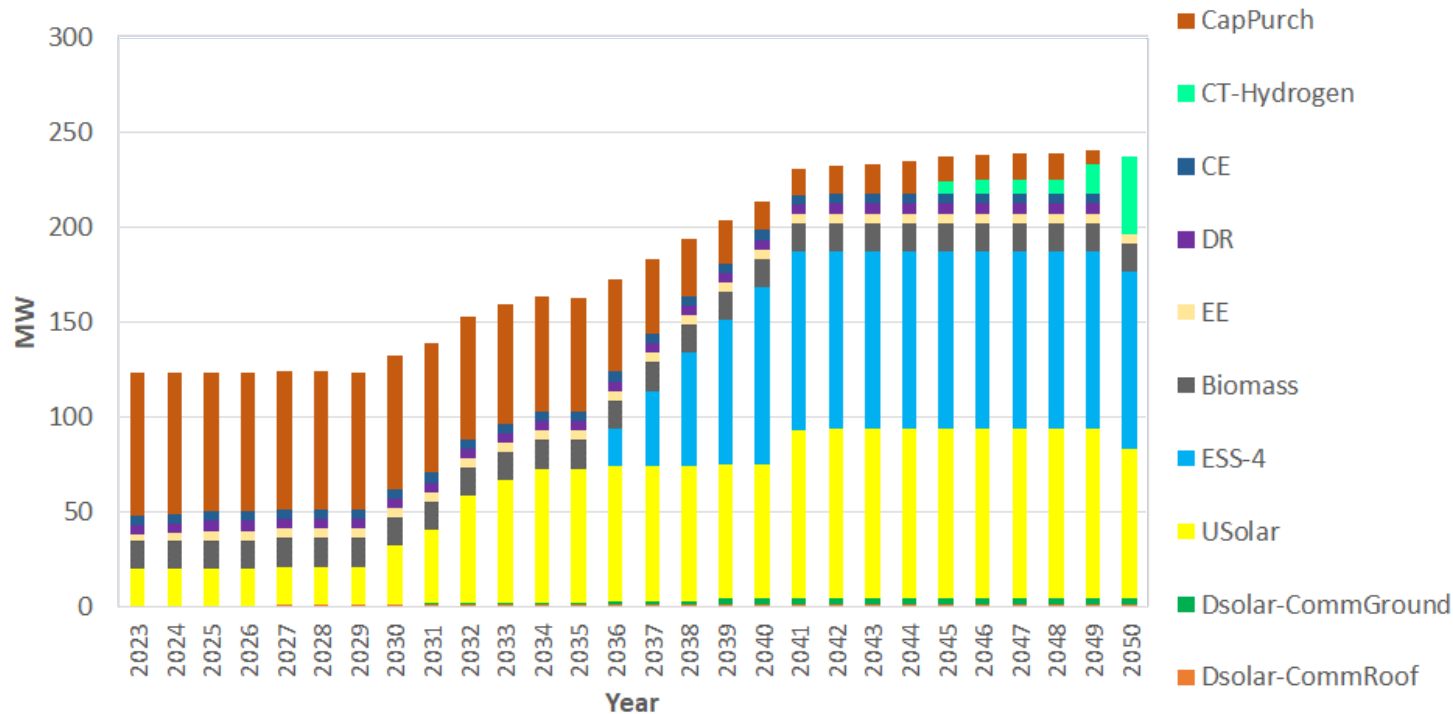
## Scenario 1A: 100% Renewable by 2050

Scenario Element	Value
2050 renewable target	100%
2050 net-zero carbon target	
2035 renewable energy target	
Load forecast	Expected
Natural gas fuel price forecast	Expected
Distributed solar + storage	Expected
Electric-vehicle growth	Expected
REC pricing	N/A
Developer cost of capital for generation	8.00%
CWP cost of debt for generation	

→ Expected load growth is 0.1% increase per year based on recent CWP growth



## Scenario 1A: 100% Renewable by 2050 Annual Total Capacity Additions by Technology



- Generation additions include substantial solar, and batteries and some biomass.

- Combustion Turbines (CT) fueled with Green Hydrogen is added only in last five years.



# Definitions



## Revenue requirement

Required utility revenue needed to pay for all capital, operational and maintenance costs



## Present value of revenue requirement

The annual revenue requirement after it has been discounted to a common based year

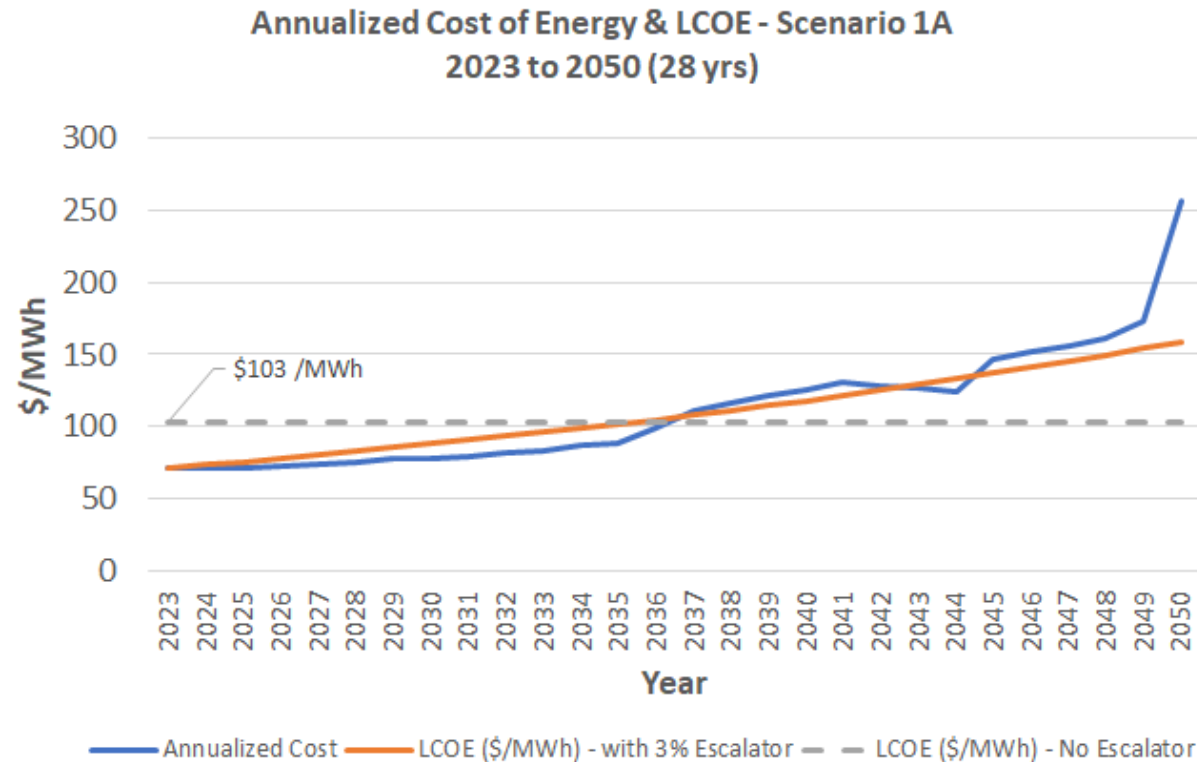


## Levelized cost of energy

The present value of the stream of annual of energy costs divided by the stream of annual MWh consumed.



## Scenario 1A: 100% Renewable by 2050 Annualized Cost of Energy and LCOE



Graph shows three versions of the same costs:

1. The actual annual costs in blue.
2. The levelized cost of energy (LCOE) in the dashed gray line.
3. The LCOE assuming a 3% annual escalation in the orange line.

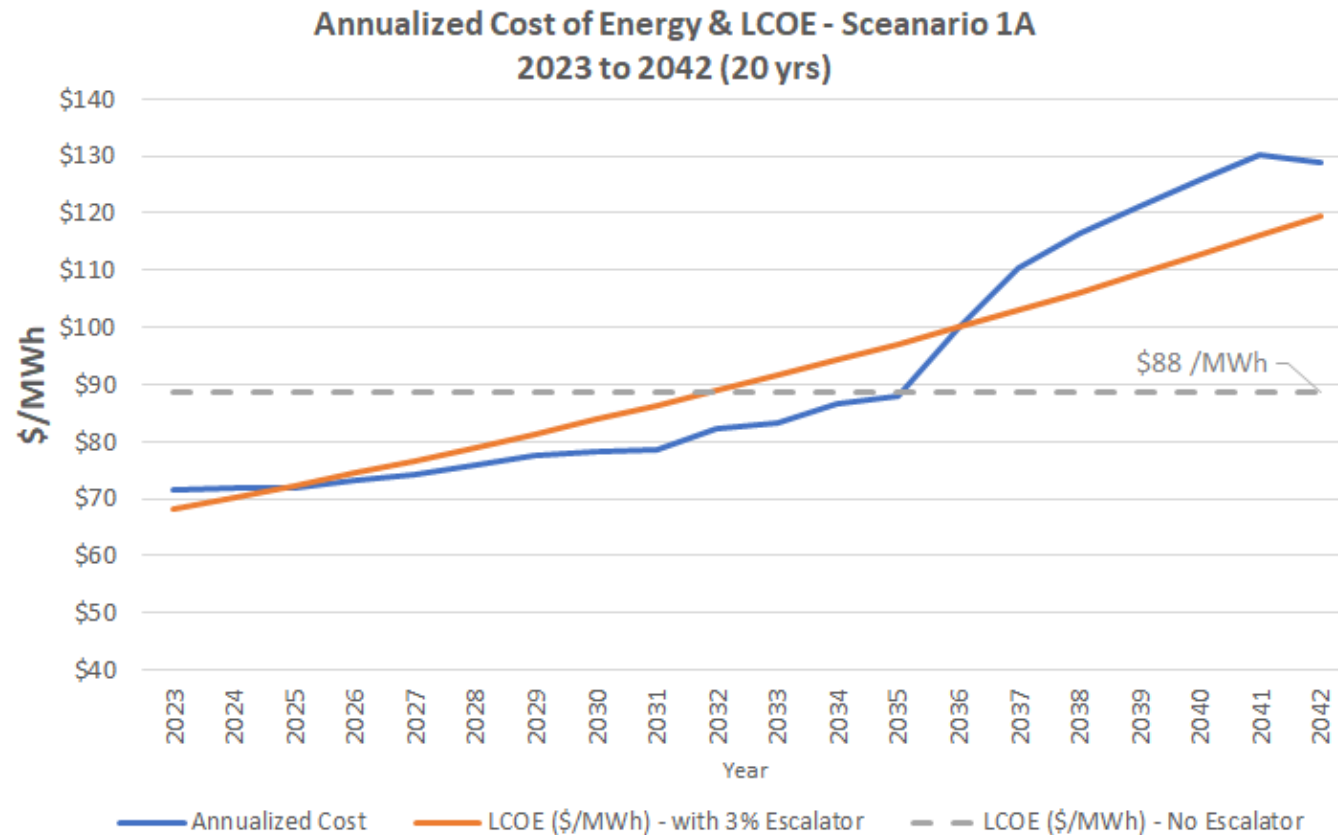
The green hydrogen CT technology is added in the last six years creating an increase in annual cost of power. The renewable contribution prior to the green hydrogen CT addition is 78%.



## Scenario 1A: 100% Renewable by 2050 Using Only the First 20 Years of Results to 2042

By removing the last few years when the green hydrogen CT is added, the remaining actual costs and LCOE costs are significantly reduced.

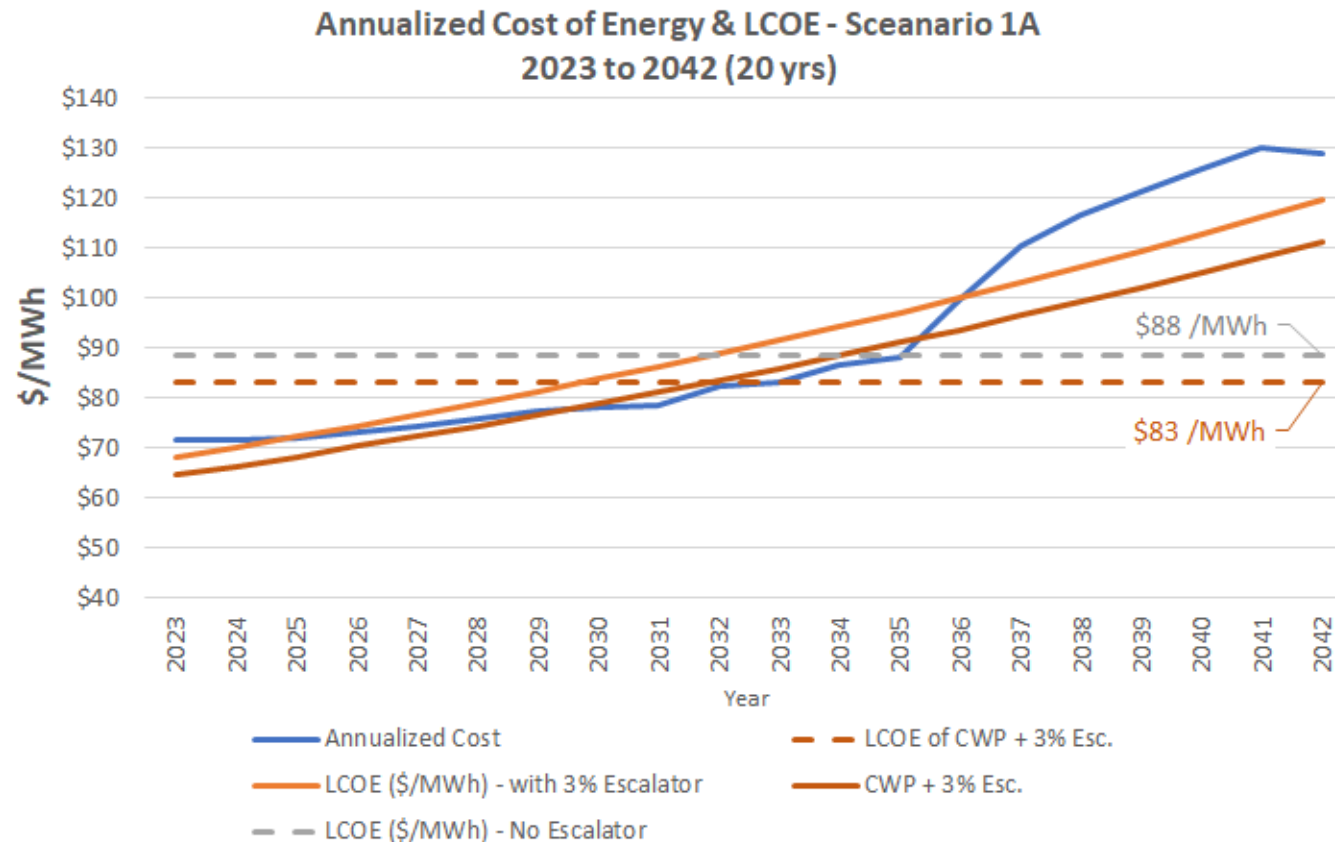
By the last year in this chart, 2042, the renewable contribution reaches 71%.







# Scenario 1A: 100% Renewable by 2050 With Projected CWP Current Costs and First 20 Years of Results



For the first 20 years, the costs of scenario 1A are conservatively only \$5/MWh or 0.5 cents/kWh above the projected costs of CWP's current fossil dominated portfolio.

By the last year in this chart, 2042, the renewable contribution reaches 71%.

Results are conservative because Quanta Technology expects CWP power costs will likely escalate at more than 3% annually.

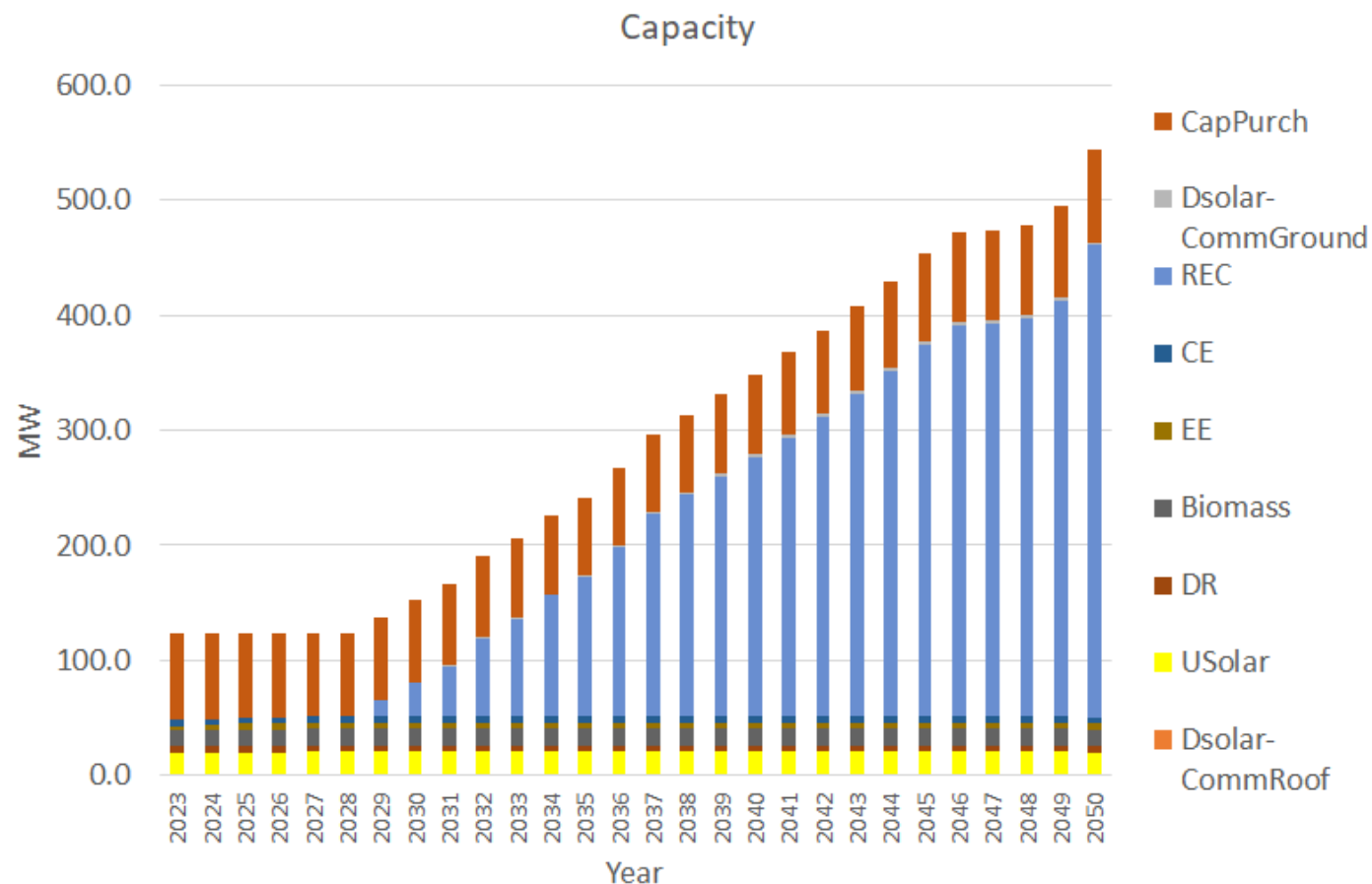


## Scenario 2A: 100% Net Zero by 2050

Scenario Element	Value
2050 renewable target	
2050 net-zero carbon target	100%
2035 renewable energy target	
Load forecast	Expected
Natural gas fuel price forecast	Expected
Distributed solar + storage	Expected
Electric-vehicle growth	Expected
REC pricing	N/A
Developer cost of capital for generation	8.00%
CWP cost of debt for generation	



## Scenario 2A: Net Zero Carbon by 2050 Annual Total Capacity Additions by Technology

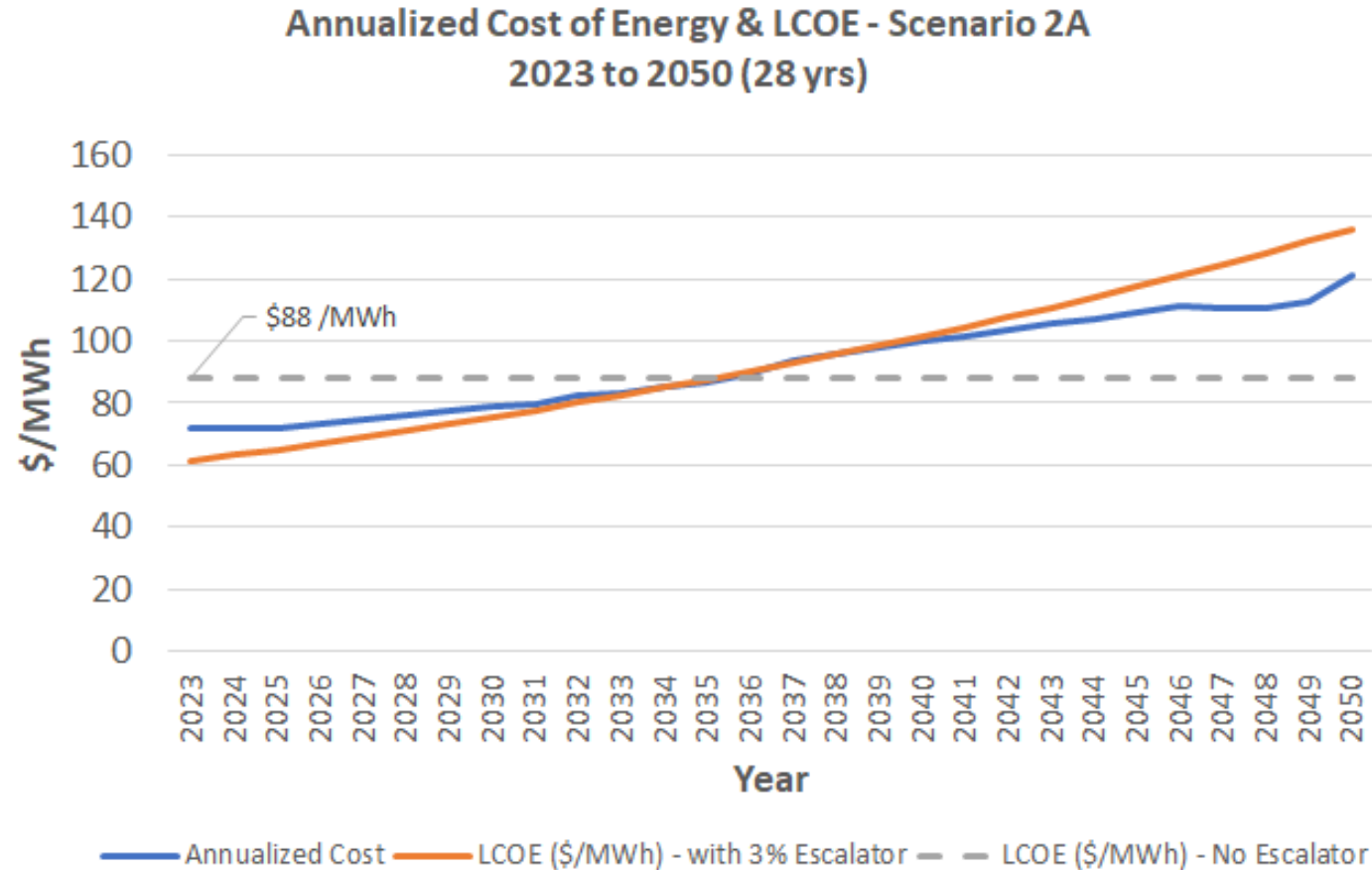


Generation technologies selected by the model for the net zero scenario 2A include carbon producing resources.

However, renewable energy credits are used to offset continued use of fossil fuels.



## Scenario 2A: Net Zero Carbon Annualized Cost of Energy and LCOE



The \$88/MWh LCOE cost of this 28-year, net-zero carbon analysis are much lower than the \$146/MWh for the 28 year analysis of Scenario 1A.

The purchase of inexpensive renewable energy credits allow continued purchases of fossil energy through 2050.

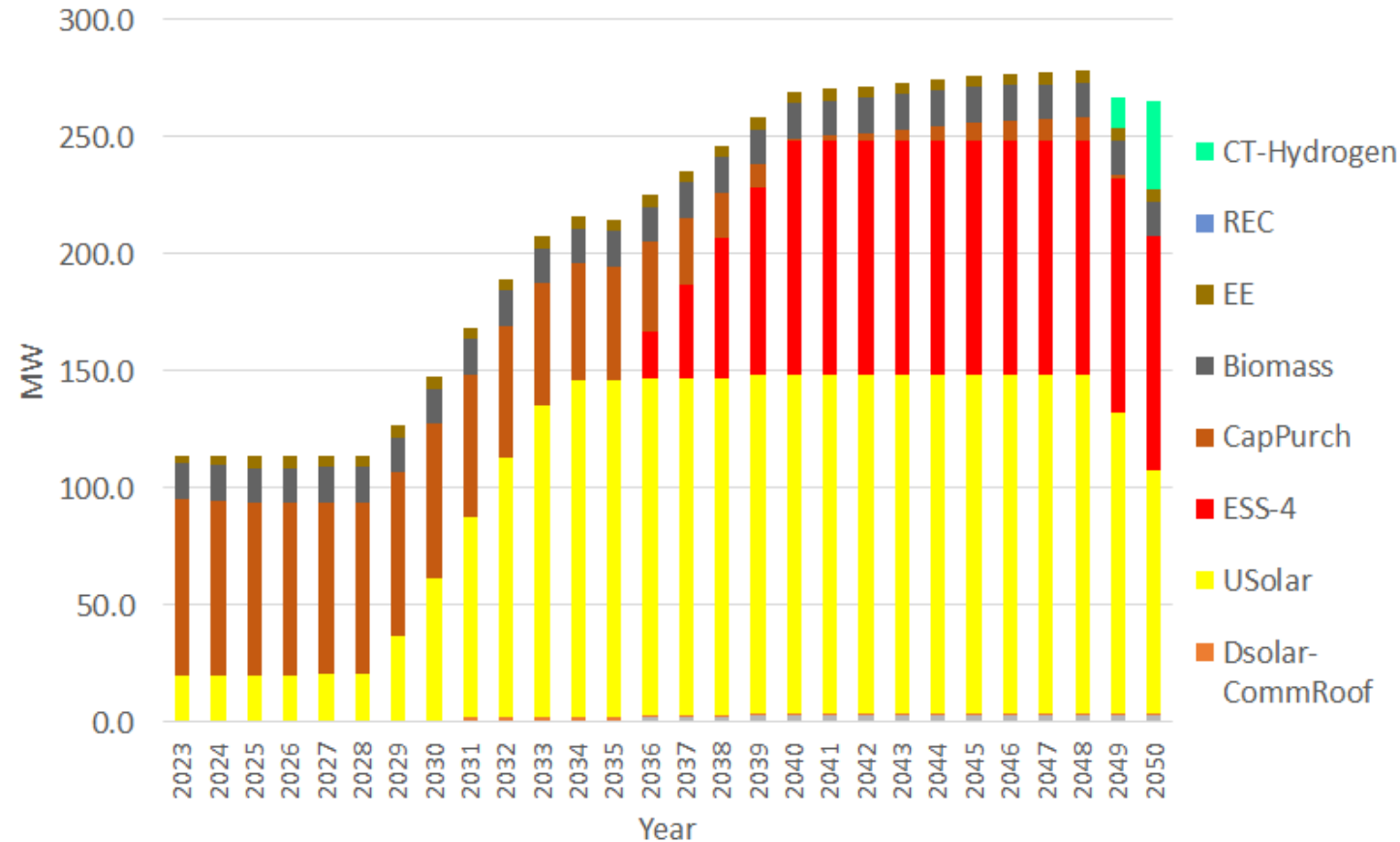


## Scenario 3A: 100% Renewables by 2035 then 100% by 2050

Scenario Element	Value
2050 renewable target	100%
2050 net-zero carbon target	
2035 renewable energy target	80%
Load forecast	Expected
Natural gas fuel price forecast	Expected
Distributed solar + storage	Expected
Electric-vehicle growth	Expected
REC pricing	N/A
Developer cost of capital for generation	8.00%
CWP cost of debt for generation	



## Scenario 3A: 80% Renewables by 2035 Annual Total Capacity Additions by Technology

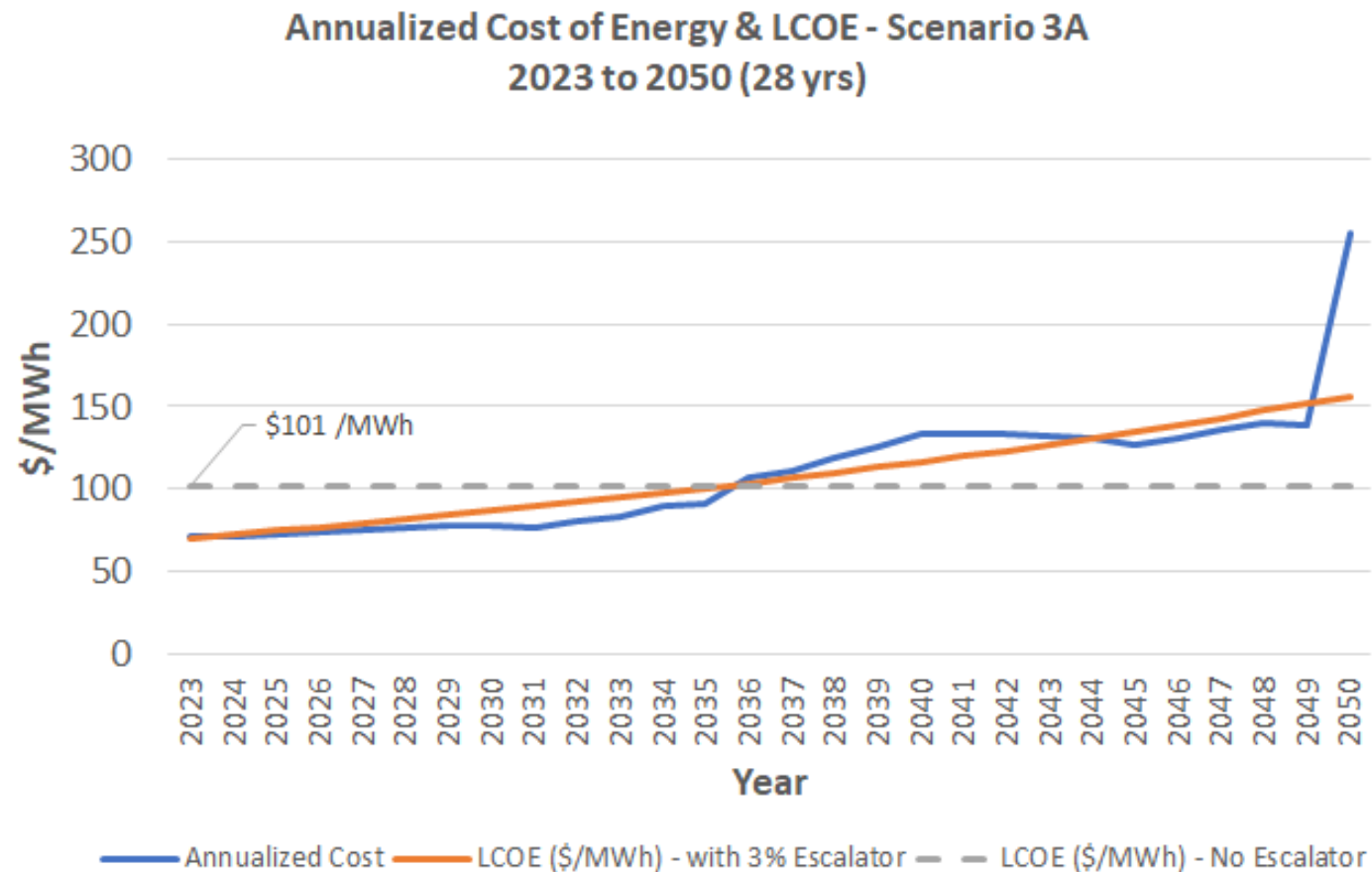


Generation technologies selected by the model for the 80% renewable scenario 3A are identical to those selected for the scenario 1A.

**However, renewables and batteries are just added at a more rapid pace and the green hydrogen addition is pushed out to the final two years.**



## Scenario 3A: 80% Renewables Annualized Cost of Energy and LCOE

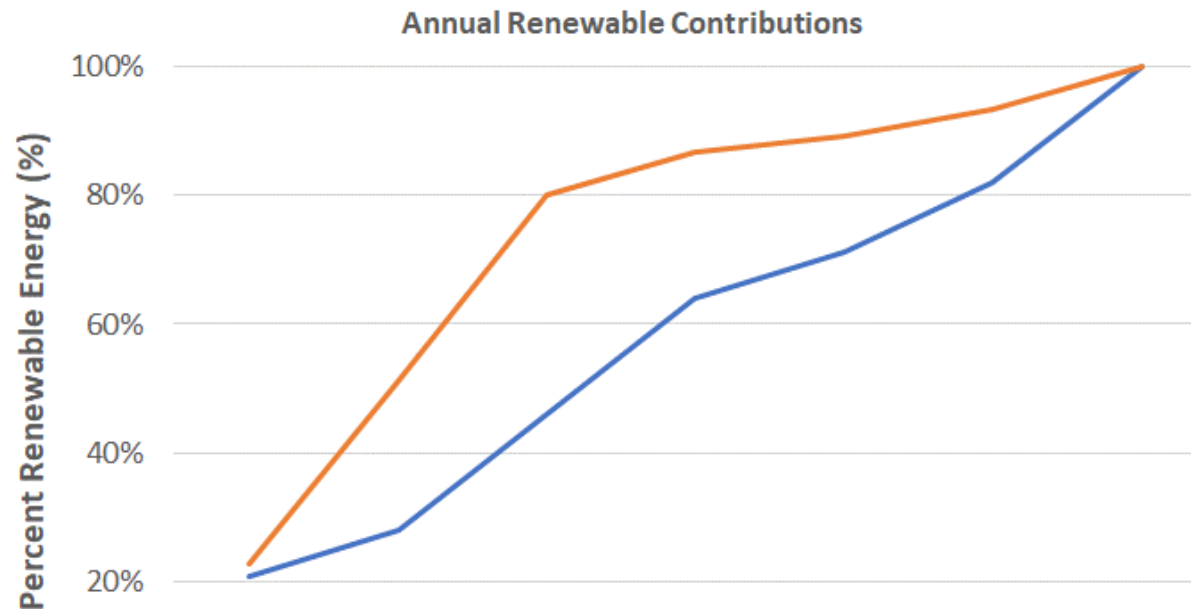


As with scenario 1A, green hydrogen CT is added but is moved out to the last two years, lowering the LCOE below Scenario 1A.





## Renewable Supply: 100% Longer Timeline vs. 80% Shorter Timeline



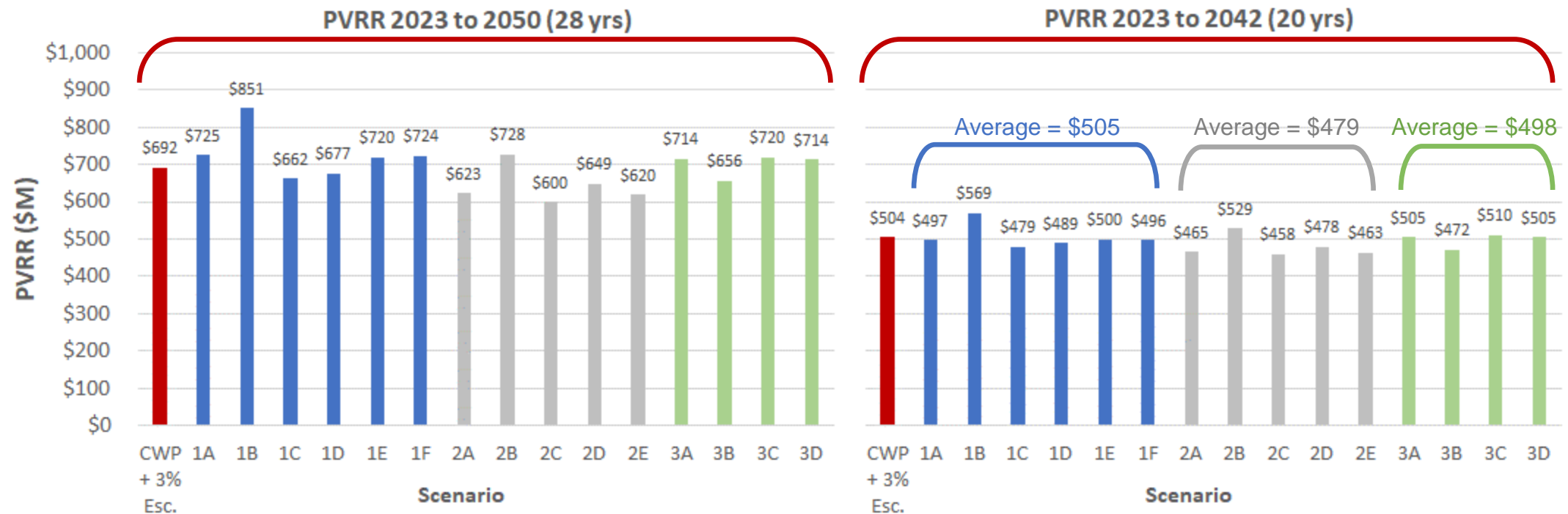
80% target by 2035 is aggressive and more solar and batteries will need to be purchased in early years to achieve goals

**Target 1A - 100% Renewable by 2050 reaches 80% renewables in 2044.**



# PVRR Results for All 15 Scenarios Indicate that Targets are Feasible

- Results for first 20 years of all scenarios are very close to the projected CWP costs.
- Results for 28 years show more variation due to technologies added in the later years of the study.





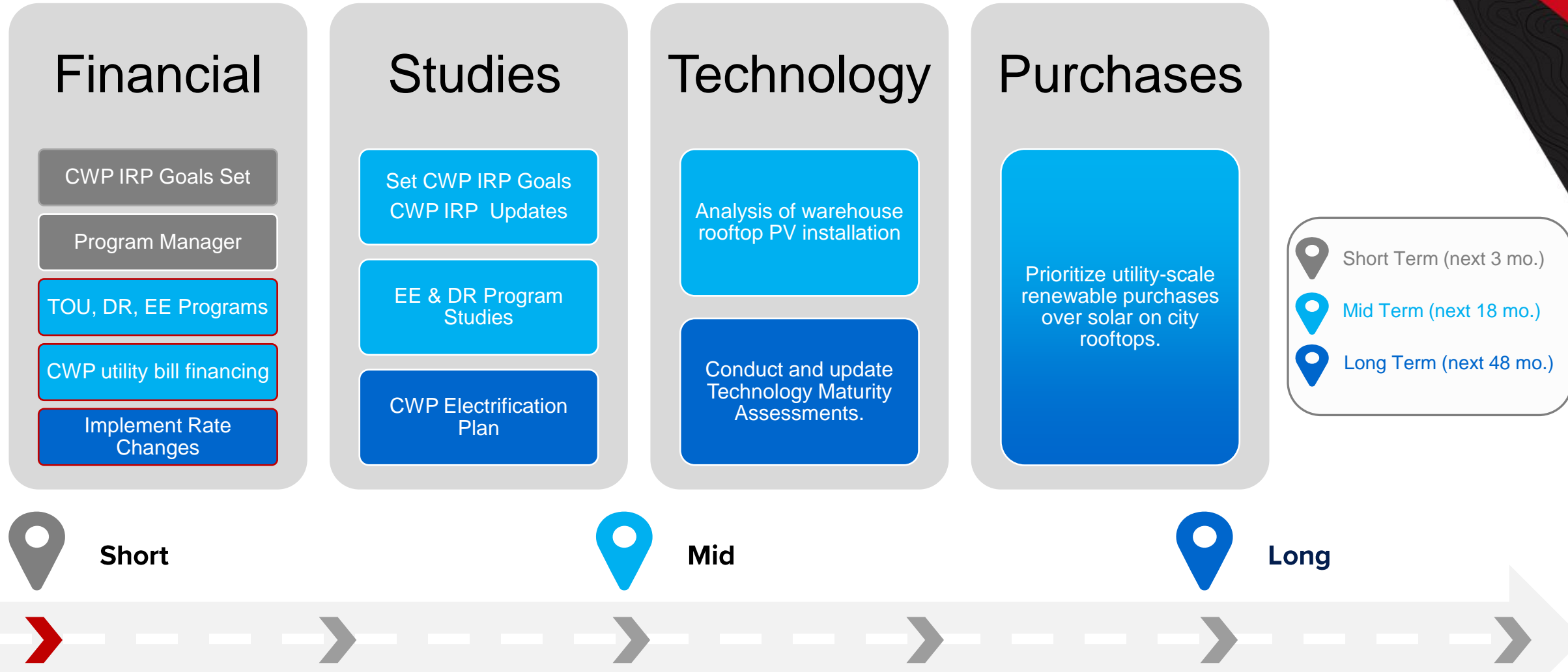
## Summary of Financial Results - PVRR and LCOE

Scenario	1A	2A	3A
<b>PV of revenue requirements (\$M)</b>			
• Based on 20 years of costs to 2042	\$497	\$465	\$505
• Based on 28 years of costs to 2050	\$725	\$623	\$714
<b>Levelized cost of energy (\$/MWh), no escalation</b>			
• Based on 20 years of costs to 2042	\$88	\$83	\$90
• Based on 28 years of costs to 2050	\$103	\$88	\$101





# Roadmap Next Steps



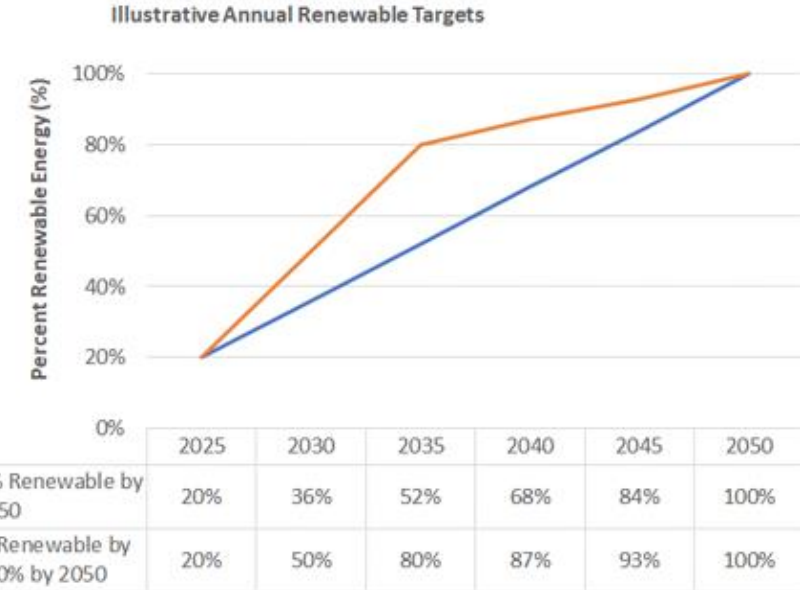


## Roadmap (Short-term)

**Primary focus:** Alignment, definition, goal setting/validation

**Timeframe:** May 2023 – July 2023

Actions	Projects
<ul style="list-style-type: none"><li>Define clear target for CWP's clean energy supply.</li><li>Start CWP IRP program.</li></ul>	<ul style="list-style-type: none"><li>Establish multiple interim targets for renewable contributions before 2050</li><li>A program manager will likely be needed to coordinate all aspects of reaching the goal</li></ul>



Short



Mid



Long



## Roadmap (Mid-term)

**Primary focus:** Customer DR/energy efficiency, solar expansion with storage

**Timeframe:** August 2023 – February 2025

### Actions

- Develop TOU, DR and EE programs.
- Prioritize more utility-scale renewable purchases over solar on city rooftops.
- Explore CWP utility bill financing.
- Update resource plan with using new data.

### Projects

- Complete load research study for input to TOU, DR and EE programs.
- Complete a study of all CWP assets for solar/storage incorporation and prioritization.
- Complete a CWP-specific EV adoption study.
- Explore City financing for customer rooftop solar and storage.
- Complete a revised IRP with a technology maturity assessment once EE and DR programs and load research are complete.



Short



Mid



Long



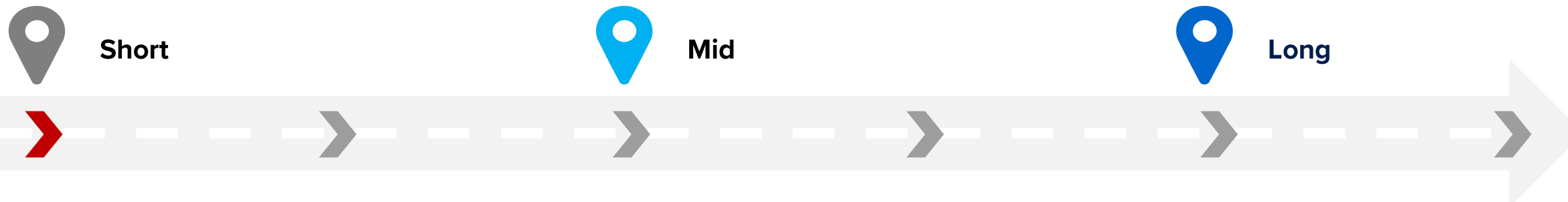


# Roadmap (Long-term)

**Primary focus:** Implementation of Programs (EE, TOU)

**Timeframe:** March 2025 – April 2027

Actions	Projects
<ul style="list-style-type: none"><li>• Create plan for CWP vehicle electrification.</li></ul>	<ul style="list-style-type: none"><li>• Complete a study and plan for the electrification of all CWP-owned vehicles.</li></ul>
<ul style="list-style-type: none"><li>• Implement EE, DR, TOU and NEM changes.</li></ul>	<ul style="list-style-type: none"><li>• Implement a robust set of EE and DR programs.</li><li>• Create and implement TOU rates.</li><li>• Change the NEM rate credited to customers.</li></ul>
<ul style="list-style-type: none"><li>• Update IRP and technology maturity assessments.</li></ul>	<ul style="list-style-type: none"><li>• Commit to revising and updating the CWP IRP every 3 - 4 years and update technology maturity assessment.</li></ul>







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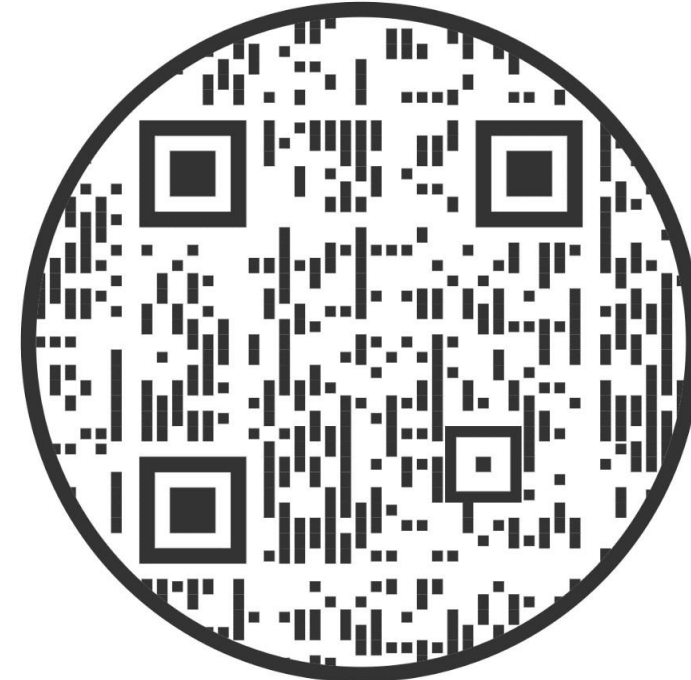
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# Additional Slides

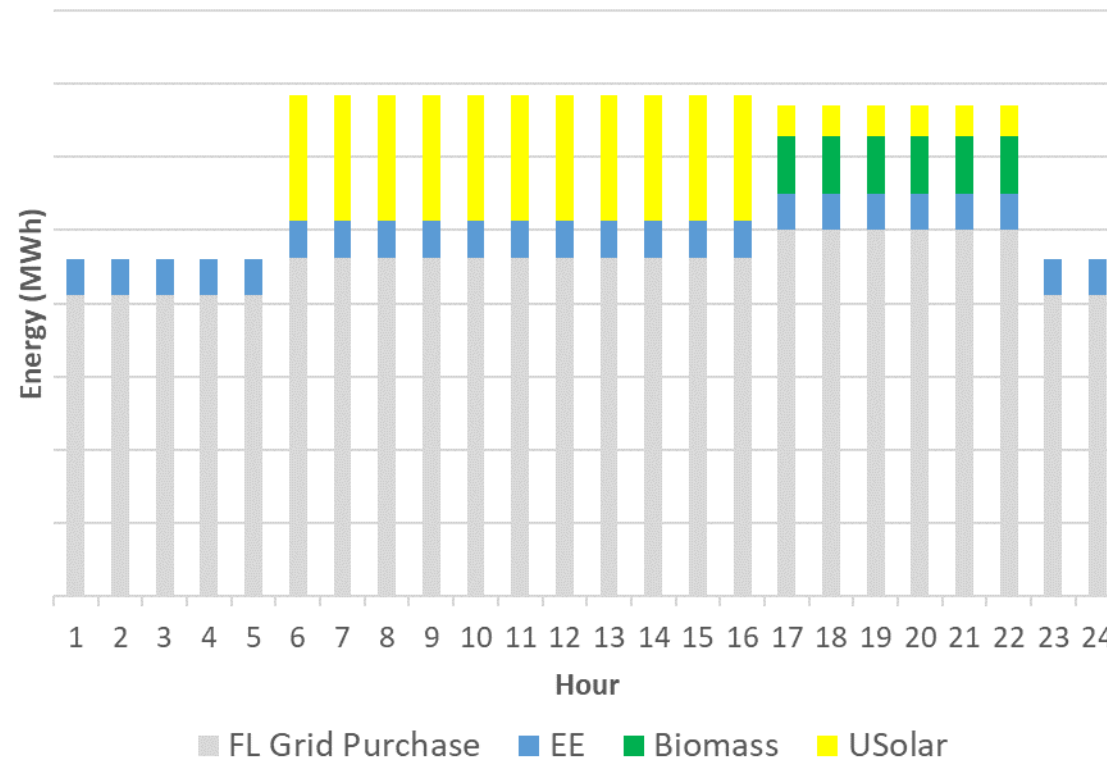


# Energy Sources

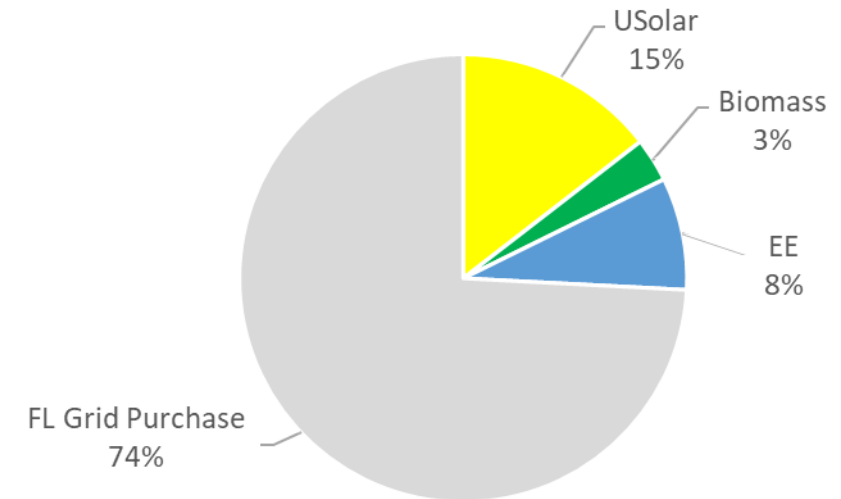
## Average Weekday Example – Scenario 1A, Year 2030

Supply is dominated by imported fossil resources from the Florida Grid

Average Summer Week-Day, Energy Source By Hour



Average Summer Week-Day, Energy Source by Day



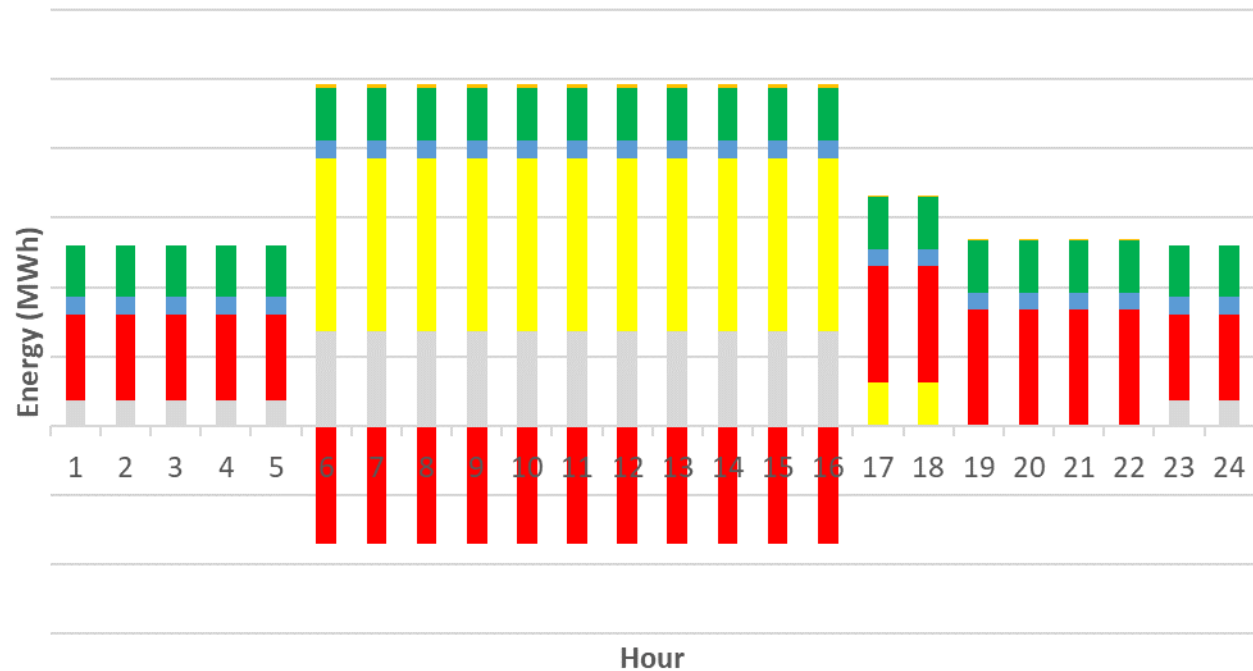


# Energy Sources

## Average Weekday Example – Scenario 1A, Year 2042

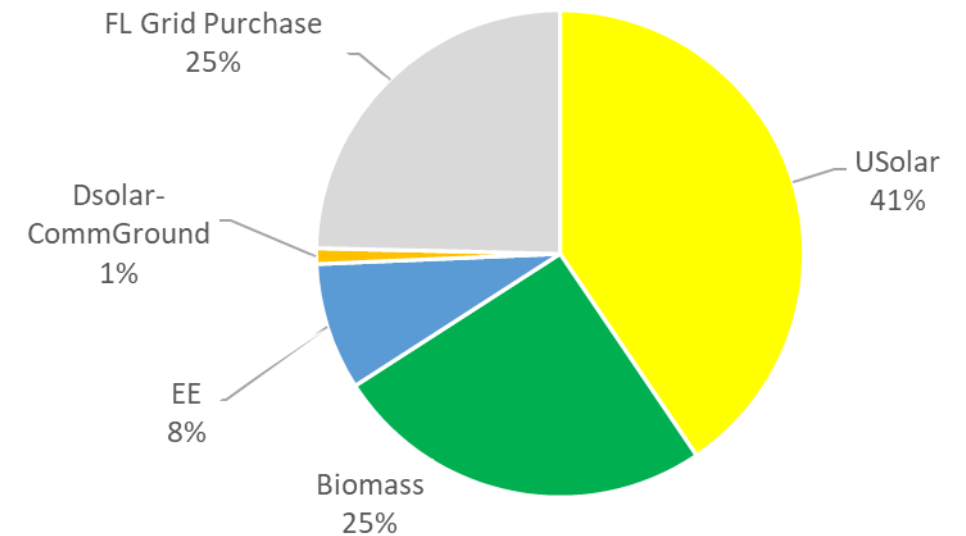
Supply is a mix of solar, fossil imports and biomass generation during the day with battery charging during the day for use at night.

Average Summer Week-Day, Energy Source By Hour



FL Grid Purchase USolar ESS-4 EE Biomass Dsolar-CommGround

Average Summer Week-Day, Energy Source by Day

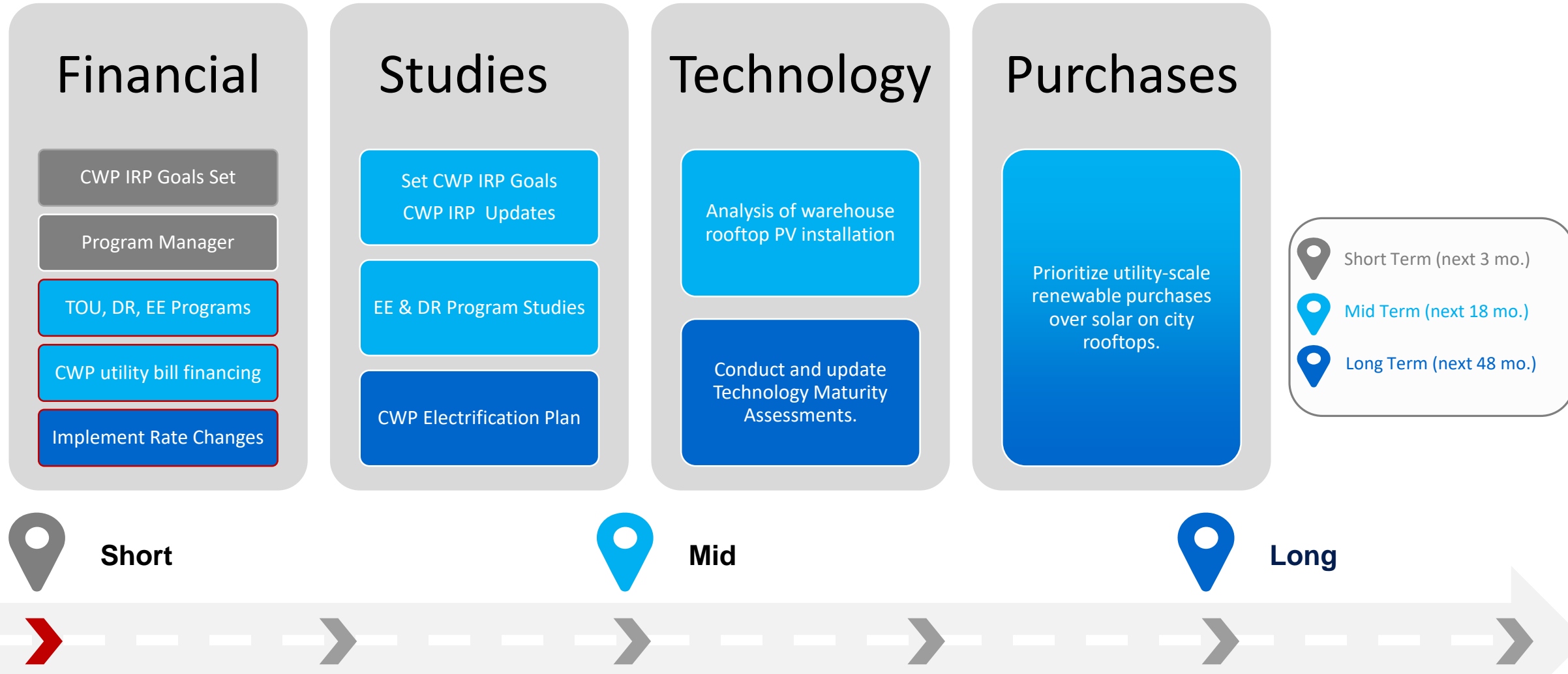




# Definition and Assumptions

Term	Definition
<b>Renewable</b>	All energy originates from some form of renewable technology
<b>Renewable energy</b>	<ul style="list-style-type: none"><li>• Energy is generated only from technologies that are considered to be renewable, including: wind, solar, ocean energy, geothermal, hydroelectricity, technologies that burn fuels derived from biomass and green hydrogen (i.e., hydrogen generated from processes that use water and renewable energy).</li><li>• Biomass is a solid or gaseous renewable energy resource derived from plant- and algae-based materials (e.g., crop wastes, microalgae, urban wood waste, food waste etc.).</li><li>• Hydroelectricity is a renewable technology but is treated differently than other forms of renewable energy in some states due to its other impacts on the environment.</li></ul>
<b>Net-zero carbon</b>	Net zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by removal out of the atmosphere. Generally, utilities plan to achieve net zero by both reducing their carbon emissions and acquiring carbon offsets, carbon credits to offset any remaining carbon emissions.
<b>Zero carbon</b>	<ul style="list-style-type: none"><li>• All energy is created with technologies that do not emit carbon into the atmosphere</li><li>• Real Zero™ is a new term just recently invented and trademarked by FPL and is identical in definition to zero carbon.</li><li>• For electric generation, zero carbon energy resources include nuclear and renewable technologies that do not emit carbon to the atmosphere.</li></ul>

# Roadmap Next Steps

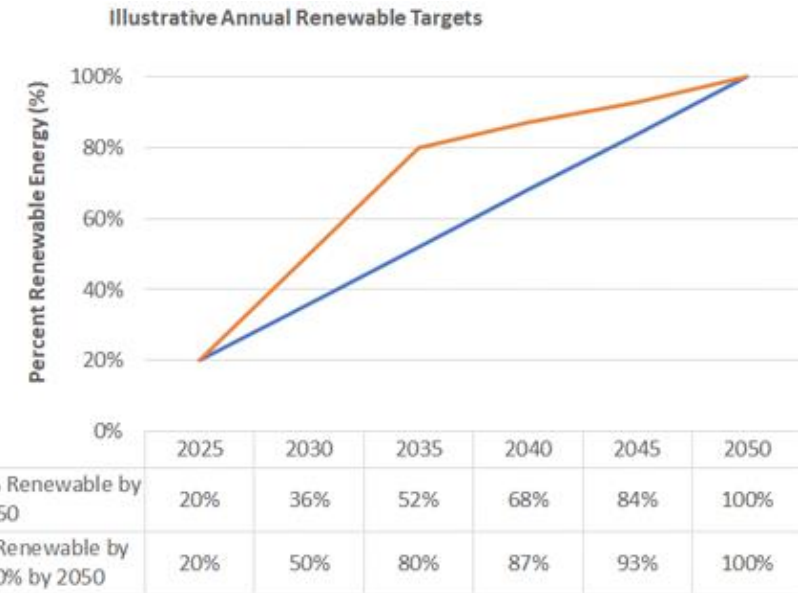


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Short



Mid



Long



# Roadmap (Mid-term)

**Primary focus:** Customer DR/energy efficiency, solar expansion with storage

**Timeframe:** August 2023 – February 2025

## Actions

- Develop TOU, DR and EE programs.
- Prioritize more utility-scale renewable purchases over solar on city rooftops.
- Explore CWP utility bill financing.
- Update resource plan with using new data.

## Projects

- Complete load research study for input to TOU, DR and EE programs.
- Complete a study of all CWP assets for solar/storage incorporation and prioritization.
- Complete a CWP-specific EV adoption study.
- Explore City financing for customer rooftop solar and storage.
- Complete a revised IRP with a technology maturity assessment once EE and DR programs and load research are complete.



Short



Mid



Long

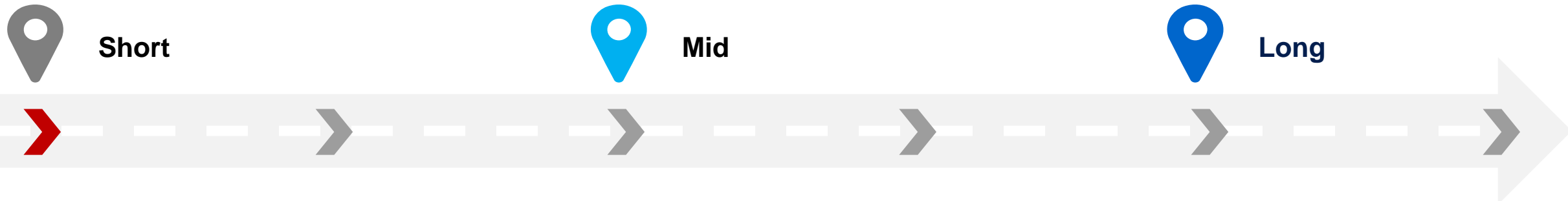


# Roadmap (Long-term)

**Primary focus:** Implementation of Programs (EE, TOU)

**Timeframe:** March 2025 – April 2027

Actions	Projects
<ul style="list-style-type: none"><li>• Create plan for CWP vehicle electrification.</li></ul>	<ul style="list-style-type: none"><li>• Complete a study and plan for the electrification of all CWP-owned vehicles.</li></ul>
<ul style="list-style-type: none"><li>• Implement EE, DR, TOU and NEM changes.</li></ul>	<ul style="list-style-type: none"><li>• Implement a robust set of EE and DR programs.</li><li>• Create and implement TOU rates.</li><li>• Change the NEM rate credited to customers.</li></ul>
<ul style="list-style-type: none"><li>• Update IRP and technology maturity assessments.</li></ul>	<ul style="list-style-type: none"><li>• Commit to revising and updating the CWP IRP every 3 - 4 years and update technology maturity assessment.</li></ul>



## Feasibility Study Recommendations:

City of Winter Park (CWP) is committed to a sustainable future whereby the City Commission has adopted a sustainability action plan (SAP) in January 2023 that calls for reducing greenhouse gas emissions (GHG) and targets all electricity consumption from renewable-fueled resources. Three primary targets were defined for evaluation as possible SAP goals for evolving toward a sustainable electric energy supply. The three potential targets evaluated by Quanta Technology's feasibility study for future energy supply included:

- Target 1: 100% renewable energy supply by 2050
- Target 2: 100% net-zero carbon energy supply by 2050
- Target 3: 80% renewable energy supply by 2035 and then 100% by 2050

Each target was analyzed by way of scenario considerations. A scenario in this context is a set of future conditions that collectively describe the external environment/conditions under which supply options are to be assessed. In the case of a resource plan, a scenario description includes a multi-year forecast of external drivers or assumptions important to the analysis, including load forecasts, EV growth, costs for renewables and battery storage, distributed solar and storage, the cost for natural gas fuel, energy efficiency and demand response forecasts, and financial assumptions.

The analysis indicates that the CWP's adoption of a path toward 100% renewables can be accomplished for a reasonable cost of power for the next 20 years. However, beyond the next 20 years (during the last 6 years analyzed in the report from 2043–2050), the technology selection and the costs remain uncertain and, based on the technology options, and costs assumed in this study, could bring a substantial increase in power costs. This rapid rise in costs near the end of the study period was driven by assumptions on technology costs which resulted in a sharp increase in cost during the final years of the study.

Quanta Technology study supports that additional cost-effective technologies will be available before 2043. The power industry is expending considerable time and money on identifying options that could deliver lower-priced energy sources, including offshore wind, long-term energy storage technologies, and new technologies for geothermal energy, among others. While the costs projected in the last 6 years of the study are high, based on the current assumptions, the costs before 2043 are comparable to projected CWP's utility costs and could be lower.

As continuing on a path to 100% renewable energy supply, and in the best interest of the CWP, a recommended roadmap for consideration is provided.

## Recommendations:

- CWP should adopt Target #3A: 80% renewable energy supply by 2035, 89% renewable energy supply by 2042 with updating on new technology available, and 100% renewable energy supply by 2050.
  - Adoption should be within the SAP whereby targets are updated as shown in table below.
  - Resolution should firm up the targets and goals removing context of aspirational.

INDICATORS							
	Indicator Description	2012 Baseline	2021 Status	2025 Target	2035 Target	2042 Target	2050 Target
CR-1	Proportion of renewable energy in Winter Park Electric Utility's Energy portfolio <sup>1</sup> – Baseline Year: 2021 includes Covanta	4%	13%	23%	80%	89%	100%
CR-2	Community wide greenhouse gas emissions [Tons of carbon dioxide equivalent] <sup>2</sup> – Baseline Year: 2018	398,919	405,394	355,000	235,000	151,000	58,000
CR-3	WP Electric Utility customers with Solar – Baseline Year: 2012	7	139	300	700	950	1300
CR-4	Proportion of Residents within 1/2 mile of affordable, healthy food options – Baseline Year <sup>3</sup> : 2012	-	46%	50%	75%	80%	TBD
CR-5	Undergrounding of Winter Park's electrical utility <sup>3</sup>	-	74%	85%	100%		

<sup>1</sup>Approximations with plans for refinement as reaching 100% target in 2050 is contingent on a dramatic cost reduction in dispatchable energy from renewable sources.

<sup>2</sup>The baseline for this updated indicator will be calculated in 2023, previous indicator did not include "affordable" identifier.

<sup>3</sup>Target completion date is no later than 2030.

- CWP should not avoid adopting its renewable targets because of costs that are not expected to occur for over 20 years.
- CWP should regularly reevaluate its targets and plans for its electric energy supply. Should continuing on a path to 100% renewable prove too costly in future years, CWP can adjust accordingly.
- CWP should invest in an Integrated Resource Plan (IRP) Program Manager position. Job description included.
- CWP should have Quanta Technologies available as consultant to new Integrated Resource Plan (IRP) Program Manager position to align with the study results and CWP's mission; including a pro-forma rate analysis.
- CWP should implement educational outreach efforts including community meetings and educational material that fosters support in meeting targets and goals.

## Roadmap Goals:

- Short-term (May–July 2023): Focusing on alignment, definition, and goal setting/validation, which includes defining and committing to a clean energy supply target and establishing multiple interim targets for renewable contributions along the path to 2050.
- Mid-term (August 2023–February 2025): Focusing on designing customer demand response (DR) programs, energy efficiency (EE) programs and time of use (TOU) rates, prioritizing utility-scale renewable purchases over solar for city assets.
- Long-term (March 2025–April 2027): Focusing on implementing EE, DR programs and TOU rates, and changing the net energy metering (NEM) rate credited to the customer to a cost-based TOU rate.



**QUANTA**  
TECHNOLOGY

**REPORT**

# City of Winter Park 100% Renewable Initiative Final Report



**PREPARED FOR**

City of Winter Park

**DATE**

May 04, 2023  
(Version 3.0)

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# 1 EXECUTIVE SUMMARY

The City of Winter Park (CWP) is located in Central Florida adjacent to Orlando in Orange County. Winter Park's vision is a city of arts and culture, cherishing its traditional scale and charm while building a healthy and sustainable future for all generations. CWP owns its electric distribution assets, and its utility supplies electricity to approximately 14,276 customers. CWP does not generate power but has contracts with the Florida Municipal Power Association (FMPA) and Orlando Utilities Commission (OUC) to purchase approximately 100 MW of power yearly and approximately 10 MW from Covanta, which derives power from burning waste.

CWP is committed to a sustainable future and has created a sustainability action plan (SAP) that calls for reducing greenhouse gas emissions (GHG) and targets all electricity consumption from renewable-fueled resources. Specifically, three primary targets were defined for evaluation as possible CWP goals for evolving toward a sustainable electric energy supply. The three potential targets under consideration for the future CWP energy supply include:

- **Target 1:** 100% renewable energy supply by 2050
- **Target 2:** 100% net-zero carbon energy supply by 2050
- **Target 3:** 80% renewable energy supply by 2035 and then 100% by 2050

It is important to note that while a net-zero carbon scenario was analyzed as Target 2, CWP is primarily focused on roadmaps based upon true 100% renewable or carbon-free targets. Therefore, primary conclusions and roadmap considerations are centered around 100% renewable paths (Targets 1 and 3).

Each target was further analyzed by way of scenario considerations. A scenario in this context is a set of future conditions that collectively describe the external environment/conditions under which supply options are to be assessed. In the case of a resource plan, a scenario description includes a multi-year forecast of external drivers or assumptions important to the analysis, including load forecasts, EV growth, costs for renewables and battery storage, distributed solar and storage, the cost for natural gas fuel, energy efficiency (EE) and demand response (DR) forecasts, and financial assumptions.

To better account for future conditions, Quanta Technology used a planning methodology that considers ranges of plausible future conditions founded on variations of multiple scenarios rather than analysis on a single scenario associated with a target. Therefore, the three base targets were expanded into a total of 15 different scenarios:

- Six focused on achieving Target 1 (100% renewable by 2050)
- Five focused on achieving Target 2 (100% net-zero carbon by 2050)
- Four focused on achieving Target 3 (80% renewable supply by 2035 and then 100% by 2050)



This analysis indicates that CWP's adoption of a path toward 100% renewables can be accomplished for a reasonable cost of power for the next 20 years. However, beyond the next 20 years (i.e., during the last 6 years analyzed in this report from 2043–2050), the technology selection and the costs remain understandably more uncertain and, based on the technology options and costs assumed in this study, could bring a substantial increase in CWP's power costs. This rapid rise in costs near the end of the study period was driven by assumptions on technology costs which resulted in a sharp increase in cost during the final years of the study.

Quanta Technology believes that additional cost-effective technologies will be available well before 2043. The power industry is expending considerable time and money on identifying options that could deliver lower-priced energy sources, including offshore wind, long-term energy storage technologies, and new technologies for geothermal energy, among others. While the costs projected in the last 6 years of the study are high, based on the current assumptions, the costs before 2043 are comparable to projected CWP costs and could be lower. CWP should not avoid adopting its renewable targets because of costs that are not expected to occur for over 20 years. CWP should regularly reevaluate its targets and plans for its electric energy supply. Should continuing on a path to 100% renewable prove too costly in future years, CWP can adjust accordingly.

A recommended roadmap was developed and principally centered around the following:

- **Short-term (May–July 2023):** Focusing on alignment, definition, and goal setting/validation, which includes defining and committing to a clean energy supply target and establishing multiple interim targets for renewable contributions along the path to 2050.
- **Mid-term (August 2023–February 2025):** Focusing on designing customer EE and DR programs, time of use (TOU) rates, and prioritizing utility-scale renewable purchases over solar for city assets.
- **Long-term (March 2025–April 2027):** Focusing on implementing EE and DR programs, TOU rates, and changing the net energy metering (NEM) rate credited to the customer to a cost-based TOU rate.

A complete list of the recommended activities and projects in the roadmap is included in Section 7.2. Appendix A provides definitions of terms used in this report, and Appendix B provides a list of acronyms used in this report.



## 2 PROJECT SCOPE

### 2.1 Overview

The City of Winter Park (CWP) is 10 square miles with over 30,000 residents. CWP's Electric Utility Department supplies electricity to approximately 14,276 customers (12,048 residential properties and 2,228 commercial customers). CWP does not generate power but has contracts with the Florida Municipal Power Association (FMPA) and Orlando Utilities Commission (OUC) to purchase approximately 100 MW of power yearly. In addition, CWP purchases approximately 10 MW of power from Covanta, which derives power from burning waste. In 2023, CWP will also purchase 20 MW of solar energy through its partnership with the FMPA.

CWP is committed to a sustainable future and has passed resolutions to promote its commitment. On January 14, 2008, the CWP City Commission (City Commission) passed a resolution stating that CWP would pursue measures to become a certified Green Local Government through the Florida Green Building Coalition (FGBC). In 2011, CWP was officially certified as a Green Local Government at the Gold level. As part of those efforts, CWP has created a sustainability action plan (SAP) that calls for reducing greenhouse gas emissions (GHG) and targets all electricity consumption from renewable-fueled resources by 2035.

CWP defines sustainability as “responsible and proactive decision-making that minimizes negative impact and maintains a balance between social, environmental, and economic growth to ensure a desirable environment for all species now and into the future.” CWP believes its efforts to invest in sustainability will bring numerous benefits increasing quality of life, reducing dependence on fossil fuels, protecting and enhancing the environment, and realizing economic value and savings.

CWP contracted Quanta Technology to conduct a study that outlines a roadmap and a feasible action plan for CWP to reach its sustainability objectives. CWP stressed the importance of creating a realistic, practical plan with feasible implementation options. The study was centered around the assessment of three potential targets under consideration for the future CWP energy supply:

- **Target 1:** 100% renewable energy supply by 2050
- **Target 2:** 100% net-zero carbon energy supply by 2050
- **Target 3:** 80% renewable energy supply by 2035 and then 100% by 2050

Net-zero carbon refers to a state in which the greenhouse gases going into the atmosphere are balanced by removing carbon from the atmosphere. Generally, utilities plan to achieve net zero by reducing their carbon emissions and acquiring carbon offsets, carbon credits, or renewable energy credits (RECs) to offset any remaining carbon emissions.

It is important to note that while a net-zero carbon scenario was analyzed, CWP is primarily focused on roadmaps based upon true 100% renewable or carbon-free targets. This is primarily due to net-zero carbon plans using carbon offsets or renewable energy credits to reach the intended goal instead of reaching a sustainability goal oriented around true zero-carbon options (see Appendix B: List of Abbreviations and Acronyms for term definitions).





## 2.2 Scope of Work

The scope of work for the contracted study primarily involved the following activities:

1. **Data gathering:** Quanta Technology presented CWP with a list of over 25 data items to be analyzed and serve as the basis for many of the inputs used in the subsequent modeling effort. CWP diligently provided the data items, including electric utility organization and staff descriptions, maps and descriptions of transmission interconnections, data on generators or energy storage owned by CWP and power purchase agreements, system consumption data including load profiles, historical energy consumption data peak demand, energy forecasts, photovoltaic (PV) data, electric vehicle (EV) data, home electrification forecasts, and historical and current city carbon levels. This data was sometimes supplemented with relevant industry sources where CWP data was unavailable.
2. **Initiation workshop and strategic discussions:** CWP and Quanta Technology held a one-day workshop comprised of several core sessions with targeted discussion, including background discussion, an overview of Quanta Technology's probabilistic integrated resource planning (IRP) process, an alignment around metrics and modeled scenarios, a review and preliminary analysis of supplied data, and several discussions on assumptions and next steps.
3. **Modeling plausible scenarios to reach zero emissions:** Utilizing the provided data items along with the information learned from the initiation workshop, Quanta Technology commenced an effort to customize its IRP process using the supplied data and learned information and used its proprietary capacity expansion program, known as probabilistic integrated resource planning (PIRP).

The three agreed scenarios (100% renewable 2050, 100% net-zero carbon 2050, and 80% renewable 2035) were analyzed. They were augmented by capturing a total of 15 different scenarios representing variations in key scenario elements such as adoption rates, load forecasts, pricing variations, and cost of capital/debt. These results better assist CWP in selecting the best path, targets, and portfolio mix to reduce the carbon emissions from their electricity consumption. Ultimately CWP will need to balance the achievement of targets against affordability, available generation options in Florida, and CWP's comfort level in adopting new generation technologies (e.g., biofuels and green hydrogen).

4. **Results compilation:** Quanta Technology worked collaboratively with the CWP to review draft results and align on assumptions and material to be presented. Additional questions for key stakeholders were also considered and addressed as part of the presentation of the final results. Results are captured in this report and summarized in an executive stakeholder presentation.
5. **Stakeholder presentations:** The executive stakeholder presentation was delivered to a joint session of the Utilities Advisory Board and the Keep Winter Park Beautiful and Sustainable Advisory Board, as well as a separate presentation for the City Commission.



## 3 PROBABILISTIC IRP MODELING OVERVIEW

### 3.1 Philosophy and Approach

The robust response from regulators, utilities, and corporations to climate change in recent years has culminated in many declaring their commitments to carbon reduction goals reaching 100% between 2035–2050.

Traditional integrated resource planning (IRP) processes and tools have served the industry well over the past 30 years. However, they are increasingly challenged due to the following:

- Increased uncertainties in load development, electrification, technology, and grid development.
- Reliability concerns are not modeled due to the high penetration of inverter-based resources (IBRs including batteries, solar, and wind).
- The dependence of resource development on the availability of T&D hosting capacities is not co-optimized.
- Resilience requirements associated with intermittent weather-dependent resources and grid vulnerabilities are not modeled.
- Energy storage capacity (i.e., duration) is pre-selected and not optimized.
- Energy storage value is often restricted to energy balancing, while the full benefits stack is not exploited.

Quanta Technology, LLC, and Sandia National Laboratories embarked on a multi-year effort to create a probabilistic IRP (pIRP) software tool to address these challenges and ensure robust pathways to reaching 100% carbon reduction goals while preserving system reliability and resilience.

pIRP is a significant enhancement to traditional IRP tools to assist utilities in evaluating and selecting decision pathways that are flexible and adaptable in the face of increasing uncertainty and changes in technology, policy, consumption patterns, and business models. The traditional scenario planning and sensitivity analysis approaches are augmented with the probabilistic analysis and real option valuation methods to balance the costs and risks properly.

The drive to high renewable futures based on intermittent technologies such as solar PV and wind will necessarily drive the need for flexible companion assets such as battery energy storage and DR and long-duration storage options and renewable fuel-based solutions. pIRP optimizes the capacity buildout to reduce the overall cost to ratepayers while achieving renewable goals and maintaining system reliability.

Figure 1 shows the complete process of capacity planning, starting with defining policy drivers and resource strategies to derive a set of study scenarios. Policy drivers can include carbon reduction goals, electrification adoption rates, and affordability targets, among other factors. Resource strategy includes the practical aspects of resource development options, such as focusing on self-sufficiency or reliance on imports and a preference toward centralized versus microgrids and distributed resources. The set of scenarios bound the range of various factors that are important to decision-makers.



In addition to defining discrete scenarios, pIRP allows the development of probabilistic uncertainty models of key drivers and factors for more complete characterizations of risks and uncertainties, including resource capacities, cost impacts, and carbon reduction levels.

The output of the pIRP is a set of metrics and resource plans. These can be calculated for each discrete scenario or summarized across the range of probabilistic samples.

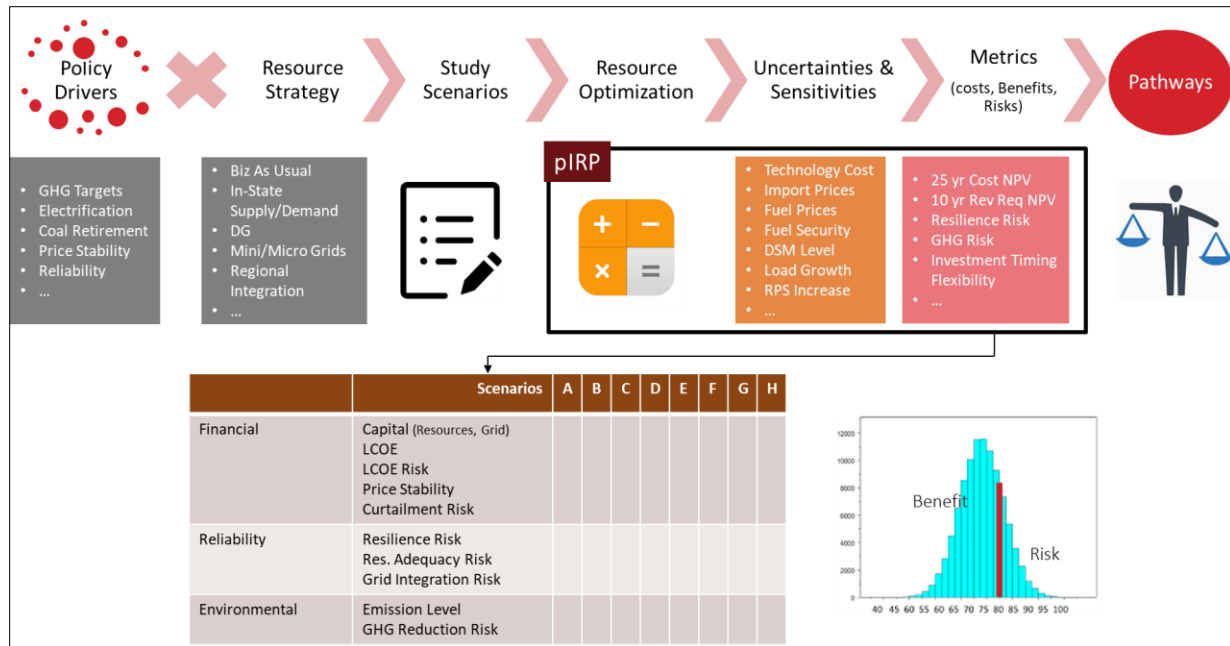


Figure 1. pIRP Process Overview

### 3.2 pIRP Model Overview

The following are the key modeling features of pIRP:

- The power system is modeled spatially and temporally. pIRP uses a zonal representation for system resources and models distribution hosting capacities, transmission deliverability capability within each zone, and energy transfer capability between zones. The ability to expand these grid capabilities and the associated costs are also modeled. pIRP utilizes time buckets to represent periods of time within a day. The duration of time buckets is flexible, but the finer the resolution, the longer the simulations will require.

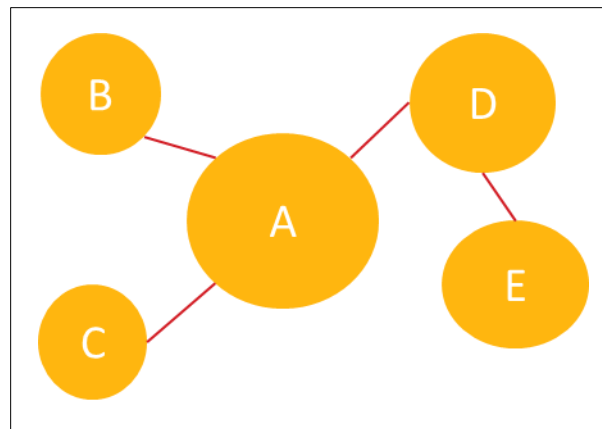


Figure 2. Zonal Representation of the Power System

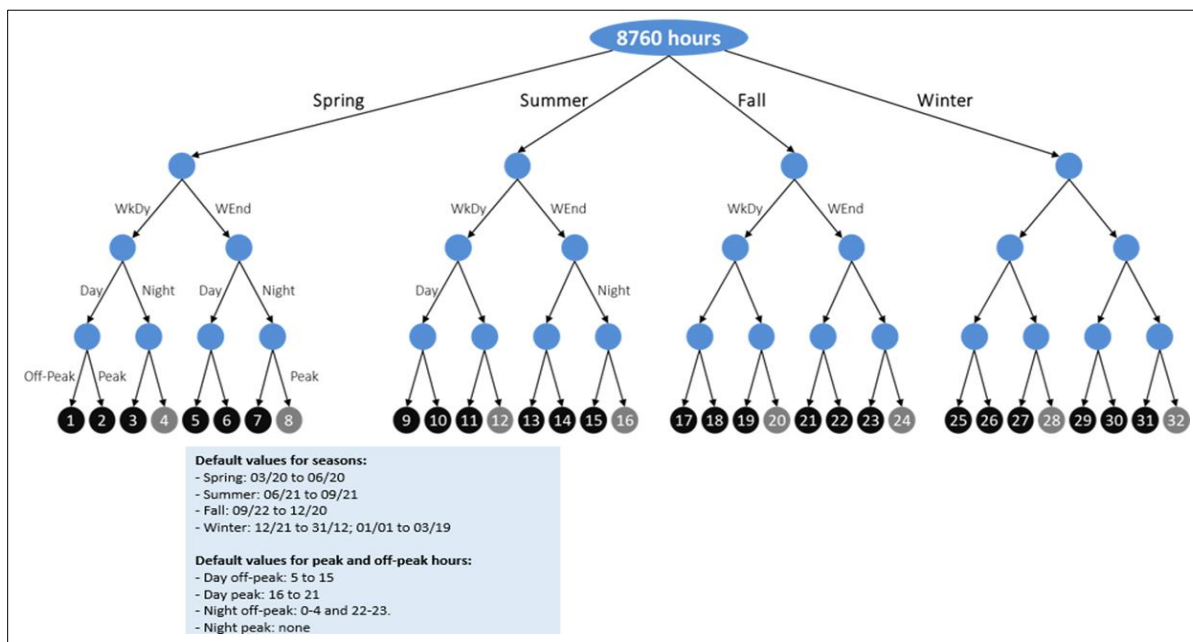


Figure 3. Time Buckets Representation of Time

- The load forecast of each zone can be specified by providing peak and hourly profiles of multiple load components such as residential, commercial, streetlight, EV charging, and storage charge-discharge profiles. The tool provides flexibility in defining load components.
- Users can define many resource types, such as solar PV, nuclear, and renewable energy credits (RECs). Each resource type has many attributes that differentiate it from other resources, such as its capacity credit or effective load carrying capability (ELCC), asset life, ability to store energy, and duration of storage.
- Fuels can be specified regarding their cost projections, carbon content, and whether they are renewable.
- The user specifies existing resources and acceptable types of future resources in each zone. Each resource will have many attributes such as its connectivity to transmission or distribution system, heat



rate, outage rates, per unit capital and operational costs, fuel selection, capacity buildout capability annually, and in total, 8760 production profiles, if applicable, maximum operational hours in a year, minimum generation levels, ramp rates, etc.

- T&D hosting capacities and tie-line power transfer capabilities. The maximum expansion capability and per-unit costs can be specified.
- Uncertainty can be modeled using statistical functions and associated parameters. Data inputs (such as peak load, load growth rates, fuel cost, ELCC, etc.) can be treated as uncertain.
- Resilience against renewable drought can be specified, such as lack of solar or wind resource production over several consecutive days. This resilience aspect including energy supply during and after storm events was out of scope for this study. Average weather was assumed in the development of resource portfolios.
- pIRP imposes several constraints, including energy balance for each zone at the time bucket, capacity requirements in each zone, including reserve margins, ramping requirements to ensure frequency stability, variable resource penetration limits, and resilience targets.
- pIRP formulates the capacity expansion as a linear program (LP) and runs a Monte Carlo using Latin hypercube sampling to generate probable outcomes.
- The user specifies for each zone the renewable targets over time.
- The user selects the duration of the optimizations (1–30 years).
- pIRP co-optimizes resource capacity buildout (including retirements), resource dispatch and curtailments, and T&D grid expansion to achieve minimal cost to ratepayers while achieving renewable targets and reliability constraints. Figure 4 summarizes the various components of pIRP.

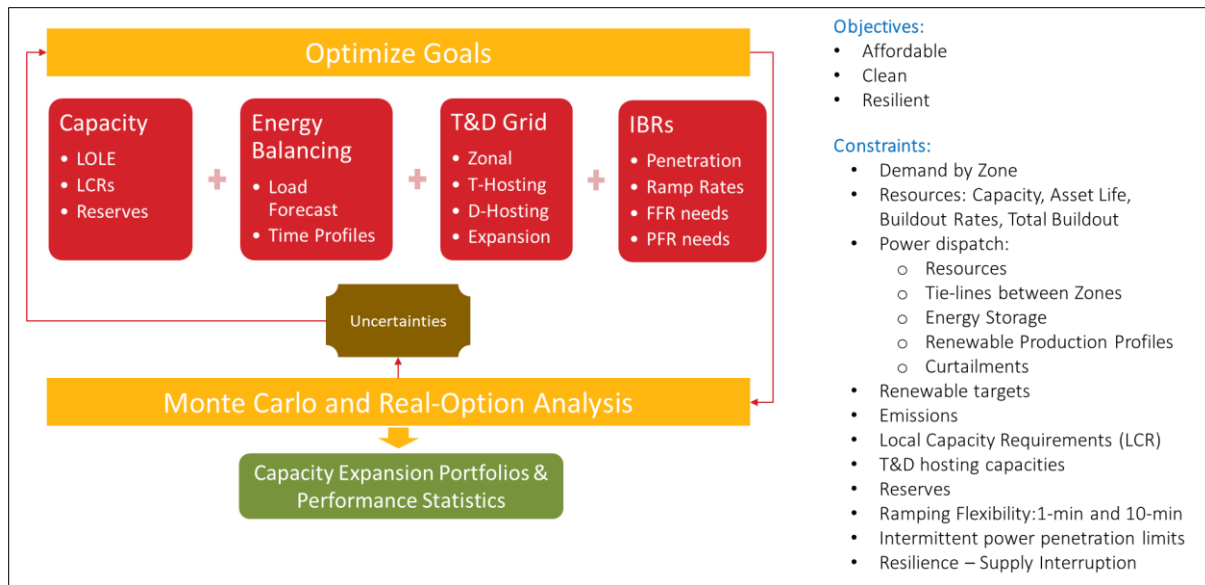
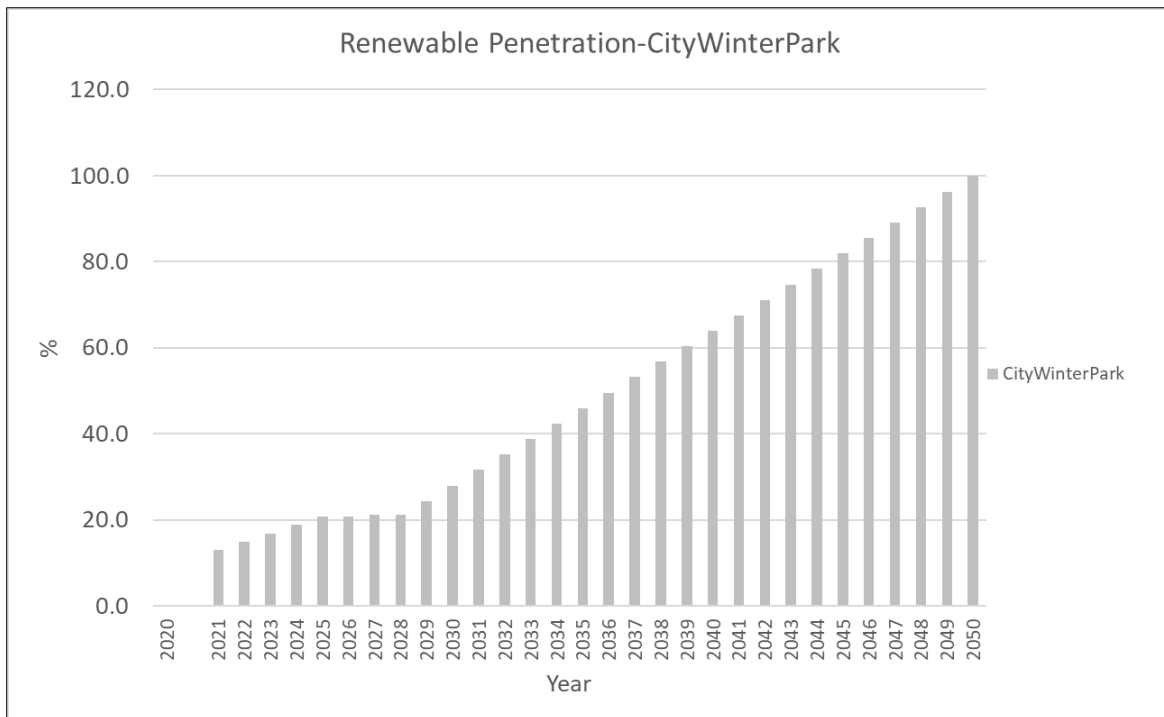


Figure 4. pIRP Modeling Capability

- The output of pIRP can be summarized physically and financially for each zone and each year (sample output is shown in Figure 5, Figure 6<sup>1</sup>, and Figure 7).



<sup>1</sup> Technologies referenced in Figure 6 and elsewhere in the report are defined in Table 12 in Appendix B: List of Abbreviations and Acronyms





Figure 5. pIRP Sample Output 1

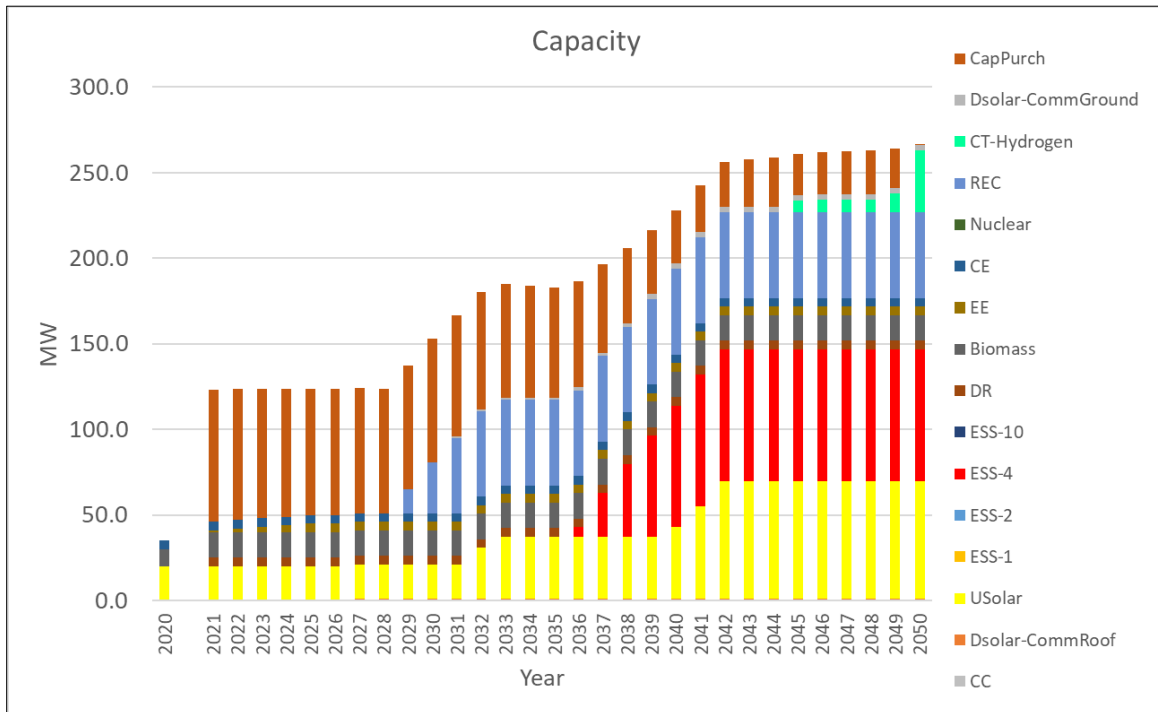


Figure 6. pIRP Sample Output 2

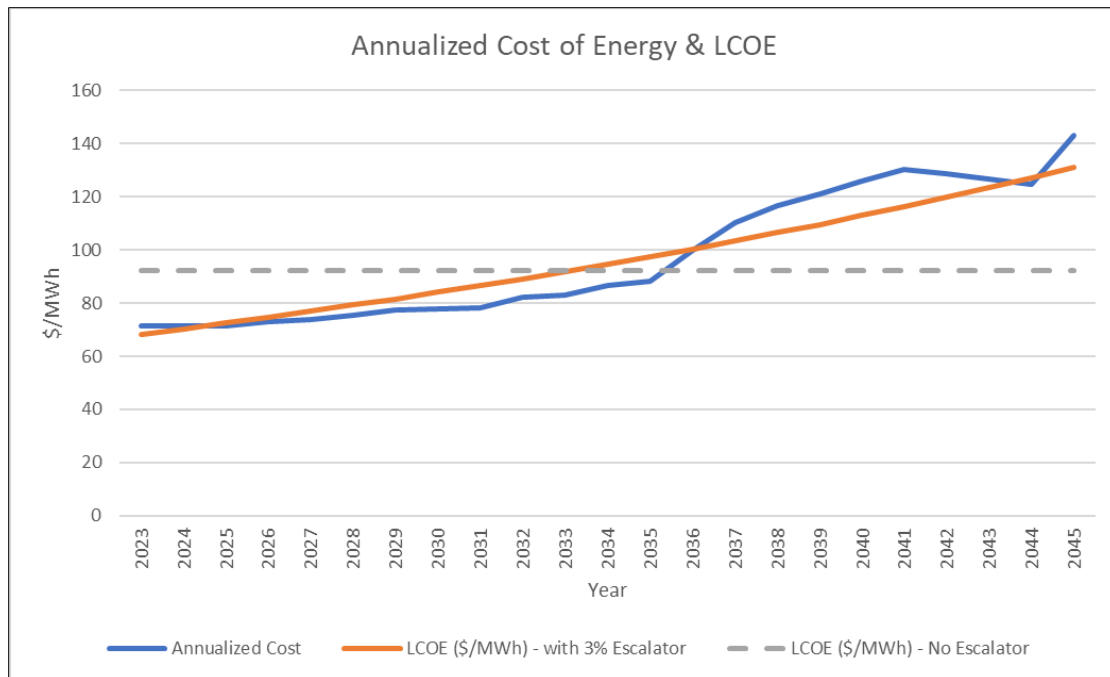


Figure 7. pIRP Sample Output 3



## 4 CWP LOAD FORECASTS AND OTHER DATA INPUTS

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### 4.1 Overview

Any long-range analysis of supply resource options requires much data, including historical data, current and future energy resource characteristics, and forecasts regarding future conditions and costs. The data requirements required for this study can be generally categorized into the following topics:

1. Load forecast
2. Distributed solar and storage
3. EV growth
4. Renewables and battery storage costs
5. EE and DR forecast
6. Natural gas fuel price forecast
7. Renewable energy credit (REC) Pricing
8. Financial assumptions

Quanta Technology worked with CWP to develop a set of historical data and then determine forecasting methods and assumptions that would provide the needed input data to the terminal year of the study (2050). These forecasted data and assumptions provide the foundation of the technical analysis used to select the preferred resource portfolios that could meet CWP renewable targets at the lowest costs. Since developing a single accurate forecast for the next 27 years is nearly impossible, planners typically develop multiple forecasts of conditions intended to provide a likely range of future outcomes for most of the needed assumptions.

The following subsections summarize the data sources and methods used to create forecasts for each planning element.

### 4.2 Gross Customer Usage

To estimate the type and cost of energy resources needed by CWP to achieve its 2050 renewable targets, the analysis must first start with a forecast of the energy and peak demand of CWP customers. CWP was able to provide Quanta Technology with ten years of historical data. The most recent ten years of CWP annual energy are shown in Figure 8.

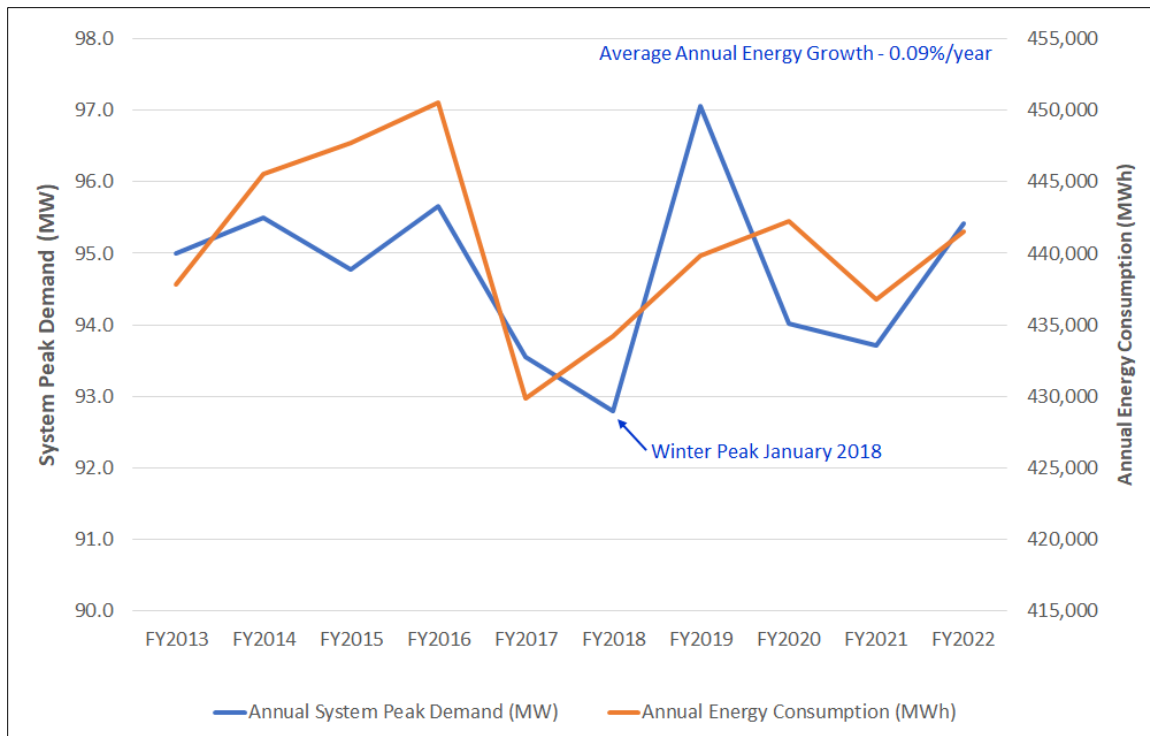


Figure 8. Historical Annual CWP Energy Consumption and System Peak Demand

The average annual energy use growth rate for these last ten years has been 0.09%. This was virtually zero growth in sales when much of this time included a generally robust economy and real estate market. Each of the last six years (2017–2022) has recorded lower annual sales than the previous three years (2014–2016). While a six-year downward trend is significant, the time period included multiple years of impacts from the COVID-19 pandemic and may not predict future energy consumption.

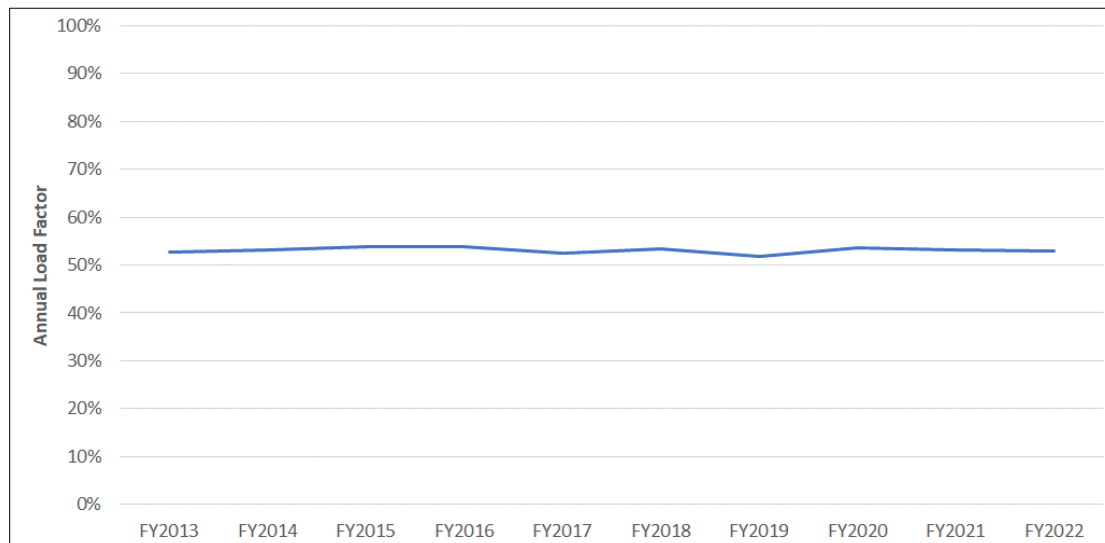




Figure 9 provides the historical annual load factor for CWP for the last ten years, which has been remarkably consistent, indicating that there has been very little change in the demand served by CWP.

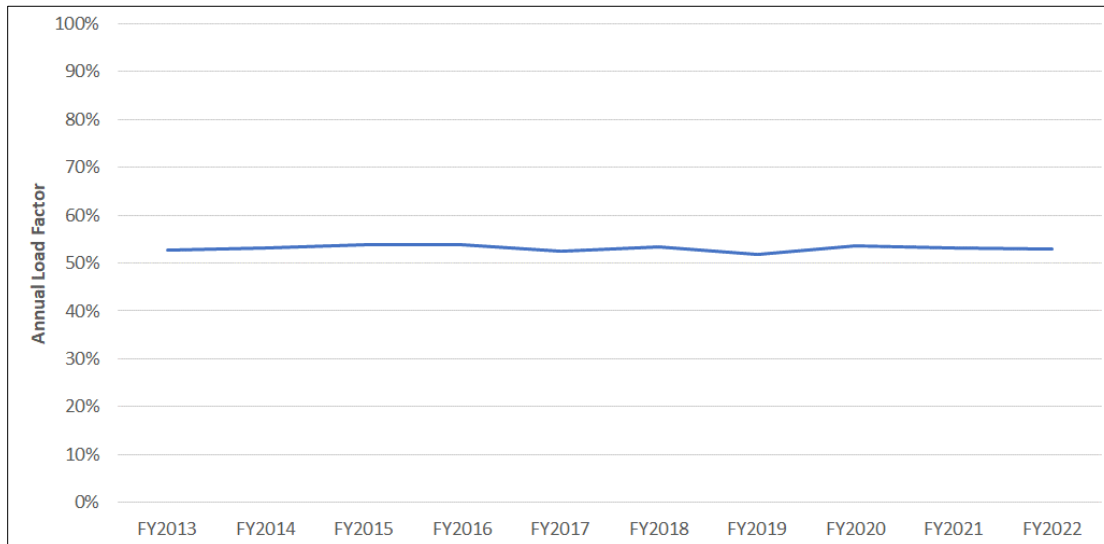


Figure 9. CWP Annual System Load Factor

CWP did not have a recent, long-range energy and demand forecast that could be used for this analysis. Developing a long-range forecast of CWP energy and demand using typical methods<sup>2</sup> was beyond the scope of this analysis. Even with excellent data and a rigorous methodology, forecasting is an inexact science. Since this analysis aimed to assess the feasibility of CWP achieving its 100% renewable targets, creating a precise CWP forecast was less important to the results than analyzing results across a range of forecasts that would serve to bracket the CWP energy forecast. Since central Florida is served by multiple utilities, Quanta Technology and CWP staff decided that the load growth projections of other nearby Florida utilities could serve as potential, reasonable proxies for the CWP's expected growth.

The Florida Public Service Commission (PSC) requires that each of the large utilities in Florida file a ten-year site plan (TYSP), which includes information on the utilities in the state. Among the data in these filings is an annual forecast of its energy requirement for the next ten years. Quanta Technology reviewed the individual 2022 TYSP filings of the utilities and the summary of all the files prepared by PSC: Review of the 2022 TYSP of Florida's Electric Utilities<sup>3</sup> From the reporting utilities, Quanta Technology selected four utilities that were believed to provide useful input to the estimation of the future CWP growth rate: Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA), Florida Power and Light (FPL) and Tampa Electric Company (TECO). The ten-year energy forecasts for each of these utilities were normalized to their respective 2022 sales and then charted in Figure 10.

<sup>2</sup> Typical energy forecasts for long range utility resource planning are based on weather normalized data and end-use or class-differentiated, econometric, multivariable regression.

<sup>3</sup> FL PSC Review of the 2022 Ten-Year Site Plans of Florida's Electric Utilities, October 2022.

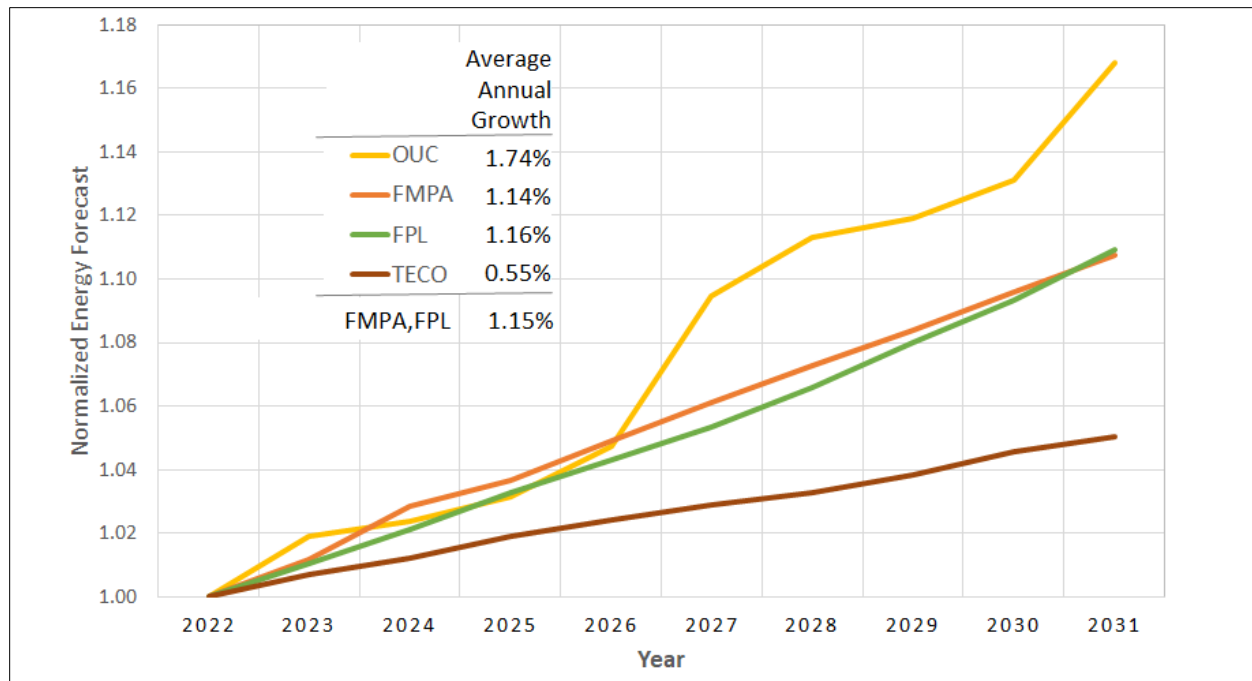


Figure 10. Forecast of Florida Utility Growth Rates

As can be seen in Figure 10, the average annual growth rates vary from a high of 1.74% for OUC to a low of 0.55% for TECO. OUC, FMPA, and FPL have a similar growth trajectory in the first four years (2022–2026) until OUC diverges with a significantly higher growth rate in the last five years (2027–2031) than the other two utilities.

CWP is already densely developed with limited opportunity for future growth from new customers or developing vacant land. Its historic growth over the last nine years has been virtually flat, averaging only 0.09% yearly. CWP's future growth will be driven by the expanded energy use from its existing customers through increasing the energy density of existing customers, such as by expanding floor space and end uses on existing residential and commercial lots.

After reviewing the growth projections in the 2022 TYSP of the nearby utilities, Quanta Technology selected an expected CWP energy growth rate consistent with CWP's average annual growth rate over the last ten years, or 0.09%. This average reflects a continuation of virtually flat load growth for the embedded end users and customers. This expected load growth does not explicitly consider the potential impacts of end-use electrification (e.g., changing gas space and water heating to electric appliances). However, as discussed later in this report, Quanta Technology has addressed the forecasted impacts from increased distributed generation (principally distributed solar), distributed batteries, and EV charging separately as energy and load modifiers to the embedded system energy and peak demand.

Quanta Technology selected the annual average of the projected FMPA and FPL energy growth, or 1.15%, as the value of the high- or upper-end load forecast for this CWP study. While still low, this 1.15% represents a significant annual growth for embedded load, particularly when the growth rate does not include the expected impacts from EV charging. Quanta Technology believes the 1.15% annual growth should be on the upper end of growth rates that CWP could expect. This upper-end growth was selected





for CWP since a higher growth rate was thought to make achieving the target renewable generation more difficult. Figure 11 below shows the expected and high energy forecast for CWP.

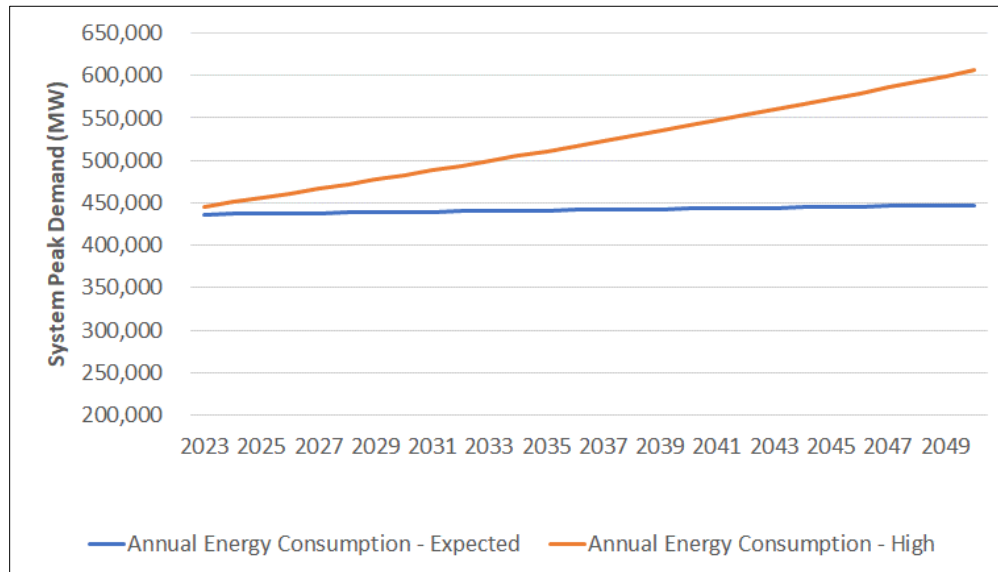


Figure 11. CWP Forecasted Annual Energy Consumption

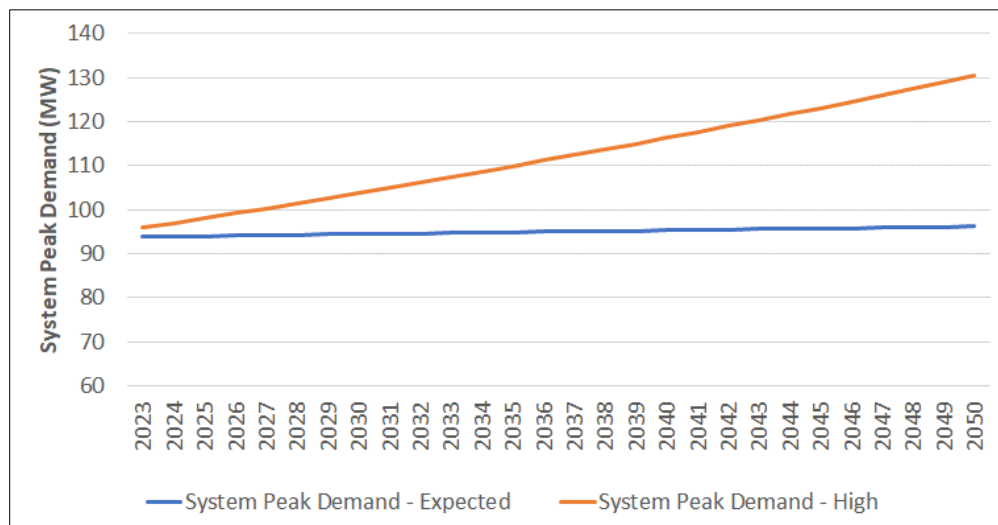


Figure 12. CWP Forecasted System Peak Demand

The energy and demand forecasts in the prior charts are forecast prior to any adjustment for the impacts of EE, DR, and electric vehicles (EVs).



### 4.3 Distributed Solar and Storage

Distributed solar and storage are highly dependent on various industry forces, including technology advancements in EVs, storage, and PVs, as well as consumer adoption. The technology model for distributed solar and storage is considered mature technology that assumes:

- EV chargers will incrementally improve
- PV modules will incrementally improve
- Battery storage is commercially available for households and modeled after the size of a Tesla Powerwall

CWP and its residents have some influence on distributed solar and storage adoption rates, and these rates have further been segmented into different categories:

- Residential single-family homes
- Multifamily homes
- Commercial buildings
- CWP assets
  - Commercial buildings
  - Industrial areas

Appendix D: NREL PVWatts Solar Production Estimates shows the NREL PV Power Estimate for a 1000 square-foot roof, which was used on a unit basis to provide estimates for solar production. Multiple residential single-family homes (SFH) adoption assumptions for solar, storage, and EV were created for this study. Solar rooftop installations in Florida expanded due to state tax credits. Without tax credits, adoption slowed drastically. We do not assume tax credits will be the sole driver of adoption, but they will certainly be one of the key drivers. Early EV adopters have also been shown to be closely aligned with those SFH which have installed solar PV. Our model assumes growth across a mix of three types of SFHs with rooftop solar PV, batteries, and EV chargers:

1. An SFH with 500 sq ft of solar PV panels, a Tesla Powerwall battery, and an EV charger that draws on average 24 kWh per day
2. An SFH with 743 sq ft of solar PV panels and a Tesla Powerwall battery that has a net-zero energy draw per day. A net-zero energy installation has sufficient solar PV energy production capacity to offset 100% of the location's annual energy consumption. No EV is included in this SFH variation.
3. An SFH with 928 sq ft of solar PV panels, a Tesla Powerwall battery, and an EV charger that has a net-zero energy draw per day

Forecasts for the residential solar PV and batteries are provided in Appendices E and F. The residential batteries in these installations are assumed to be controlled by the home owner.

Multifamily homes and commercial buildings are considered net-consumers of energy. Forecasting solar PV and EV charger installations on landlord-owned multifamily homes is complex principally because they are site-specific and landlord-specific. It is likely that solar PV and EV chargers on landlord-owned, multifamily homes will significantly lag the installations for SFHs and have only a small impact on CWP



loads within the next 5–10 years. For these reasons, Quanta Technology did not include a separate forecast for the multifamily homes.

For CWP-owned assets, the adoption rate of solar on these commercial buildings was based on the year of expected roof replacements. For buildings that did not have an estimated year of roof replacement, the expected solar kW's were evenly distributed until 2050. Industrial areas such as the CWP lift stations were included in this analysis.

In addition, Quanta Technology developed an estimate of the EV charging that will be performed by business commuters that work within the CWP and charge their vehicles at work during the day.

For each of the elements discussed in this section, an expected forecast was created, as well as a high and low forecast. These three forecasts of the contributions from the distributed solar, storage, and EV charges were then added to the different scenarios as noted in Table 6 and Table 7.

## 4.4 Electric Vehicles

Like the development of the CWP energy forecasts for this study, Quanta Technology looked to the forecasts of other Florida Utilities and their 2022 TYSP to develop a forecast of CWP EV charging loads. Table 1 summarizes the expected growth in the number of EVs in each of the utilities noted<sup>4</sup>.

**Table 1. 2022 TYSP: Estimated Number of EVs**

Year	FPL	DEF	TECO	JEA	GRU	TAL	Total
<b>2022</b>	116,202	33,325	12,218	4,220	1,065	1,158	168,722
<b>2023</b>	162,141	42,404	14,890	5,477	1,331	1,469	227,712
<b>2024</b>	220,697	52,918	17,742	6,939	1,664	1,832	301,792
<b>2025</b>	293,809	65,134	20,785	8,589	2,080	2,253	392,650
<b>2026</b>	391,240	79,267	24,119	10,419	2,600	2,736	510,381
<b>2027</b>	512,104	95,455	27,808	12,441	3,250	3,288	654,346
<b>2028</b>	657,776	114,021	31,977	14,689	4,063	3,921	826,447
<b>2029</b>	831,693	135,439	36,561	17,187	5,078	4,640	1,030,598
<b>2030</b>	1,037,328	160,059	41,599	19,951	6,348	5,459	1,270,744
<b>2031</b>	1,273,609	188,139	47,156	22,993	7,935	6,378	1,546,210

Table 2 summarizes the expected annual energy consumption for cumulative EV charging in each utility noted.<sup>5</sup>

<sup>4</sup> FL PSC Review of the 2022 Ten-Year Site Plans of Florida's Electric Utilities, October 2022, Table 2.

<sup>5</sup> FL PSC Review of the 2022 Ten-Year Site Plans of Florida's Electric Utilities, October 2022, Figure 15.



**Table 2. 2022 TYSP: Estimates EV Annual Charging Consumption (GWh)**

Year	FPL	DEF	TECO	JEA	GRU	TAL	Total
2022	231.0	24.0	34.6	17.2	3.8	3.5	314.2
2023	401.0	54.1	45.5	24.1	4.8	4.5	534.0
2024	623.0	91.9	57.3	32.1	6.0	5.6	816.0
2025	908.0	138.9	70.3	41.2	7.5	6.9	1,172.7
2026	1,289.0	199.0	---	51.2	9.4	8.4	1,641.6
2027	1,771.0	274.5	100.8	62.3	11.7	10.1	2,230.5
2028	2,361.0	366.8	118.3	74.7	14.6	12.1	2,947.6
2029	3,075.0	470.4	137.9	88.5	18.3	14.4	3,804.4
2030	3,930.0	586.2	159.5	103.7	22.9	17.0	4,819.2
2031	4,913.0	712.2	183.0	120.5	28.6	19.9	5,977.1

Table 3 summarizes the expected annual energy consumption per vehicle for charging EVs in each utility noted. The per-vehicle energy consumption in Table 3 is derived by dividing the annual charging energy for all EVs shown in Table 2 by the annual number of EVs in Table 1.

**Table 3. Annual Energy Consumption Per EV (kWh)**

Year	FPL	DEF	TECO	JEA	GRU	TAL	Average
2022	1987.9	720.2	2831.9	4075.8	3568.1	3022.5	1862.2
2023	2473.2	1275.8	3055.7	4400.2	3606.3	3063.3	2345.1
2024	2822.9	1736.6	3229.6	4626.0	3605.8	3056.8	2703.8
2025	3090.4	2132.5	3382.2	4796.8	3605.8	3062.6	2986.6
2026	3294.7	2510.5	---	4914.1	3615.4	3070.2	3216.4
2027	3458.3	2875.7	3624.9	5007.6	3600.0	3071.8	3408.7
2028	3589.4	3217.0	3699.5	5085.4	3593.4	3085.9	3566.6
2029	3697.3	3473.2	3771.8	5149.2	3603.8	3103.4	3691.4
2030	3788.6	3662.4	3834.2	5197.7	3607.4	3114.1	3792.4
2031	3857.5	3785.5	3880.7	5240.7	3604.3	3120.1	3865.6

Quanta Technology used the FPL data in the tables above, together with FPL service territory population and FL State vehicle registration data, to estimate the percent registered vehicles in FPL's service territory that it expects to be EVs for the next ten years.

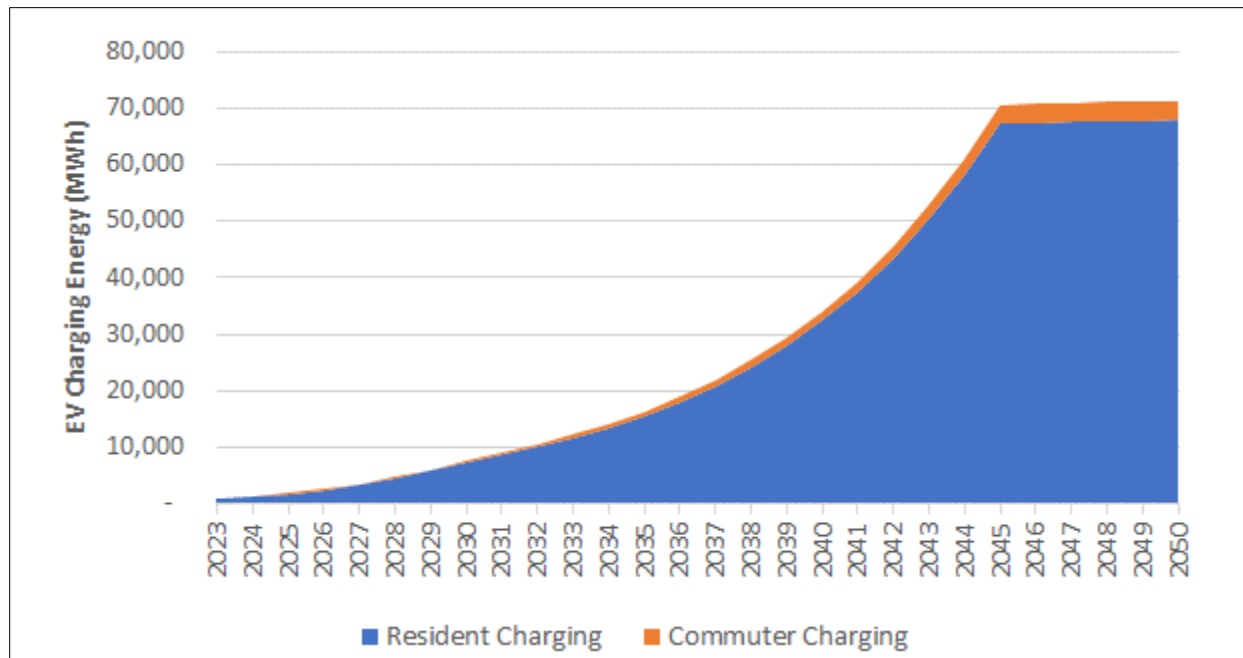


Figure 13. Resident and Commuter Annual EV-LDV Charging Energy: Expected Scenario

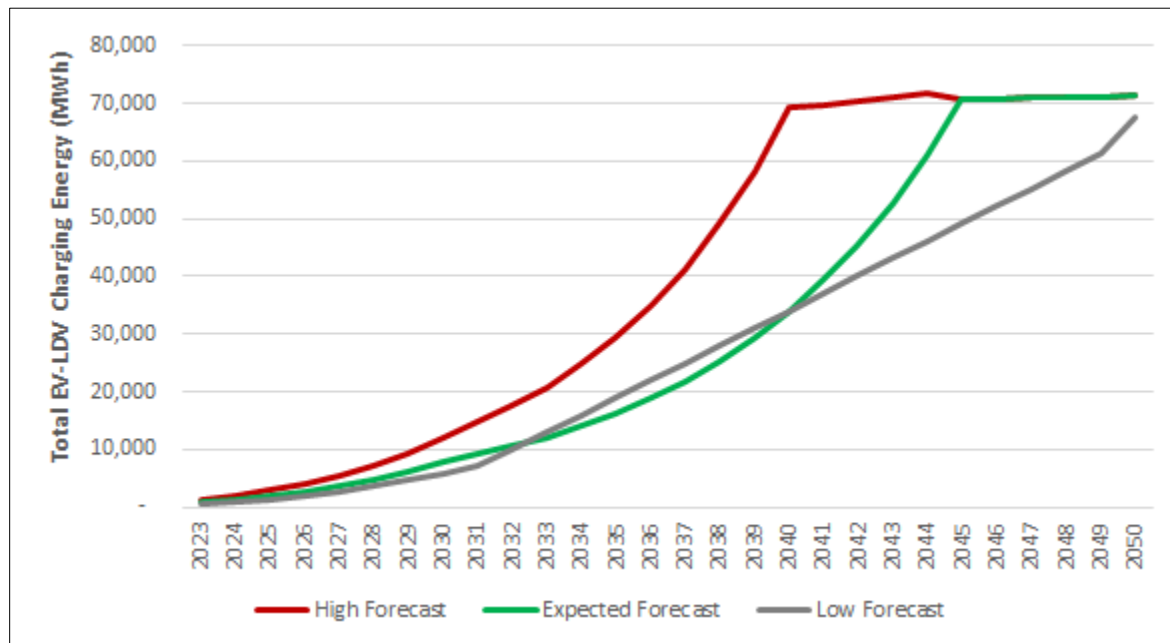


Figure 14. Annual Resident and Commuter EV-LDV Charging Energy

As seen in Figure 14, the high and expected forecasts each reach a maximum EV penetration, estimated to be 95% of registered light-duty vehicles (LDVs). The high forecast reached this maximum in 2040, and the expected forecast reached this maximum in 2045. The low forecast is still growing in the final year of the forecast and will reach a maximum of 90% penetration in the year 2050. Since EVs and their charging load are a new addition to utility planning, much uncertainty is associated with forecasting how rapidly



the charging load will grow. Assessing higher growth rates of EVs that, in turn, have higher charging impacts is prudent in a feasibility analysis such as this study. In assessing new loads, it is better to be conservatively high rather than too low when assessing the costs of serving customer loads with a new set of resources. The forecasts of the LDV EVs for CWP residents are provided in Appendix G.

## 4.5 Generation Technologies and Battery Storage

Quanta Technology used the technical characteristics and cost data from the National Renewable Energy Laboratory (NREL) Annual Technology Baseline and a 2022 NREL Solar and Energy Storage Cost Benchmarks Analysis<sup>6</sup> (collectively referred to as NREL Data) The NREL Data provides an extensive database on renewable, fossil, and energy storage technologies that are regularly used as a basis for future costs in utility resource planning. The NREL data also provides projected costs of technologies, for example, the decreases expected in solar PV and battery costs from greater manufacturing volume and other technology advances. Table 4 provides a summary of the costs for the set of technologies that were considered in the resource plan for CWP.

**Table 4. Generation and Storage Technologies Costs**

Technology	Installed Cost \$/kW (REC in \$/MWh)	Cost Year	Annual Cost Escalation	Cost Stabilization Year	Fixed O&M (\$/KW-yr)	Variable O&M (\$/MWh)
Combustion Turbine (CT)	\$1,000	2021	2%	10	15.00	2.00
Internal Combustion Engine (CE)	\$650	2021	2%	5	30.00	10.00
Green Hydrogen Fueled CT (CT-Hydrogen)	\$1,500	2021	2%	10	20.00	4.00
City Owned Distributed Solar, Rooftop (Dsolar-CommRoof)	\$2,208	2021	-2%	10	18.10	0.00
City Owned Distributed Solar, Ground-mount (Dsolar-CommGround)	\$2,328	2021	-2%	10	17.20	0.00
Utility Scale Solar PV (USolar)	\$1,386	2021	-2%	5	16.10	0.00
Battery Energy Storage System – 1 hr. (ESS-1)	\$710	2021	-2%	5	15.00	0.00
Battery Energy Storage System – 2 hr. (ESS-2)	\$1,070	2021	-2%	5	14.00	0.00
Battery Energy Storage System – 4 hr. (ESS-4)	\$1,790	2021	-2%	5	12.00	0.00
Battery Energy Storage System – 10 hr. (ESS-10)	\$3,950	2021	-2%	5	10.00	0.00
Biomass	\$500	2021	2%	5	10.00	0.00
Demand Response (DR)	\$50	2021	2%	5	10.00	0.00
Energy Efficiency (EE)	\$20	2021	2%	5	10.00	0.00
Renewable Energy Credit (REC)	\$2.5	2021	2%	10	0.00	0.00

Quanta Technology did not consider some of the technologies listed in the NREL Data since they were inappropriate for CWP and Florida (e.g., hydroelectric, pumped storage, and distributed wind

<sup>6</sup> Ramasamy, Vignesh, Jarett Zuboy, Eric O'Shaughnessy, David Feldman, Jal Desai, Michael Woodhouse, Paul Basore, and Robert Margolis. 2022. U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With Minimum Sustainable Price Analysis: Q1 2022. Golden, CO: National Renewable Energy Laboratory. NREL/TP-7A40-83586. [www.nrel.gov/docs/fy22osti/83586.pdf](http://www.nrel.gov/docs/fy22osti/83586.pdf).





technologies). The CAPEX costs shown in Table 4 include assumed interconnections costs but do not include any grid upgrades. The costs of solar PV and utility-scale battery storage technologies are assumed to decline by 2% annually (based on the Annual Cost Escalation data) until 2026 (based on the Cost Stabilization Year data) and remain flat afterward. In 2021, the cost of a utility-scale solar PV was assumed to be \$1,386/kWac (assuming a DC to AC ratio of 1.4).

The cost of natural gas is assumed to be \$3.00/MMBTU in 2019, and it is expected to increase at a 2% escalation per annum. The utility and transportation industries are planning to use an increasing quantity of batteries in their efforts to reduce carbon emissions. Mining minerals, manufacturing, and disposing of these increasing quantities of batteries bring environmental issues to a scale new to the world economy. At the request of CWP, Quanta Technology has prepared a summary of the lifecycle considerations of batteries in Appendix C.

## 4.6 Energy Efficiency and Demand Response

According to the United States Department of Energy, EE and DR can be described as:

*Energy efficiency is the use of less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics, and energy-efficient manufacturing facilities use less energy to produce goods.*

*Energy efficiency is one of the easiest and most cost-effective ways to combat climate change, reduce energy costs for consumers, and improve the competitiveness of U.S. businesses. Energy efficiency is also a vital component in achieving net-zero emissions of carbon dioxide through decarbonization.<sup>7</sup>*

*Demand response provides an opportunity for consumers to play a significant role in the operation of the electric grid by reducing or shifting their electricity usage during peak periods in response to time-based rates or other forms of financial incentives.<sup>8</sup>*

Quanta Technology's experience with other utilities confirms this statement. Most utilities find that numerous EE measures, such as programs that incentivize the shift from incandescent or fluorescent lights to LED lighting, are much less expensive than purchasing or generating electricity saved in these programs. In essence, many energy efficiency measures cost the utility less to manage the EE program and pay incentives than the costs to generate or buy the energy. It is widely accepted that any program to reduce the environmental impacts of electric energy supply on the environment should include a robust energy efficiency program that first attempts to cost-effectively reduce the energy required.

Quanta Technology had limited data on CWP's forecasted plans and projected impacts of energy efficiency programs for the CWP system. However, since these energy efficiency programs can generally offer the lowest cost "energy resource" available to utilities, Quanta Technology estimated the impacts that the future energy efficiency programs implemented by CWP, together with the energy efficiency improvements implemented by CWP customers on their own, will be approximately 2% of the total CWP

<sup>7</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, <https://www.energy.gov/eere/energy-efficiency>

<sup>8</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, <https://www.energy.gov/oe/demand-response>



energy requirement in the early years of the study and grow to approximately 10% in 5 years and remain approximately constant for the remainder of the study<sup>9</sup>. The DR was estimated to be constant at 5 MW for the study period. A total DR of 5 MW was considered easily achievable in a program that includes customer and city-owned facilities. These high-level estimates were deemed reasonable because CWP does not have an existing EE and DR program in place for its retail customers.

## 4.7 Fuel Price

Each Florida utility filing a TYSP also files a fuel price forecast for the fuel used in their plans. The PSC has compiled and averaged the fuel price forecasts in the plan reviews. Figure 15 summarizes the filing utilities' average historical and forecasted fuel prices. Quanta Technology chose to extrapolate the average fuel forecasts shown in the TYSPs for use in the CWP study.

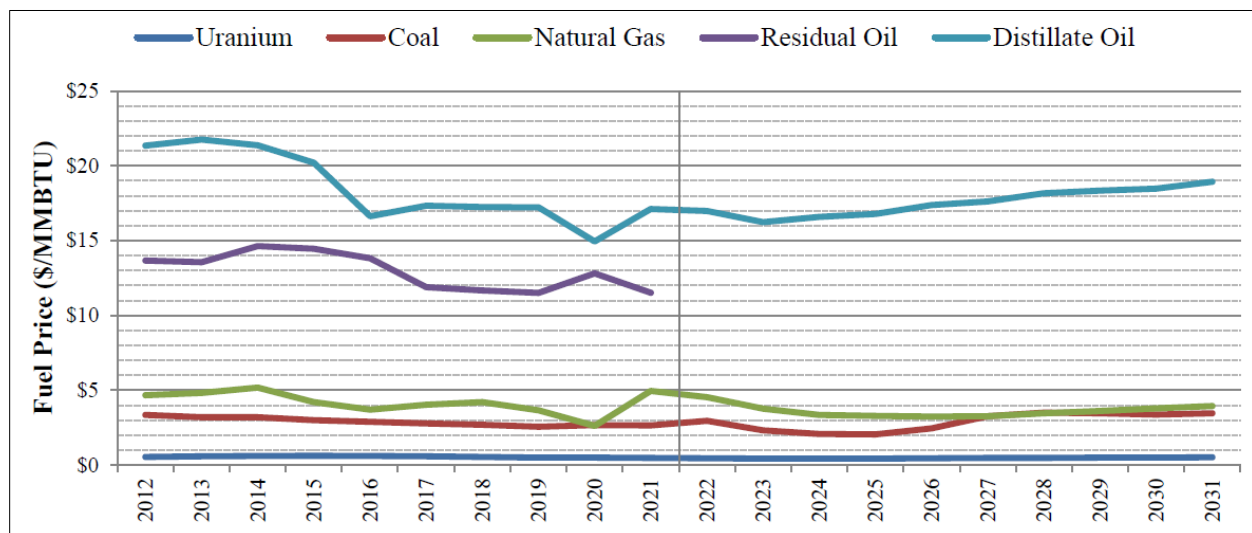


Figure 15. TYSP Utilities: Average Fuel Price of Reporting Electric Utilities

## 4.8 Renewable Energy Credits

One of CWP's three primary renewable targets was achieving a 100% net-zero carbon energy supply by 2050. Net zero implies that some carbon may be released into the atmosphere during electricity generation. However, any carbon released will be counterbalanced by acquiring carbon offsets, carbon credits, or RECs to offset carbon emissions from the energy supply portfolio. The ownership of RECs and carbon credits has become an accepted method to prove to regulators, constituents, or stockholders that an entity has caused the specified renewable energy production or reduction in carbon emissions. Utilities use RECs and carbon credits to prove compliance with legislated renewable portfolio standards (RPS) or the carbon content of their energy supply targets. Cities and corporations use them to demonstrate to constituents and shareholders that they have reduced their carbon footprint by X% or use Y% renewable generation to supply their operations.

<sup>9</sup> The EE estimate does not address growth of individual end-use energy efficiency improvements. It should be noted that while EE programs do result in lost utility revenue due to the reduction in MWh sold, these programs are also accompanied by a reduction in energy supply costs. In addition, all DR and EE measures should be selected based on the ability to implement and manage them with a positive benefit to cost ratio.



Neither the state of Florida nor the Federal government has established any state mandate for carbon emission limitations or RPS for Florida's utilities. While several cities and utilities in Florida have adopted renewable or carbon emission goals, the goals are considered voluntary. The markets for RECs were originally driven by utilities and other entities with a legislative requirement to meet renewable or carbon targets. However, private corporations and cities quickly adopted the use of RECs and carbon credits, similar to CWP, to document their progress toward achieving their voluntary renewable or carbon goals.

The markets have created different types of RECs with different pricing to meet the different needs of their buyers. LevelTen Energy, a player in the REC market, offers the following concise explanation:

*"RECs are priced differently depending on whether they are compliant or voluntary market RECs. Compliance market RECs are used to meet renewable portfolio standards (RPS), must meet certain criteria in the RPS statutes, and are often more expensive. Voluntary REC markets are almost exclusively driven by climate-related sustainability goals, making them more common for corporate clean energy purchasers. Since there are fewer strings attached, voluntary market RECs have lower prices. Some states have a tier system for RECs to indicate their positive environmental impact. For example, Tier 1 RECs come from new wind and solar projects. The RECs with a higher carbon-reduction impact are typically more expensive than RECs with a lower impact, like those produced in an already clean grid."<sup>10</sup>*

As noted above, due to the lack of need to meet different state-level requirements for RPS compliance in a specific state, voluntary RECs tend to be much less expensive than compliance RECs. In addition, voluntary market RECs are more locationally fungible in that voluntary RECs created in one state can fulfill voluntary renewable targets in any state.

With the current lack of a Florida RPS, Quanta Technology would recommend that any future REC purchases made by CWP to meet environmental targets should be made from the lowest-priced RECs available, which would be expected to be the voluntary market. Quanta Technology has reviewed various voluntary market historical and current pricing to define a REC pricing projection for this study. The forecast of the voluntary REC pricing for this study was based on forecasts of solar and wind RECs at a national level for the years 2023–2042. Linear regression was then used to extrapolate this data for an additional eight years to 2050. Figure 16 illustrates the input forecast and the extrapolated REC prices. The average price was used as the expected REC price for this study<sup>11</sup>.

<sup>10</sup> Introduction to Renewable Energy Certificates (RECs), RTI Essentials and Best Practices, May 14, 2020, LevelTen Energy, Ben Serrurier.

<sup>11</sup> REC pricing data compiled from multiple sources.

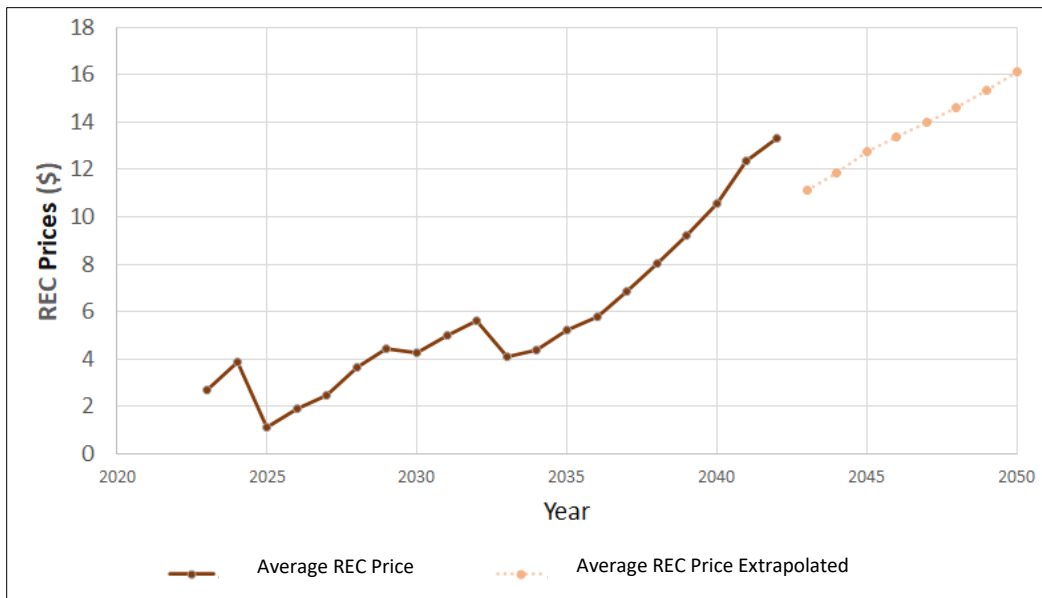


Figure 16. REC Price Forecast

## 4.9 Financial Assumptions

The primary financial metric to assess optional portfolios of future supply resource options for CWP was the net present value of revenue requirements (PVRR). PVRR is a metric commonly used for public and investor-owned utility decision-making, and for other industries, for analysis that includes multiple years and/or long-lived assets. PVRR is a discounted cash flow analysis that assesses the forecasted cash outlay for capital expenditures, operations, and expenses for each year of the study. For this study, the period of the analysis was 2025–2050. The forecasted annual cash requirements are then discounted based on the cost of capital of CWP. Each year's resulting discounted cash requirements are then summed to arrive at a single value representing the PVRR. This methodology allows different optional supply portfolios to be compared with a single financial metric.

Several financial assumptions are required to perform long-term resource plans and to calculate the PVRR. To assess the possible project financing options available to CWP, Quanta Technology estimated the potential cost of new supply resources being developed and owned by third-party developers and the costs should CWP choose to own new supply resources. The developer's cost of capital determines the cost of new resources for which CWP would contract through a PPA. The CWP cost of capital, which represents an estimate of the CWP interest for their future general obligation bonds, is used for estimating the annual costs of CWP ownership of new supply resources and the present value discount factor used for all scenarios.



Table 5. Primary Financial Assumptions

Item	Value
CWP Cost of Capital	3.5%
Developer Cost: Cost of Debt	6.0%
Developer Cost: Cost of Equity	10.0%
Developer Cost: Percentage Debt	50.0%
Developer Cost: Percentage Equity	50.0%
Developer Cost: Cost of Capital	8.0%
Annual Inflation	2.0%



## 5 SCENARIO DESCRIPTIONS

### 5.1 Targets and Scenarios

As noted in early sections, this study was centered around the assessment of three potential targets under consideration for the future CWP energy supply:

- **Target 1:** 100% renewable energy supply by 2050
- **Target 2:** 100% net-zero carbon energy supply by 2050
- **Target 3:** 80% renewable energy supply by 2035 and then 100% by 2050

Based on the explicit language in the targets, the study required it to create a forecast and assumption for the year 2050. Since forecasting future conditions (e.g., energy consumption, costs, technology progression, legislative requirements) is such an imprecise science, planners in many industries, including utility resource planners, have adopted scenarios to address the uncertainty of forecasts.

While the scenario is a common term, a definition used in planning is useful for clarity. As used in this report and commonly understood in planning:

A scenario is a set of future conditions that collectively describe the external environment and conditions within which one is attempting to plan or make a decision. In the case of a resource plan, a scenario description includes a multi-year forecast of external drivers or assumptions important to the analysis. Examples of elements typically included in resource planning scenario descriptions are customer load forecasts, the projected cost of supply options, the forecasted growth of distributed generation installations, etc. A single planning target, or input, such as achieving a 100% renewable supply by 2050, does not constitute a scenario, only a single planning input. A scenario requires many planning inputs.

Since it is so difficult to accurately predict future conditions, rather than just planning for a single set of future conditions, a single scenario, planners often create and use multiple scenarios that collectively describe a range of plausible future conditions. Evaluating how resource options perform across a range of potential future conditions enables assessing the resources' flexibility and ability to adapt to changing conditions.

Quanta Technology used this planning methodology with multiple scenarios to assess different options and combinations of resources to achieve each of the three renewable targets that CWP is considering. These three optional targets were expanded into a total of 15 different scenarios:

- Six focused on achieving Target 1 (100% renewable by 2050)
- Five focused on achieving Target 2 (100% net-zero carbon by 2050)
- Four focused on achieving Target 3 (80% renewable supply by 2035 and then 100% by 2050)

Each of these scenarios looked at different expected forecasts for the following eight categories of planning elements which were referenced at the beginning of this section:





1. Load forecast
2. Distributed solar and storage
3. EV growth
4. Renewables and battery storage costs
5. EE and DR forecast
6. Natural gas fuel price forecast
7. REC pricing
8. Financial assumptions

Table 6 summarizes the eleven scenarios developed to assess resource options for the first two renewable targets, 100% renewable by 2050 and net-zero carbon by 2050. Table 7 summarizes the four additional scenarios developed to assess resource options for the third renewable target, 80% renewables by 2035 and 100% by 2050.



Table 6. Scenarios Details for 100% Renewable by 2050 and Net-Zero Carbon by 2050

Scenario Count	1	2	3	4	5	6	7	8	9	10	11
Scenario Element	Target 1: 100% Renewable by 2050						Target 2: Net-Zero Carbon by 2050				
	1a	1b	1c	1d	1e	1f	2a	2b	2c	2d	2e
2050 Renewable Target	100%	100%	100%	100%	100%	100%	---	---	---	---	---
2050 Net-Zero Carbon Target	---	---	---	---	---	---	100%	100%	100%	100%	100%
Renewable Electric Supply by 2035	---	---	---	---	---	---	---	---	---	---	---
Load Forecast	Expected	High	Expected	Expected	Expected	Expected	Expected	High	Expected	Expected	Expected
Natural Gas Fuel Price Forecast	Base	Base	Base	Base	High	Low	Base	Base	Base	High`	Low
Distributed Solar and Storage	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected
EV Growth	Expected	High	Low	Expected	Expected	Expected	Expected	High	Low	Expected	Expected
Technology Costs	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected
EE and DR Forecast	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected
REC Pricing	---	---	---	---	---	---	Expected	Low	High	Expected	Expected
Developer Cost of Capital	8.00%	8.00%	8.00%	-	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
CWP Cost of Capital	---	---	---	3.50%	---	---	---	---	---	---	---

Load forecasts are as follows:

- **Expected:** 0.09%, based on the average of historical CWP growth
- **High:** 1.15%, based on average FMPA and FPL forecasts



Table 7. Scenarios Details for 80% Renewable by 2035

Scenario Count	12	13	14	15
Scenario Element	Target 3: 80% Renewable by 2035 and 100% by 2050			
	3a	3b	3c	3d
2050 Renewable Target	100%	100%	100%	100%
2050 Net-Zero Carbon Target	---	---	---	---
Renewable Electric Supply by 2035	80%	80%	80%	80%
Load Forecast	Expected	Expected	Expected	Expected
Natural Gas Fuel Price Forecast	Base	Base	High	Low
Distributed Solar and Storage	Expected	Expected	Expected	Expected
Electric Vehicle Growth	Expected	Expected	Expected	Expected
Technology Costs	Expected	Expected	Expected	Expected
EE and DR Forecast	Expected	Expected	Expected	Expected
REC Pricing	---	---	---	---
Developer Cost of Capital	8.00%	-	8.00%	8.00%
CWP Cost of Capital	---	3.50%	---	---

Load forecasts are as follows:

- **Expected:** 0.09%, based on the average of historical CWP growth
- **High:** 1.15%, based on average FMPA and FPL forecasts



## 6 COST AND FEASIBILITY COMPARISONS

### 6.1 Target 1: 100% Renewable Energy Supply by 2050

The first of CWP's potential energy supply targets identified 2050 as the date for achieving a 100% renewable energy supply. Developing and constructing a utility-scale solar photovoltaic generation facility takes multiple years. Developers of these plants typically identify co-owners and those seeking a PPA to purchase power from the plant owners as early as the development cycle. Having the future energy output of the facility fully committed to either owners or buyers will lower the risks associated with the project and, in turn, the costs of financing. Based on this typical multi-year cycle for solar facility development, Quanta Technology has assumed it will take a few years for CWP to find favorable PPA contracts or ownership positions for its renewable supply. Figure 17 provides the projected renewable energy percent of the CWP requirement for Target 1 (100% renewable by 2050) and Target 2 (80% renewable by 2035). While Target 2 shows a more rapid rise in the renewable energy contribution, both show a slower growth in the study's early years, reflecting that it will take time for CWP to identify, negotiate and execute favorable renewable energy supply options.

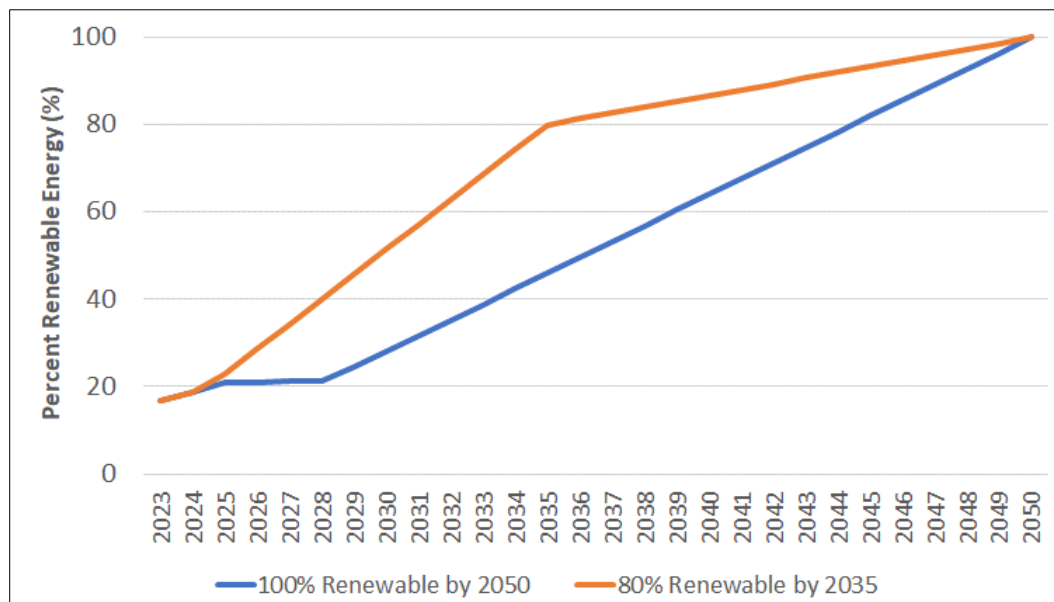




Figure 17. Comparison of Renewable Energy Results for the Two Renewable-Based Targets

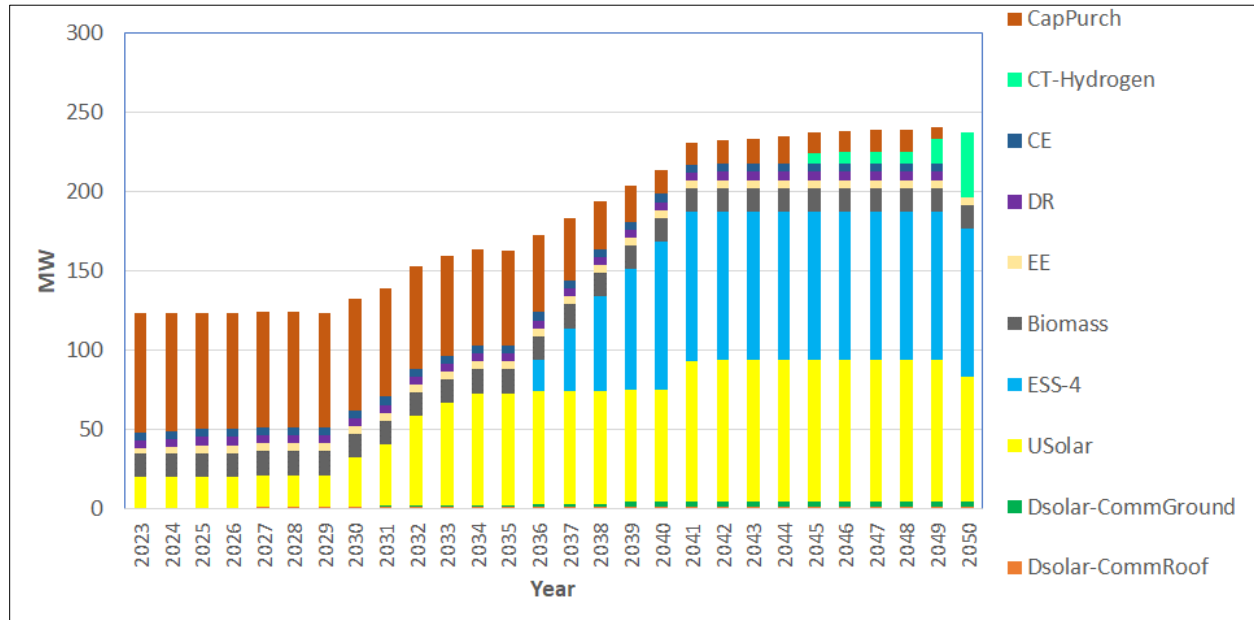


Figure 18 provides a chart showing the detailed technologies selected for the pIRP model as the least cost supply additions for Scenario 1A<sup>12</sup>, the first of the six scenarios defined to assess Target 1.

<sup>12</sup> Technologies referenced in Figure 18 and elsewhere in the report are defined in Table 12 in Appendix B.

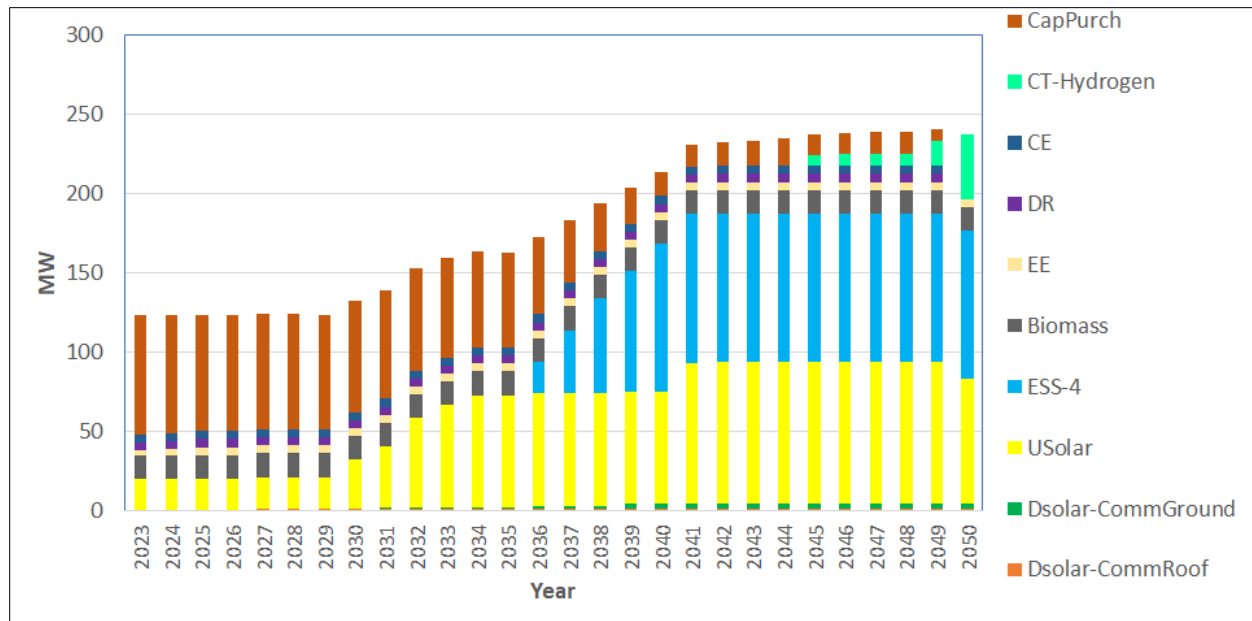


Figure 18. Capacity Additions for Scenario 1A

Solar and wind energy technologies, the two most common renewable energy sources, are considered variable renewable energy (VRE) sources since the energy production of both goes up and down based on the amount of solar or wind energy available. Whereas fossil resources, such as natural gas-fueled CTs or combined cycle plants, are described as dispatchable energy sources that can change the output of the energy produced based on the changing requirements of the system.

A system cannot operate with 100% VRE technologies. It must have other dispatchable technologies that can adjust to supply power as needed in response to the up and down production of VREs and the changes to customer demands. In this analysis performed for CWP, the dispatchable technologies selected by the pIRP model included biomass-fueled plants, batteries, CT-Hydrogen, nuclear, concentrated solar power, and geothermal, which were all even more expensive than CT-Hydrogen plants (see Section 4.5). While biomass is assumed to be a less expensive dispatchable resource than CT-Hydrogen in this study, Quanta Technology has limited the amount of biomass generation available for the pIRP to choose to supply CWP energy requirements. Quanta Technology believes that limiting the biomass generation available to CWP is a prudent assumption for several reasons, but primarily by the expectation that the proximity and quantity of biofuels in Florida will be limited and in high demand as all utilities seek to reduce the carbon emissions of their energy supply. Limiting the amount of biomass energy available to the pIRP model selects the next higher-cost energy resource once the biomass generation reaches its limit. A table listing the annual capacity purchases by technology for Scenario 1A can be found in Appendix F, Table 16.



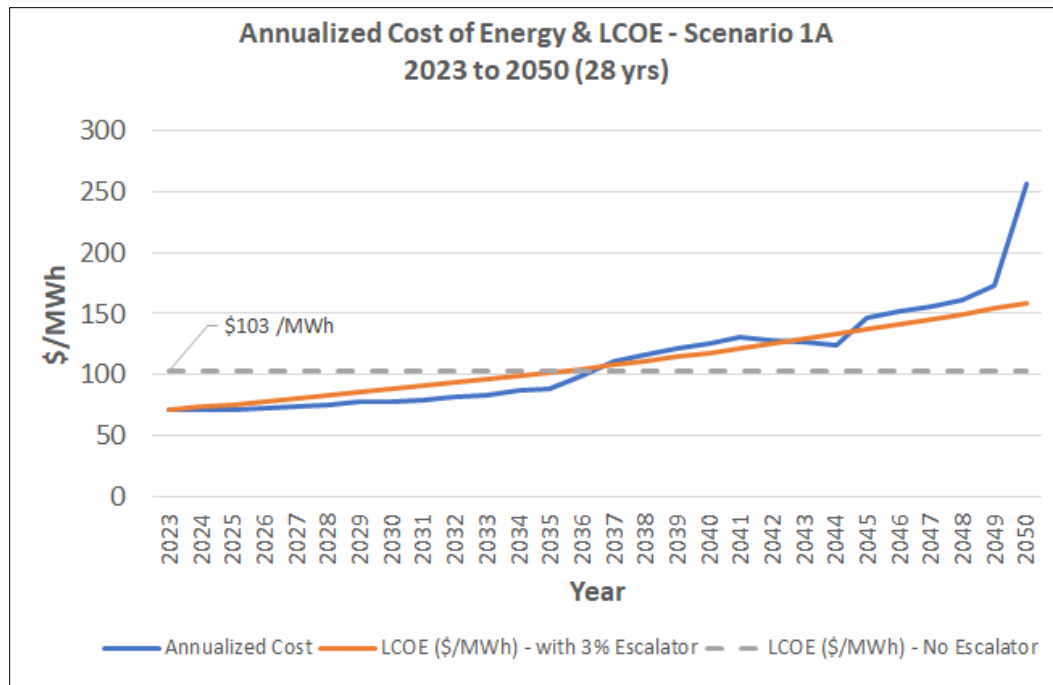


Figure 19 illustrates the annual energy cost for Scenario 1A based on three different measures of energy costs. The first measure in the blue line is the actual projected cost of revenue requirements for the energy supply in nominal dollars (inflation included), divided by the total energy consumptions, shown in \$/MWh. Notice the blue line's steep growth in the cost of power beginning in 2045 and the sustained high costs in the final six years of the study (2045–2050). This rise in costs is driven by introducing an extremely high-cost renewable energy technology to meet the needs of CWP. The high-cost technology added, which drives the costs up in the final years, is combustion turbine generators (CT) fueled with green hydrogen (CT-Hydrogen). The pIRP model selected the CT-Hydrogen technology for the final years of the study. This steep cost rise as the supply portfolio approaches 100% clean energy is typical of other 100% renewable and zero-carbon studies. The energy cost of imports and exports between CWP and neighboring utilities is assumed to be \$50/MWh in 2021 and is expected to escalate at 2% annually in nominal terms.

Note that the Annualized Cost in the blue line and the other cost presentation are all based on nominal dollars. The two alternative cost streams discussed below, the levelized cost of energy (LCOE) and the LCOE with an escalator, are constructed using a present value discounting of the Annualized Costs to 2021 dollars.

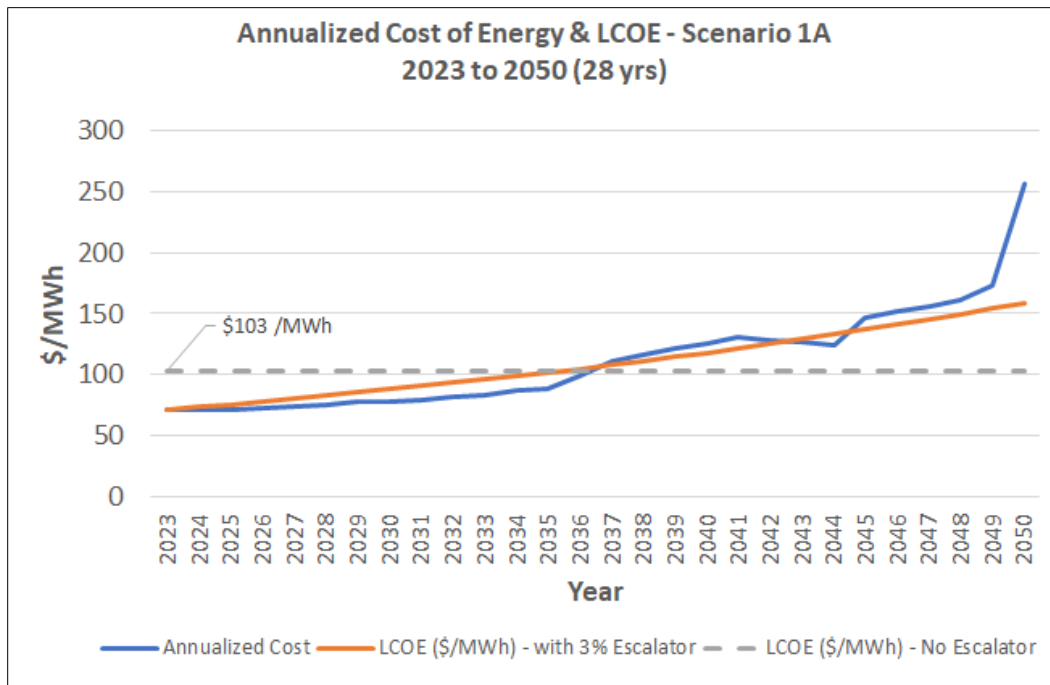


Figure 19. Annualized Cost of Energy and LCOE: Scenario 1A Based on 2023–2050

The dashed horizontal line presents the levelized cost of energy (LCOE) with no annual escalation, \$103/MWh, which is the cost of energy equivalent to the blue line’s actual energy cost if both were stated on a present value (PV) basis. Note that this report’s PV and LCOE values are based on present value discounting to 2021 dollars. The LCOE calculation takes the entire stream of forecasted actual annual costs shown in the blue line and creates an equivalent single constant \$/MWh value. The LCOE calculation flattens the year-to-year variations in actual costs and provides a single \$/MWh to represent the multi-year stream of differing values shown in the actual costs (blue line). In application, the results of the 1A would provide an LCOE that partially pays for the high costs in the final six years by increasing the costs paid in the prior years.

Finally, the orange line shows the LCOE with an annual escalation of 3%. The 3% escalation is not equivalent to inflation but is the value selected by Quanta Technology to convert the LCOE to an equivalent stream of annual costs that better match the increasing trend in production costs. The orange line is equivalent to the dashed gray and blue lines if all three were compared on a PV basis. An LCOE with an escalation is a common method that provides a lower cost than the LCOE without escalation in the early years and a higher cost later. In these 1A results, note that both LCOE methods provide higher than actual costs in the early years, but both also serve to provide lower than the actual cost in the final years of the study, where a steep climb in forecasted actual costs is seen.

As noted earlier, forecasting future conditions becomes more complex and uncertain the further one extends the analysis into the future. Unfortunately, the final six years of the results of Scenario 1A above have a significant impact on the overall results and the LCOE values shown. Changes to the results of the last six years of the study could, in turn, significantly impact overall LCOE results.



To illustrate the impacts of the later years in the study results, Quanta Technology shortened the period of the results assessed to determine the LCOE values from the original period of 2023–2050, or a total of 28 years, to the period from 2023–2042, or a period of 20 years. The same results from the full 28-year analysis were used to perform this analysis, but only the first 20 years of the results were used to calculate the LCOE with and without escalation. The results of assessing only the first 20 years of the result of Scenario 1 are shown in Figure 20.

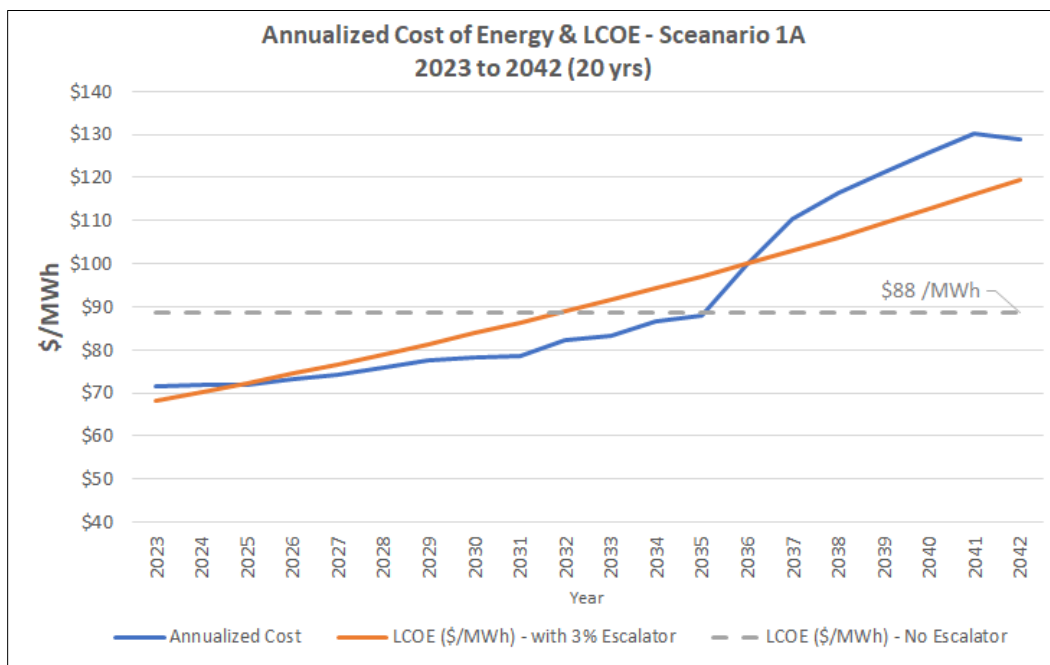




Figure 20. Annualized Cost of Energy and LCOE: Scenario 1A Based on 2023–2042

Scenario 1A reaches a 71% renewable contribution to the CWP energy supply by 2042. The results in 20 years analysis of Figure 20 show an identical blue line as the first 20 years in

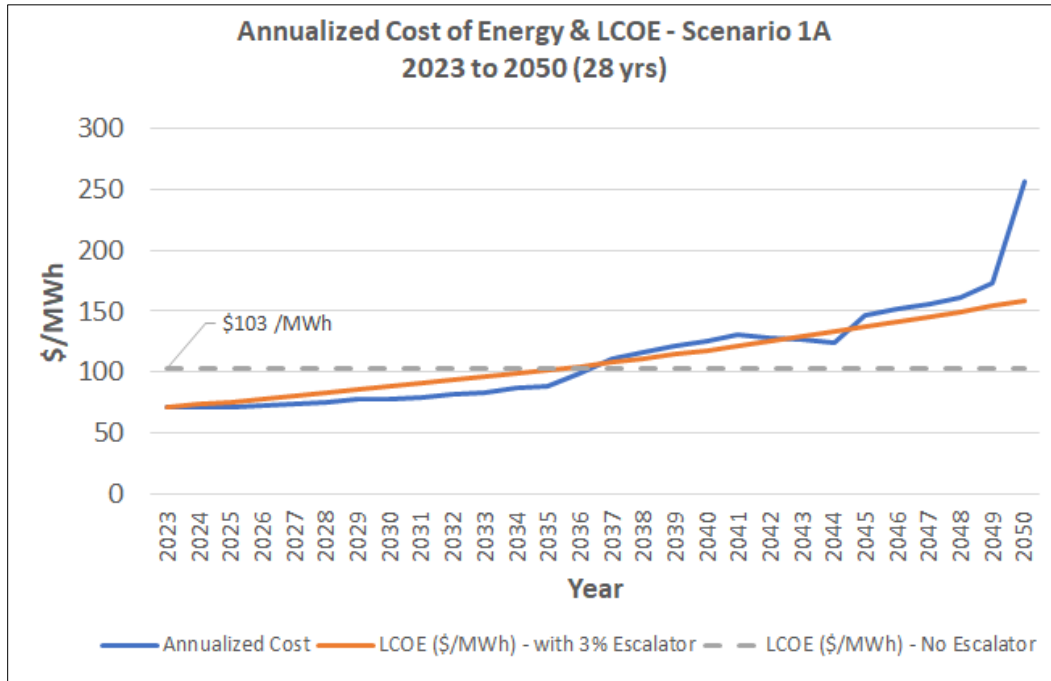


Figure 19. However, using the shorter time horizon for the present value calculations produces significantly reduced LCOE values. The LCOE with no escalation of \$103/MWh for the 28-year analysis in

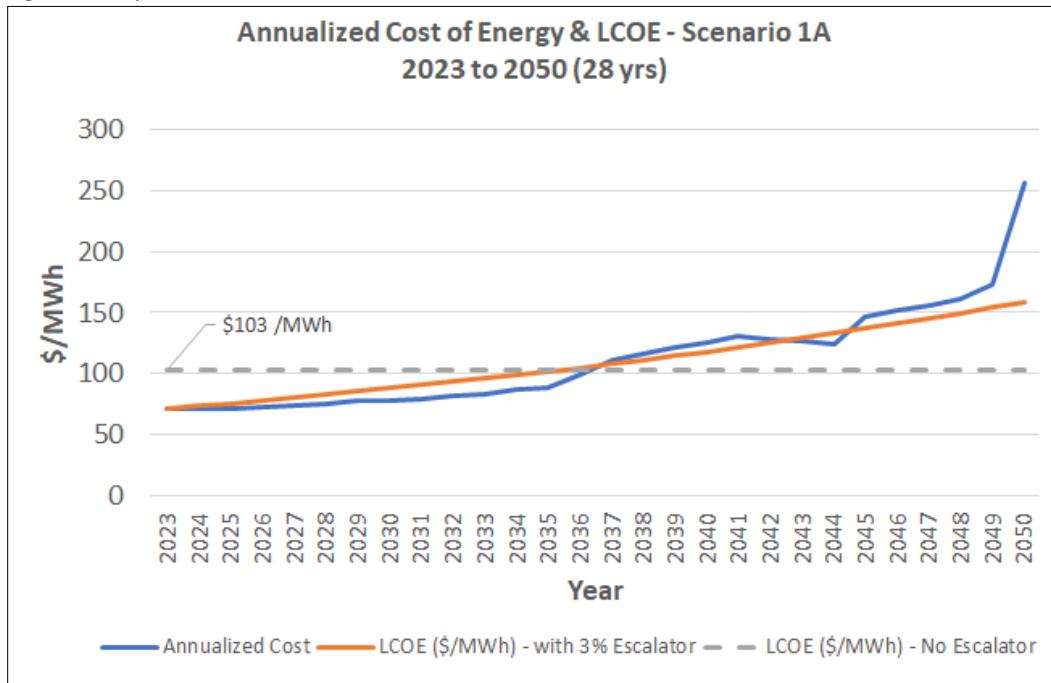




Figure 19 drops to \$88/MWh in the 20-year analysis of Figure 20, a 15% reduction in the value. The lower LCOE in the 20-year analysis is driven by eliminating the costs in the final 8 years.

Quanta Technology took CWP estimated 2023 powers costs, projected at \$27M or \$65/MWh<sup>13</sup>, and then escalated them for 20 years at a 3% yearly increase. The results of the projection of CWP costs with a 3% escalation are shown as the solid, maroon-colored line in Figure 21. The forecasted annual costs of the increasing CWP costs in the maroon line were then used to calculate an LCOE for those costs, shown as \$83/MWh in the dashed maroon line in Figure 21. The results show the Scenario 1A costs are only \$5/MWh, or 15%, more than the projected costs of the current CWP power portfolio based on their respective 20-year LCOE power costs.

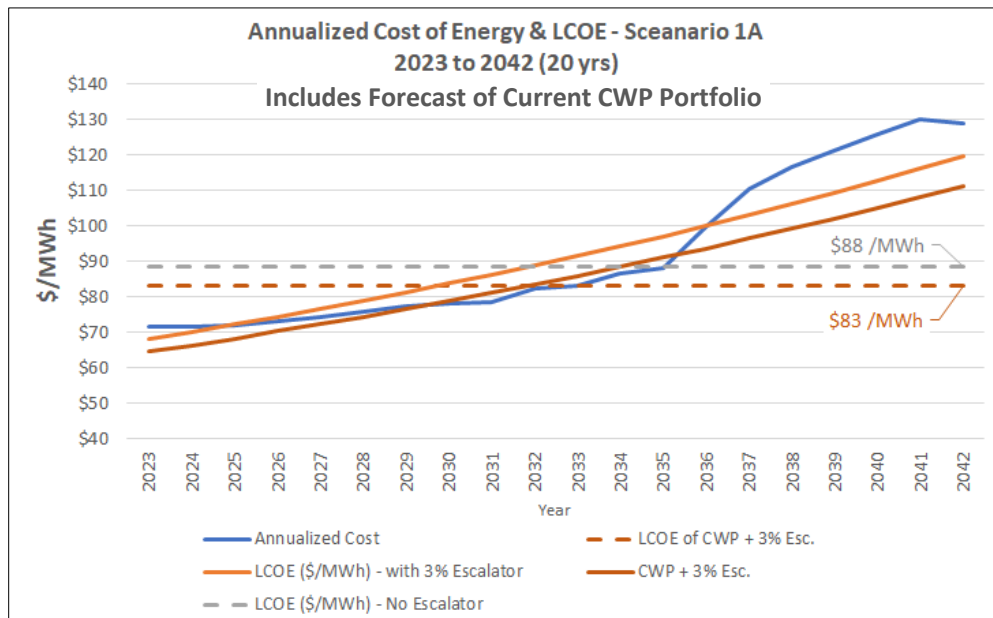


Figure 21. 20-Year Scenario 1A Analysis with Current CWP Portfolio Costs

Another interesting finding is provided in Figure 22, which shows only the annual costs from Scenario 1A (i.e., the forecast annual power cost with no levelization) as the blue line and the CWP current costs projected with a 3% increase per year as the maroon line. As can be seen, the two streams of projected costs are similar until 2035. This indicates Scenario 1A could be adopted by CWP with minimal rate impact until 2035.

<sup>13</sup> CWP 2023 cost energy based on the October 25, 2022, Electric Cost of Service Analysis provided by CWP.

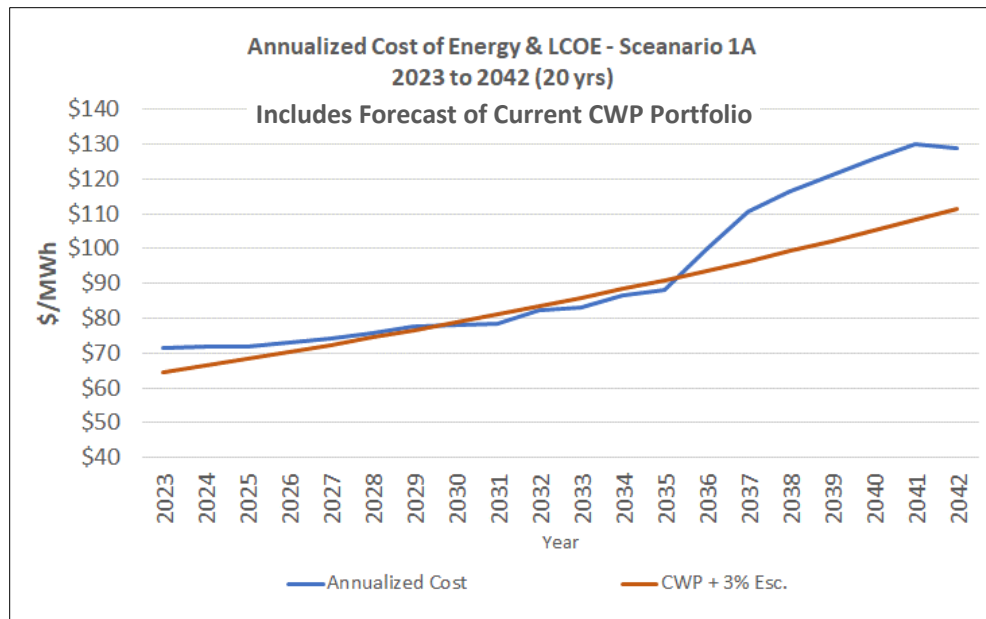


Figure 22. Comparison of Scenario 1A to the Current CWP Costs with a 3% Annual Escalation

## 6.2 Target 2: 100% Net-Zero Carbon by 2050 Target

The chart shown in Figure 23 summarizes the technologies and capacities selected by the pIRP model for Scenario 2A, which focuses on achieving 100% net-zero carbon by 2050. While much of the technologies and capacities selection is similar to Scenario 1A, the notable difference is the fact that the mix of purchases continues to include significant purchases from the fossil generation in the Florida power market to the end of the study period and then includes RECs to offset the fossil generation purchases. A table listing the annual capacity purchases by technology for Scenario 2A can be found in Appendix F, Table 17.



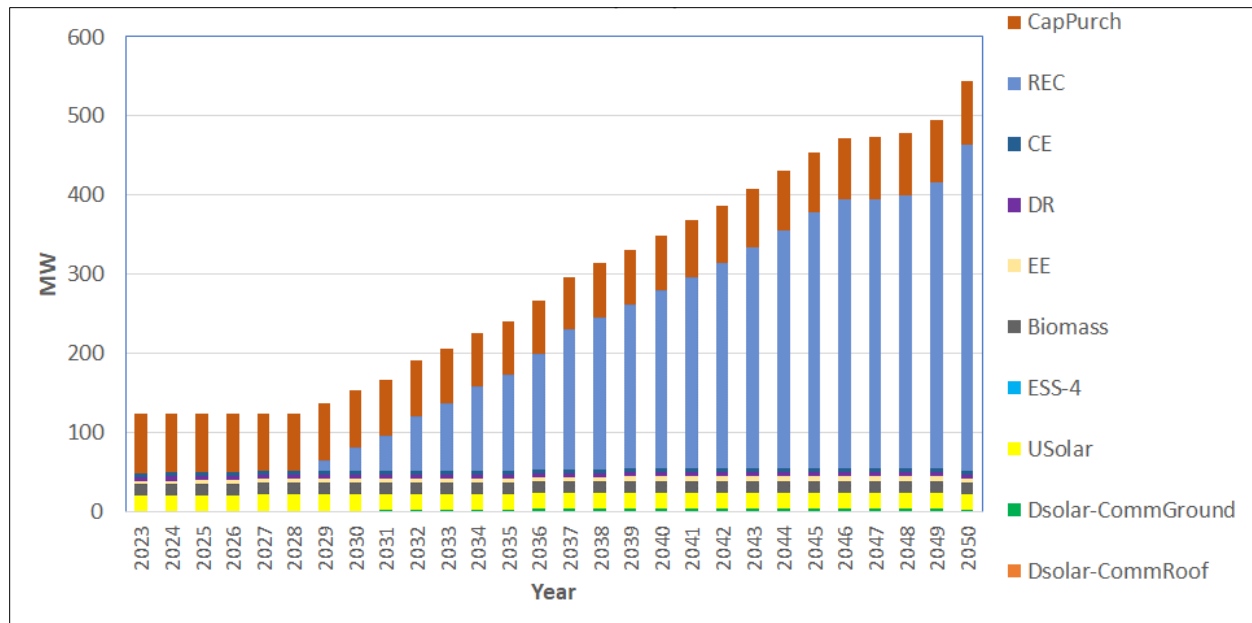


Figure 23. Capacity Additions for Scenario 2A

Figure 24 summarizes Scenario 2A's annual costs, LCOE with no escalation, and LCOE with a 3% annual escalation for the 28 years to 2050. The LCOE of this net-zero carbon scenario with no escalation, \$88/MWh, is 15% lower than Scenario 1A, \$103/MWh.

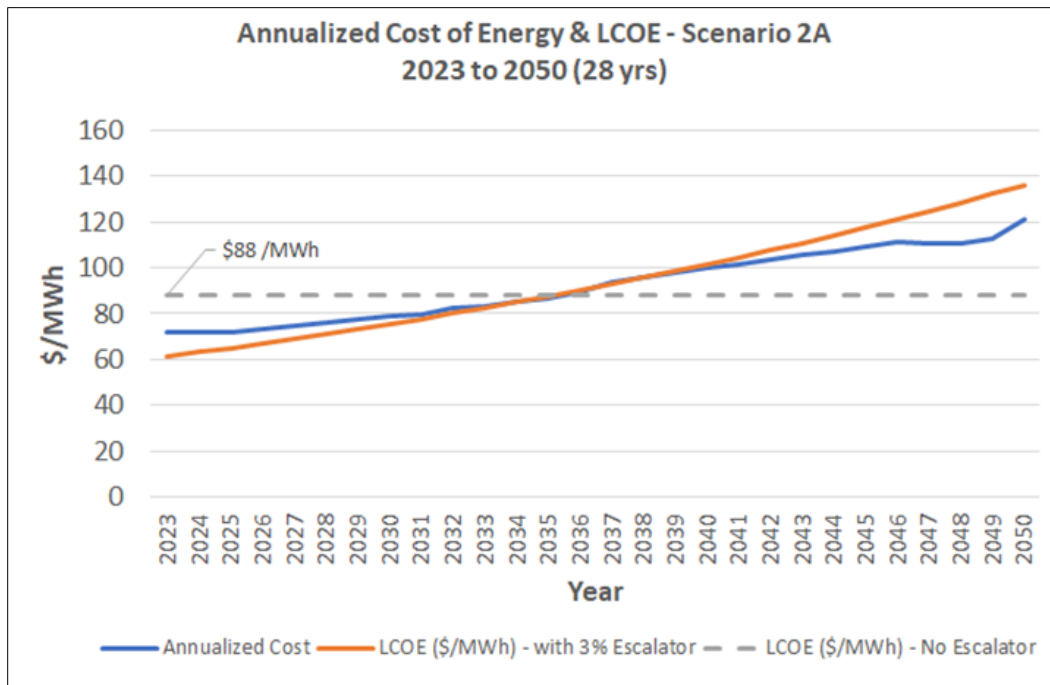


Figure 24. Annualized Cost of Energy and LCOE: Scenario 2A Based on 2023–2050

Figure 25 uses the same annual costs stream to summarize Scenario 3A annual costs, LCOE with no escalation, and LCOE with a 3% annual escalation for the 20 years to 2042.

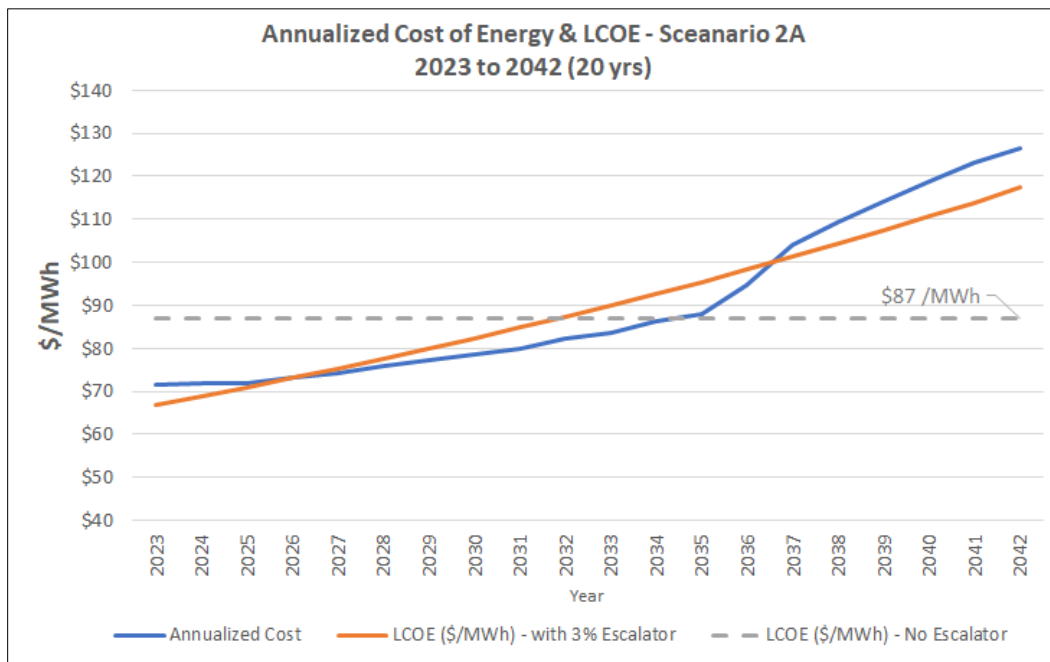


Figure 25. Annualized Cost of Energy and LCOE: Scenario 2A Based on 2023–2042



### 6.3 Target 3: 80% Renewable by 2035 Target

The chart shown in Figure 26 summarizes the technologies and capacities selected by the pIRP model for Scenario 3a, which focused on achieving 80% renewable by 2035 and 100% by 2050. The technologies selections are identical to Scenario 1a, except they added a more rapid pace in the first years of the analysis to reach the 80% renewable goal by 2035, versus Scenario 1, which does not reach 80% renewables until 2045, 10 years later. The notable difference is that the mix of purchases continues to include significant purchases from the fossil generation in the Florida power market to the end of the study period and then includes RECs to offset the fossil generation purchases. A table listing the annual capacity purchases by technology for Scenario 3A can be found in Appendix F, Table 18.

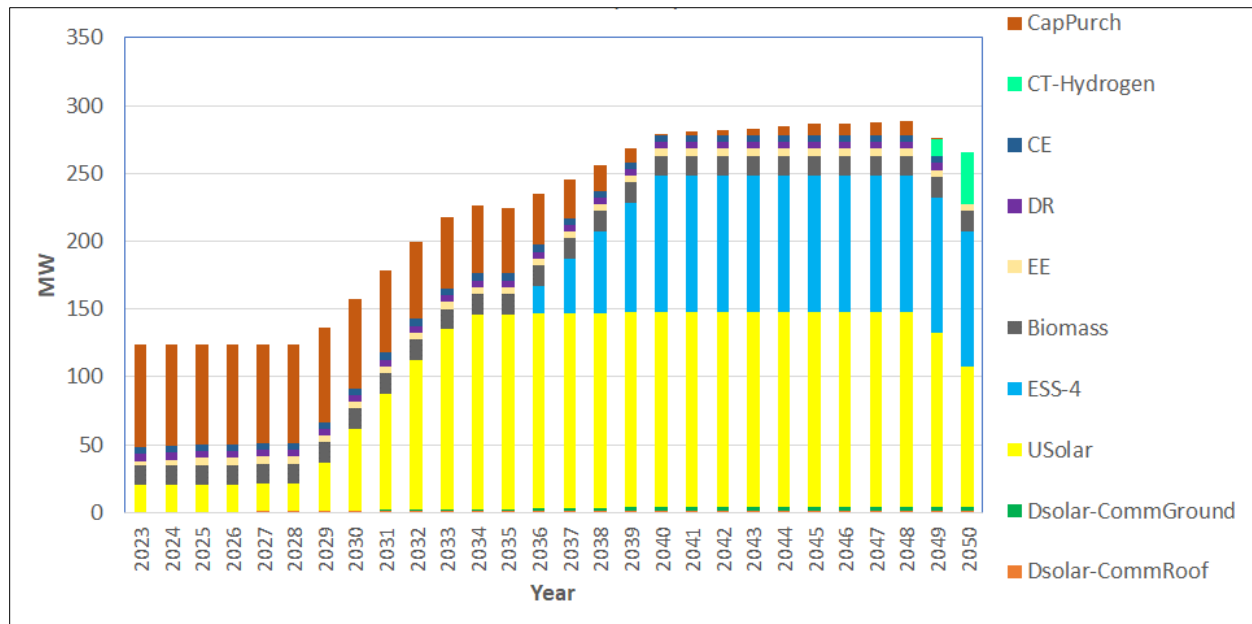


Figure 26. Capacity Additions for Scenario 3A

Figure 27 summarizes Scenario 3A's annual costs, LCOE with no escalation, and LCOE with a 3% annual escalation for the 28 years to 2050. Note that the LCOE for this scenario, \$101/MWh, is very similar to the \$103/MWh LCOE value of Scenario 1A. Figure 28 uses the same annual costs stream to summarize Scenario 3A's annual costs, LCOE with no escalation, and LCOE with a 3% annual escalation for the 20 years to 2042. The 20-year LCOE for Scenario 3A, \$90/MWh, is only \$2/MWh, or 2% over the equivalent value for Scenario 1a, \$88/MWh.

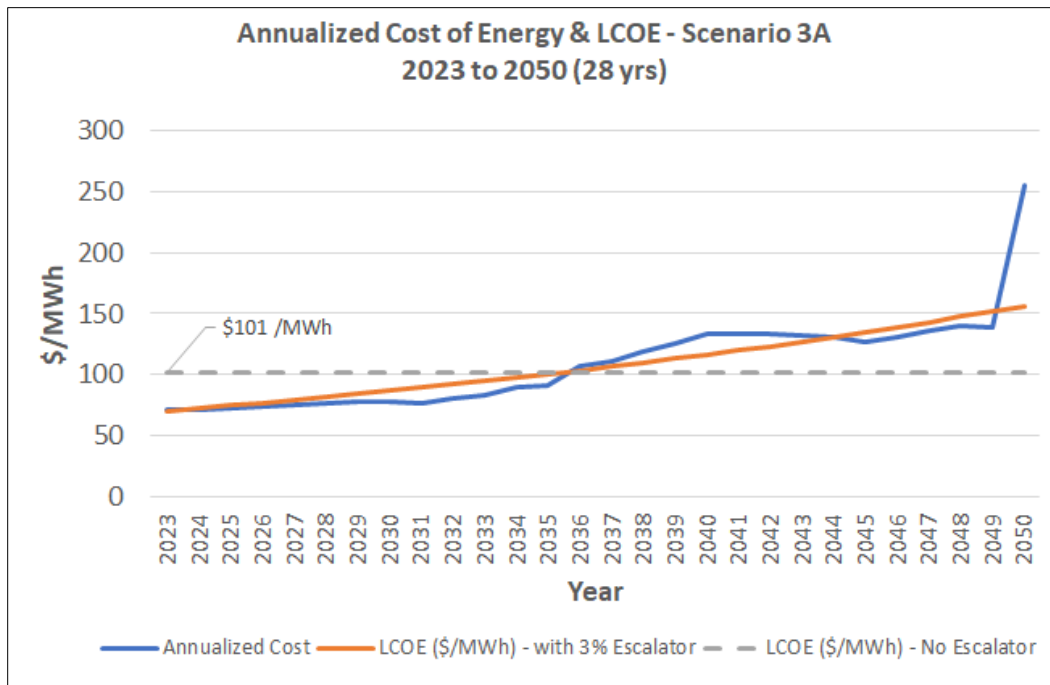


Figure 27. Annualized Cost of Energy and LCOE: Scenario 3A Based on 2023–2050

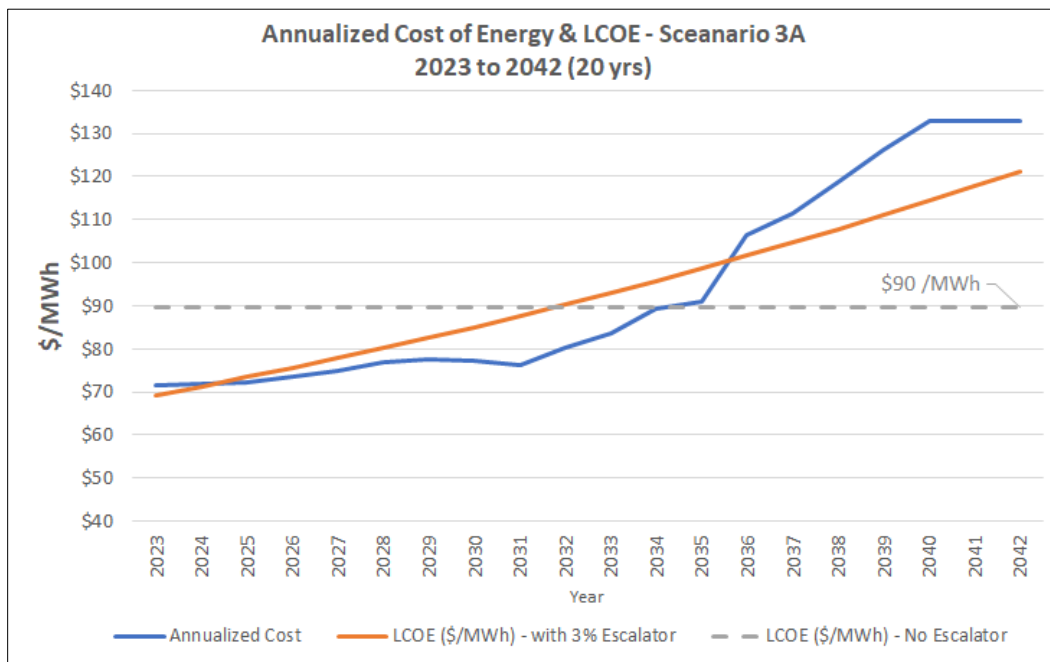


Figure 28. Annualized Cost of Energy and LCOE: Scenario 3A Based on 2023–2042



## 6.4 Summary of PVRR for All Scenarios

The chart on the following page,

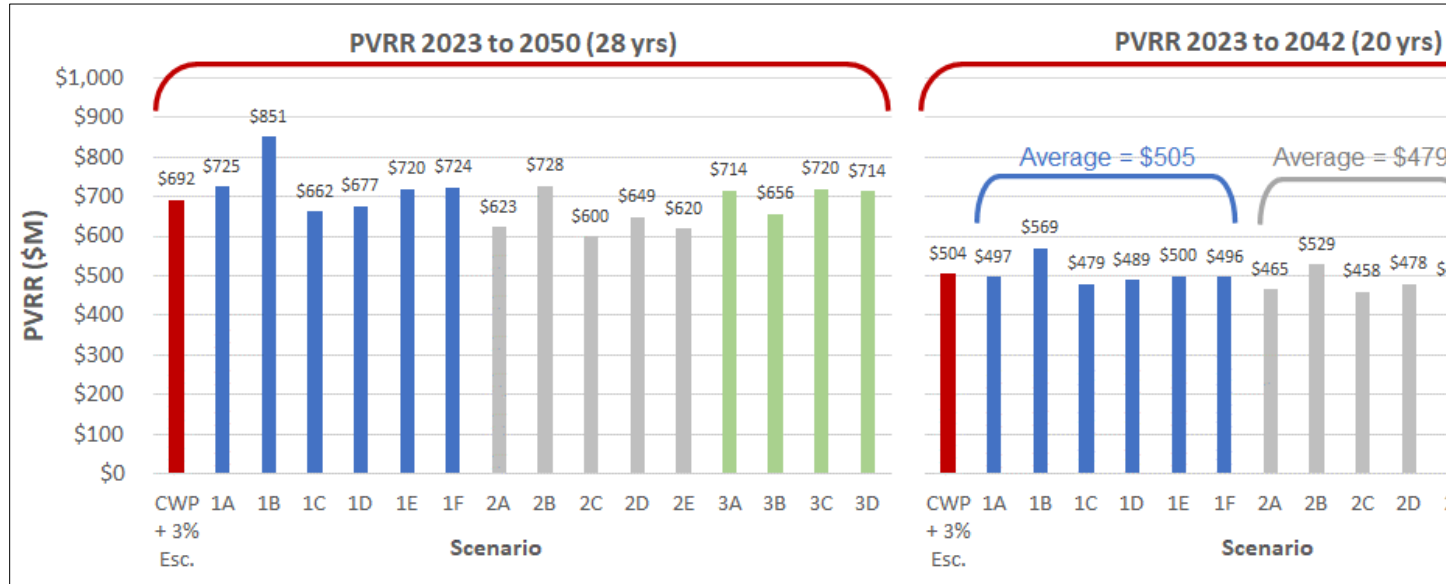


Figure 29, summarizes the PVRR results for all the scenarios and the full 28-year PVRR and the PVRR results for only the first 20 years of the analysis. Looking at the 28-year PVRR results, the CWP projected costs are in the same range as the other scenarios.

However, the 20-year PVRR results show a very tight range of costs. In the 20-year PVRR results, the difference between the forecast CWP costs (\$504/MWh) and the average of Scenario 1 variations (\$505/MWh) and the average of the Scenario 3 variations (\$498/MWh) is only 1%. Scenario 2 variations provide the lowest average LCOE (\$479/MWh), but the Scenario 1 variation average is still only 5% lower than the current CWP costs and the Scenario 1 variation.





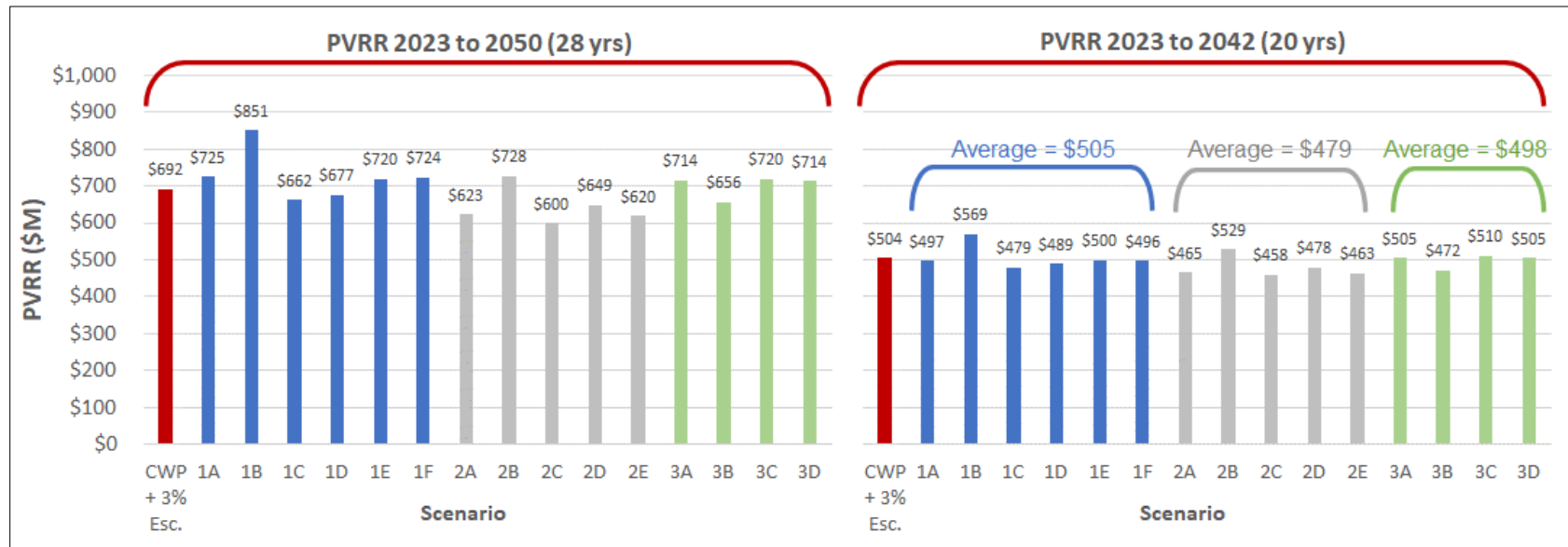


Figure 29. Summary of 28-Year and 20-Year PVRR Results for All Scenarios



## 7 CONCLUSIONS AND RECOMMENDED ROADMAP

### 7.1 Conclusions

During the study, CWP informed Quanta Technology that their primary interest had evolved to a focus on zero carbon resources and renewables (Targets 1 and 3) rather than the net-zero option (Target 2) that would allow the continuation of energy supply from carbon-emitting energy resources. With this refined focus by CWP, this section focuses only on the conclusions related to the scenarios for Targets 1 and 3.

While this study defined a proxy cost estimate for CWP's continuing path of purchasing from energy sources that include a substantial portion of carbon-producing technologies, Quanta Technology believes the proxy of a 3% escalation in costs is optimistically low. The actual costs can be expected to be higher. Establishing optimistically low projections of CWP costs for comparison with the results of this study is consistent with the intent of this study to determine the feasibility of the targets under consideration (i.e., if the results are favorable comparing them to optimistically low CWP costs, then they will be more favorable against higher CWP costs projections).

This analysis indicates that CWP's adoption of a path toward 100% renewables can be accomplished for a reasonable cost of power for the next 20 years. However, beyond the next 20 years (i.e., during the last 6 years analyzed in this report, 2043–2050), the technology selection and the costs remain understandably more uncertain and, based on the technologies options and costs assumed in this study, could bring a substantial increase in CWP's power costs. As noted earlier, the rapid rise in costs near the end of the study period was driven by assumptions on technology costs and availability which drove the inclusion of green hydrogen-powered CTs in the resource mix and the associated rise in costs.

Quanta Technology believes that additional cost-effective technologies will be available well before 2043. The power industry is expending considerable time and money on identifying options that could deliver lower-priced energy sources, including offshore wind, long-term energy storage technologies, and new technologies for geothermal energy, among others. While the costs projected in the last 6 years of the study are very high, based on the current assumptions, the costs before 2043 are comparable to projected CWP costs and could be lower. CWP should not avoid adopting its renewable targets because of costs that are not expected to occur for over 20 years. CWP should regularly reevaluate its targets and plans for its electric energy supply. Should continuing on a path to 100% renewable prove too costly in future years, CWP can adjust accordingly.

### 7.2 Recommended Roadmap

This study provides results indicating that Targets 1 and 3 are viable technical and financial options for the next 20 years (i.e., 2023 to 2042). After 2043, the costs begin to increase substantially due to the recommended additions of CT-hydrogen resources, a high-cost and nascent technology. Based on these results, Quanta Technology recommends the following roadmap for CWP's future.



### 7.2.1 Next Three Months (May 2023–July 2023)

Within the next three months, Quanta Technology recommends that CWP focus on alignment, definition, and goal-setting/validation activities in the near term. Specifically, the following is recommended:

Table 8. Three-Month Recommendations

Actions	Projects
Define a clear target for CWP's clean energy supply.	<ul style="list-style-type: none"><li>CWP would need to corral around a goal.</li><li>Establish multiple interim targets for renewable contributions before 2050 by using the findings of this report. An illustrative example of renewable goals to achieve Targets 1 and 2 is shown in Figure 30.</li></ul>
Start CWP IRP program.	<ul style="list-style-type: none"><li>A program manager will likely be needed to coordinate all aspects of reaching the goal.</li><li>Reporting templates should be developed</li><li>Timeframe of reporting to citizens should be established.</li></ul>

For example, some potential annual renewable targets may be considered below.

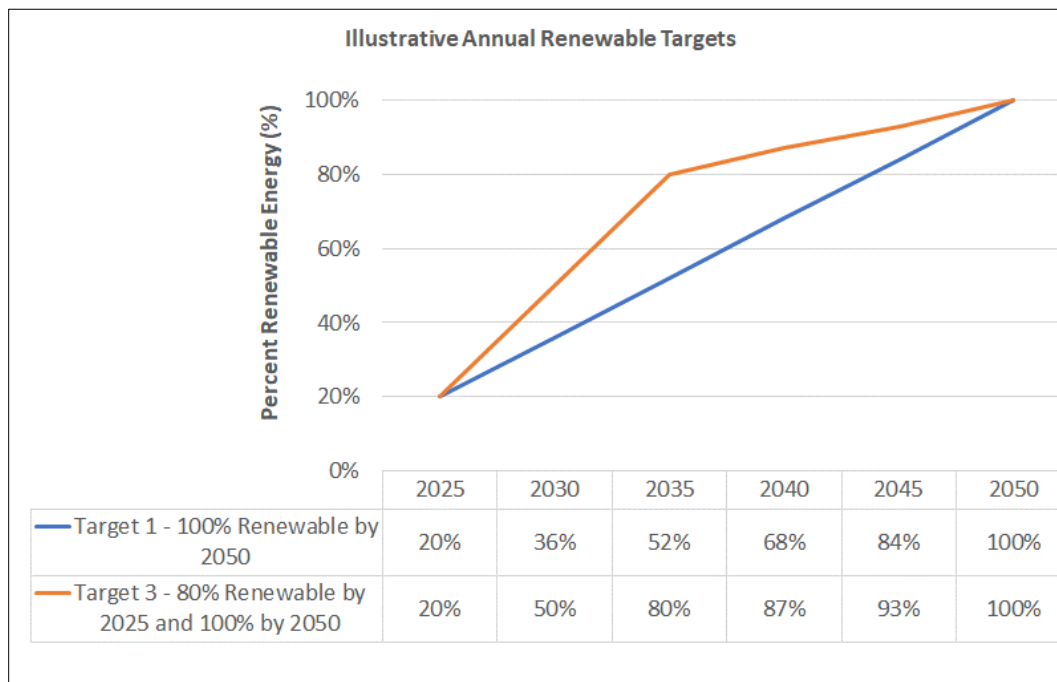


Figure 30. Illustrative Annual Renewable Targets



### 7.2.2 Next 18 Months (August 2023–February 2025)

Within the next 18 months, Quanta Technology recommends that CWP focus its attention on TOU, DR, and EE and prioritize utility-scale renewable purchases over rooftop solar for PV assets, as well as a number of other actions. Specifically, the following is recommended:

Table 9. 18-Month Recommendations

Actions / Theme	Projects
Develop TOU, DR, and EE programs	<ul style="list-style-type: none"><li>• Complete a load research study and consider and appliance saturation survey to gather better data to assess and design TOU, EE, and DR programs for CWP, Residential, and Business customers.</li><li>• Develop forecasts of the load impacts of the future appliance and end-use electrification.</li></ul>
Prioritize utility-scale renewable purchases over solar PV on city rooftops	<ul style="list-style-type: none"><li>• Utility-scale solar project ownership: prioritize project and PPA negotiations to support CWP's choice of renewable target plan.</li><li>• Continue to look for opportunities to pool CWP requirements and partner with FMPA and other Florida utilities for renewable and storage project power purchases and project development.</li><li>• Complete a study of all CWP assets to prioritize which CWP facilities should or should not be included in future plans to add solar and storage to CWP assets. Consider an RFI for City-owned assets to understand costs and options for all possible facilities.</li><li>• Complete an EV adoption study better to quantify the expected impacts of EV adoption in CWP.</li></ul>
Analyze warehouse rooftop PV installation	<ul style="list-style-type: none"><li>• Understand the need for individual building monitoring</li><li>• Create a roadmap for monitoring and control.</li><li>• Engage in discussions with vendors to develop an understanding of software in the marketplace.</li></ul>
Explore CWP utility bill financing	<ul style="list-style-type: none"><li>• Explore avenues in which CWP guarantees can help with financing solar of customer rooftop solar and storage additions.</li><li>• Create a billing template to reflect customer savings and contribution to the goal.</li></ul>
Plan CWP IRP updates	<ul style="list-style-type: none"><li>• Consider assignment of a project manager to provide regular updates on the program</li><li>• Update the current plan to complete a revised CWP IRP after the development of EE and DR programs are developed, and results from the load research study are available.</li><li>• Commit to regular, periodic updates of IRP, which include a resource technology maturity assessment of new and existing technologies to provide information to adapt CWP's plan to evolving technology capabilities and costs.</li></ul>



### 7.2.3 Next 48 Months (March 2025–April 2027)

Within the next 48 months, Quanta Technology recommends that CWP focus on implementing programs (EE and TOU). Specifically, the following is recommended:

Table 10. 48-Month Recommendations

Actions	Projects
Update IRP and technology maturity assessments.	<ul style="list-style-type: none"><li>• Create a roadmap for technology upgrades such as DERM to support CWP.</li><li>• Create a roadmap for the implementation of CWP-owned Battery Storage for resiliency.</li></ul>
Create a plan for CWP vehicle electrification	<ul style="list-style-type: none"><li>• Complete a study and plan for the electrification of all CWP-owned vehicles.</li></ul>
Implement rate changes	<ul style="list-style-type: none"><li>• Create and implement TOU rates with energy costs and demand rates that represent actual energy and demand costs.</li><li>• Change the NEM rate credited to customers to a cost-based TOU rate that evolves as CWP TOU costs evolve.</li><li>• New future NEM credit for any excess flow from the customer back to the system should reflect only the actual TOU wholesale energy value to CWP.</li><li>• The value of NEM backflow power from distributed solar will ultimately go to zero and be of negative value in future years as CWP wholesale solar production exceeds noontime CWP demand, after which CWP will need to purchase energy storage to store the excess solar or interrupt the excess solar.</li></ul>

### 7.2.4 Beyond 48 Months (Beyond April 2027)

Quanta Technology recommends that CWP follow the course of action with regular project management updates on meeting the renewable targets adopted in Section 7.2.1.



## APPENDIX A: TERMS AND DEFINITIONS

Table 11. Report Terms

Term	Definition
<b>100% Renewable</b>	<ul style="list-style-type: none"> <li>All energy originates from some form of renewable technology.</li> </ul>
<b>Bioenergy or Biomass</b>	<ul style="list-style-type: none"> <li>Energy technologies that use biomass as a fuel.</li> <li>Biomass is a solid or gaseous renewable energy resource derived from plant- and algae-based materials that include: <ul style="list-style-type: none"> <li>Crop wastes</li> <li>Forest residues</li> <li>Purpose-grown grasses</li> <li>Woody energy crops</li> <li>Microalgae</li> <li>Urban wood waste</li> <li>Food waste</li> </ul> </li> <li>Even though biofuels are considered renewable, burning biofuels emit carbon and other elements.</li> <li>When burned as a fuel for electric production, biofuels only release the carbon the plants take from the air and soil during their growth cycle. The process is comparable to moving carbon in and out of the atmosphere and soil but does not contribute incremental increases to the atmospheric carbon.</li> <li>The biomass energy technologies considered in this study are dispatchable, and their ability to operate continuously, just like a fossil-fueled plant, is only limited by the continuity of the fuel supply to the site and onsite fuel storage.</li> </ul>
<b>Electrification</b>	<ul style="list-style-type: none"> <li>The process of changing appliances and end uses that use fossil fuels to electric, e.g., changing a natural gas space heater to an electric heat pump or changing a gasoline-fueled vehicle to an electric vehicle.</li> </ul>
<b>Energy Neutral</b>	<ul style="list-style-type: none"> <li>A CWP or customer facility that generates sufficient annual energy from their distributed energy resources to offset the annual consumption of the facility.</li> </ul>
<b>Green Hydrogen</b>	<ul style="list-style-type: none"> <li>Green hydrogen is considered a green and renewable fuel source. Green hydrogen is created without emissions or the use of fossil fuels. The typical method considered the likely future source of large quantities of green hydrogen is renewable energy resources supplying power to electrolyzers that split water into pure oxygen and pure hydrogen.</li> <li>Green hydrogen differs from other types of hydrogen that use different fossil-fueled processes to separate hydrogen from the fuel source.</li> </ul>
<b>Net Energy Metering</b>	<ul style="list-style-type: none"> <li>A rating program currently in effect in CWP where customers with distributed energy resources are credited at full retail, variable rates for any excess energy (i.e., the energy that exceeds the customer's instantaneous needs) that flows back into the CWP system.</li> </ul>
<b>Net-Zero Carbon</b>	<ul style="list-style-type: none"> <li>Net zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by removal from the atmosphere. Generally, utilities plan to achieve net-zero carbon by reducing their carbon emissions and acquiring renewable energy credits or other carbon offsets, which counterbalance carbon removal of any remaining carbon emissions resulting from their electric energy production.</li> </ul>
<b>Net-Zero Energy</b>	<ul style="list-style-type: none"> <li>Sufficient energy is produced from solar PV or other renewable sources to offset the annual energy consumption.</li> </ul>



Term	Definition
Renewable Energy	<ul style="list-style-type: none"><li>• Energy is generated only from technologies considered to be renewable, including wind, solar, ocean energy, geothermal, hydroelectricity, technologies that burn fuels derived from biomass, and green hydrogen (i.e., hydrogen generated from processes that use water and renewable energy).</li><li>• Hydroelectricity is a renewable technology but is treated differently than other forms of renewable energy in some states due to its other environmental impacts.</li></ul>
Renewable Energy Credit	<ul style="list-style-type: none"><li>• A renewable energy credit (REC) is a market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation.</li><li>• When one megawatt-hour (MWh) of electricity is generated and delivered to the grid from a renewable energy resource, RECs are issued.</li><li>• The ownership of the REC is a certificate that can be owned, sold, or traded separately from the electrical energy that served as the source of the REC creation.</li></ul>
Zero Carbon	<ul style="list-style-type: none"><li>• All energy is created with technologies that do not emit carbon into the atmosphere.</li><li>• “Real Zero” is a new term recently invented and trademarked by FPL to differentiate its emission goal from other utilities’ net-zero carbon goals, though Real Zero is identical in definition to zero carbon.</li><li>• For electric generation, zero-carbon energy resources include all forms of generation technology that do not emit carbon (e.g., nuclear and renewable technologies that do not emit carbon into the atmosphere).</li><li>• Even though biofuels and geothermal are considered renewable, they are not zero-carbon resources since both generally emit carbon into the atmosphere.</li></ul>





## APPENDIX B: LIST OF ABBREVIATIONS AND ACRONYMS

Table 12. Report Abbreviations and Acronyms

Term	Definition
ATB	Annual technology baseline
Biomass	Biomass fuel generation
CAPEX	Capital expenditures
CapPurch	Capacity purchases from the Florida energy market, which is assumed to be 100% fossil generation
CE	Internal Combustion Engine fueled with diesel
CT	Combustion turbine generator
CT-Hydrogen	Green hydrogen-fueled combustion turbine
CWP	City of Winter Park
DEF	Duke Energy Florida
Dsolar-CommGround	Distributed solar PV at CWP facility open land
Dsolar-CommRoof	Distributed solar PV on CWP facility rooftops
DR	Demand response
EE	Energy efficiency
EES-4	Battery electric energy storage system with a 4-hour energy capacity
ELCC	Effective load-carrying capability
EV	Electric vehicle
FGBC	Florida Green Building Coalition
FL	Florida
FMPA	Florida Municipal Power Agency
FPL	Florida Power & Light
FY	Fiscal year
GHG	Greenhouse gas
GRU	Gainesville Regional Utilities
GW	Gigawatt
IBR	Inverter-based resources
IRP	Integrated resource plan
pIRP	Probabilistic integrated resource plan
JEA	Jacksonville Electric Authority
KW	Kilowatt



Term	Definition
LCOE	Levelized cost of energy
LDV	Light-duty vehicle
LP	Linear program
MW	Megawatt
NREL	National Renewable Energy Laboratory
OUC	Orlando Utilities Commission
PPA	Power purchase agreement
PSC	Public Service Commission
PV	Photovoltaic
REC	Renewable energy credit
RPS	Renewable portfolio standards
SAP	Sustainable action plan
SFH	Single-family homes
T&D	Transmission & Distribution
TAL	Tallahassee
TECO	Tampa Electric Company
TYSP	Ten-year site plan
USolar	Utility-scale solar PV
VRE	Variable renewable energy



## APPENDIX C: BATTERY LIFECYCLE CONSIDERATIONS

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Two key factors dictate the life of battery-based energy storage systems:

- Capacity fading due to age
- Capacity fading due to charge-discharge cycles

Lithium-ion storage capacity typically fades or degrades with time and use, at 2%–3% per year, if used at an average rate of one full cycle per day. The storage system is designed to deliver a maximum lifetime of around 4000–6000 full cycles before the capacity fades below 70%–80% of its initial capacity. The number of cycles a battery system delivers depends strongly on the depth of discharge in each cycle. The lifecycles increase as the cycle depth of discharge decreases. In addition to lifecycles, lithium-ion batteries typically have a shelf life of around 15 years.

To maintain a battery over its life, operators usually implement an asset management plan that includes annual inspections and capacity augmentations.

However, its modules must be replaced and recycled at the end of a battery system's life. Many components of the battery systems will remain functional, including the housing/containers, electrical balance of the plant, and interconnections. The bi-directional inverters are also replaced every 10–15 years.

The chemistry of lithium-ion batteries differs between technologies and manufacturers. Some use toxic compounds and rare metals (such as cobalt or cadmium), while others use safer, non-toxic, and relatively common materials (such as manganese oxide or phosphate). Unlike lead-acid batteries that recycle 100% of the lead used in their ecosystem, the state of recycling lithium-ion batteries is still evolving. Recycling uses complex and energy-demanding processes that include pyrometallurgy and hydrometallurgy. In pyrometallurgy, battery components are smelted in a high-temperature process that burns and separates a mixed metal alloy of cobalt, copper, iron, and nickel. Hydrometallurgy recovers the desired metals by treating the cathode material with an acidic or basic solution. Multiple companies throughout North America are already in the business of reusing or recycling batteries, and many of these have partnered with car companies to aid in the recycling of their electric vehicle batteries. Most companies specializing in this process claim to recover up to 95% of the raw materials, including cobalt, nickel, and lithium. Tesla also recycles batteries independently, claiming to recover 92% of the battery's raw materials.

From a financial point of view, the cost of recycling after 15 years is not certain. Assuming a value of at least \$50/kWh in today's dollars is prudent.



## APPENDIX D: NREL PVWATTS SOLAR PRODUCTION ESTIMATE

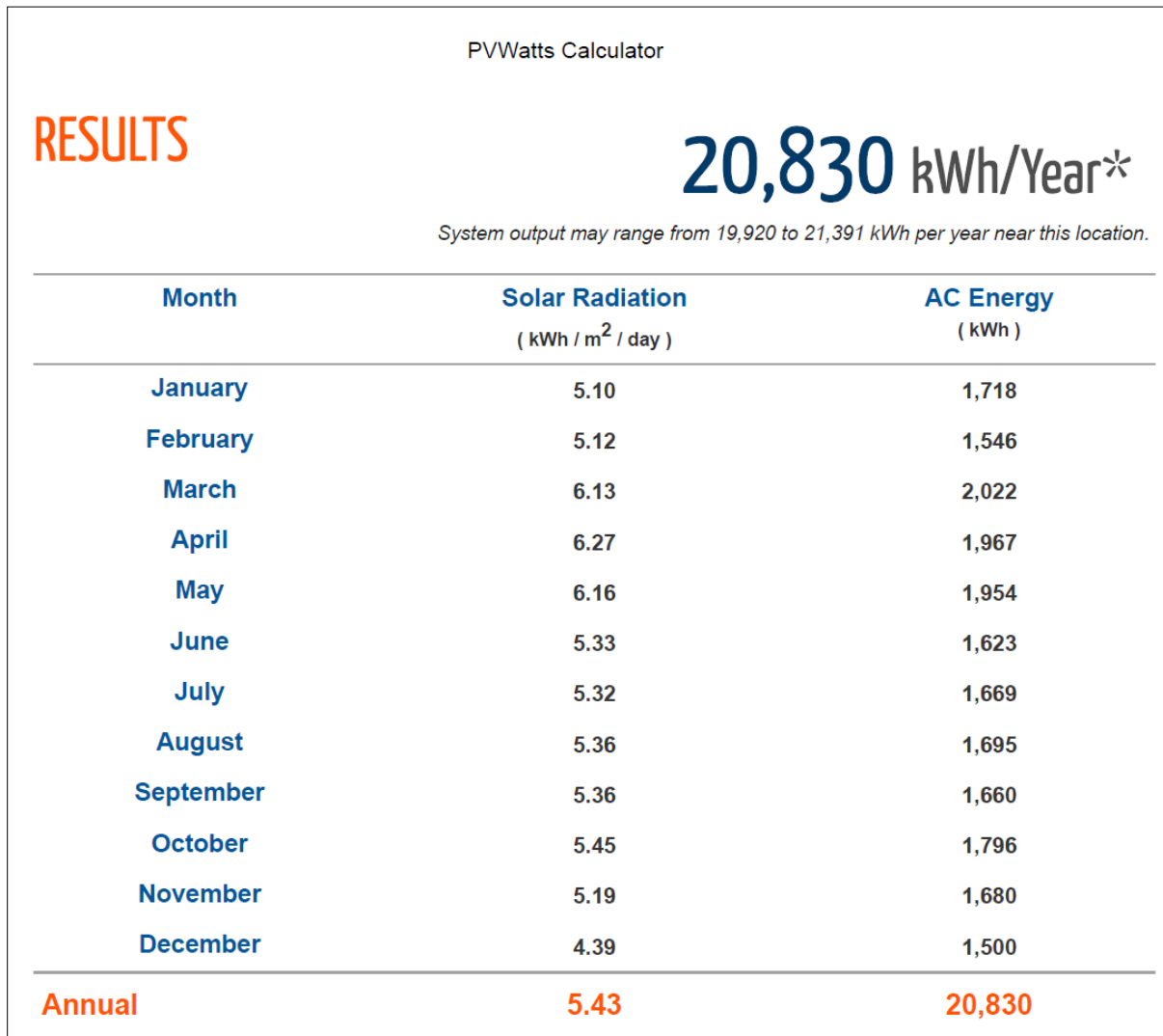


Figure 31. PVWatts Calculator



### Location and Station Identification

Requested Location	401 S Park Ave 32789
Weather Data Source	Lat, Lng: 28.61, -81.34    1.2 mi
Latitude	28.61° N
Longitude	81.34° W

### PV System Specifications

DC System Size	13.8 kW											
Module Type	Standard											
Array Type	Fixed (open rack)											
System Losses	14.08%											
Array Tilt	30°											
Array Azimuth	180°											
DC to AC Size Ratio	1.2											
Inverter Efficiency	96%											
Ground Coverage Ratio	0.4%											
Albedo	From weather file											
Bifacial	No (0)											
Monthly Irradiance Loss	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

### Performance Metrics

DC Capacity Factor	17.2%
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Figure 32. PVWatts Information and Metrics



## APPENDIX E: RESIDENTIAL ROOFTOP SOLAR AND BATTERY FORECASTS

Table 13. Residential Rooftop Solar PV And Battery Forecasts

Year	Expected		High		Low	
	Residential Distributed Solar (MWh)	Residential Battery (MWh) <sup>14</sup>	Residential Distributed Solar (MWh)	Residential Battery (MWh) <sup>11</sup>	Residential Distributed Solar (MWh)	Residential Battery (MWh) <sup>11</sup>
2025	650	5	1,037	8	387	0
2026	1,297	7	2,069	11	772	0
2027	2,591	8	4,132	13	1,542	0
2028	3,878	10	6,186	16	2,308	0
2029	5,809	12	9,266	19	3,457	0
2030	7,730	13	12,330	21	4,601	0
2031	10,291	15	16,417	24	6,126	0
2032	12,840	17	20,483	27	7,643	0
2033	15,376	18	24,528	29	9,152	0
2034	18,550	20	29,591	32	11,041	0
2035	21,707	22	34,628	35	12,920	0
2036	25,499	23	40,676	37	15,177	0
2037	29,922	25	47,732	40	17,810	0
2038	34,973	27	55,789	43	20,816	0
2039	39,349	28	62,769	45	23,421	0
2040	43,052	30	68,678	48	25,625	0
2041	46,087	32	73,519	51	27,432	0
2042	49,107	33	78,336	54	29,229	0
2043	51,462	35	82,093	56	30,631	0
2044	53,805	37	85,830	59	32,025	0
2045	55,486	38	88,512	62	33,026	0
2046	57,159	40	91,181	64	34,022	0
2047	58,823	42	93,836	67	35,012	0
2048	59,829	43	95,440	70	35,611	0
2049	60,830	45	97,037	72	36,207	0
2050	60,526	47	96,552	75	36,026	0

<sup>14</sup> Battery energy forecasts are based on 80% of rated battery energy capacity.



## APPENDIX F: FORECAST OF ROOFTOP AND GROUND MOUNT SOLAR PV ON CWP-OWNED PROPERTY

Table 14. Forecast Of Rooftop And Ground Mount Solar PV On CWP-Owned Property

Year	Expected	
	CWP-Owned Property Rooftop PV (MWh)	CWP-Owned Property Ground Mount PV (MWh)
2025	1,202,606	87,161
2026	1,196,593	173,887
2027	1,251,426	347,340
2028	1,272,390	519,926
2029	1,266,029	778,810
2030	1,267,122	1,036,400
2031	1,318,279	1,379,863
2032	1,405,424	1,721,609
2033	1,863,194	2,061,646
2034	1,853,878	2,487,144
2035	2,014,147	2,910,515
2036	2,107,862	3,418,930
2037	2,129,793	4,011,964
2038	2,119,144	4,689,195
2039	2,408,994	5,275,878
2040	2,396,949	5,772,466
2041	2,434,720	6,179,411
2042	2,437,856	6,584,320
2043	2,504,856	6,900,043
2044	2,492,332	7,214,188
2045	2,921,870	7,439,601
2046	3,043,854	7,663,887
2047	3,028,635	7,887,052
2048	3,013,492	8,021,939
2049	2,998,424	8,156,152
2050	2,983,432	8,115,371





## APPENDIX G: RESIDENTIAL LDV EV FORECASTS

Table 15. Residential LDV EV Forecasts

Year	Expected		High		Low	
	Resident-Owned LDV EV	Resident LDV EV Charging Energy (MWh)	Resident-Owned LDV EV	Resident LDV EV Charging Energy (MWh)	Resident-Owned LDV EV	Resident LDV EV Charging Energy (MWh)
2023	403	797	624	1,235	302	597
2024	542	1,224	840	1,898	407	918
2025	714	1,766	1,107	2,737	536	1,325
2026	942	2,483	1,460	3,849	707	1,862
2027	1,222	3,381	1,894	5,240	917	2,536
2028	1,556	4,469	2,413	6,927	1,167	3,352
2029	1,953	5,775	3,026	8,951	1,464	4,331
2030	2,417	7,327	3,747	11,356	1,813	5,495
2031	2,799	8,638	4,569	14,100	2,211	6,822
2032	3,241	10,002	5,430	16,757	3,191	9,848
2033	3,753	11,582	6,453	19,915	4,172	12,874
2034	4,346	13,411	7,670	23,669	5,152	15,900
2035	5,032	15,529	9,115	28,130	6,133	18,926
2036	5,827	17,981	10,833	33,431	7,113	21,952
2037	6,747	20,821	12,875	39,732	8,094	24,977
2038	7,812	24,109	15,301	47,221	9,074	28,003
2039	9,046	27,917	18,185	56,121	10,055	31,029
2040	10,475	32,326	21,613	66,698	11,035	34,055
2041	12,129	37,431	21,651	66,816	12,016	37,081
2042	14,044	43,342	21,689	66,934	12,996	40,107
2043	16,262	50,186	21,728	67,052	13,977	43,132
2044	18,831	58,112	21,766	67,171	14,957	46,158
2045	21,804	67,289	21,804	67,289	15,938	49,184
2046	21,843	67,408	21,843	67,408	16,918	52,210
2047	21,882	67,527	21,882	67,527	17,899	55,236
2048	21,920	67,647	21,920	67,647	18,879	58,262
2049	21,959	67,766	21,959	67,766	19,860	61,287
2050	21,998	67,886	21,998	67,886	20,840	64,313



## APPENDIX H: ANNUAL SCHEDULE OF CAPACITY PURCHASES

Table 16. Scenario 1A: Annual Capacity Purchases (MW)

Year	Utility Scale Solar (Usolar)	4-hr Battery Energy Storage System (ESS-4)	Biomass	Internal Combustion Engine - Fossil (CE)	Hydrogen Fuel Combustion Turbine (CT Hydrogen)	Demand Response (DR)	Energy Efficiency (EE)	City Property Rooftop Solar (Dsolar-Comm Roof)	City Property Ground Mount Solar (Dsolar-Comm Ground)	FL System Purchase (Cap Purch)
2023	20.0	0.0	15.0	5.0	0.0	5.0	3.0	0.0	0.0	75.5
2024	20.0	0.0	15.0	5.0	0.0	5.0	4.0	0.0	0.0	74.7
2025	20.0	0.0	15.0	5.0	0.0	5.0	5.0	0.0	0.0	73.7
2026	20.0	0.0	15.0	5.0	0.0	5.0	5.0	0.0	0.0	73.4
2027	20.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	73.1
2028	20.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	72.9
2029	20.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	72.4
2030	30.8	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	70.3
2031	38.4	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	68.2
2032	56.1	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	64.8
2033	64.4	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	62.7
2034	70.8	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	60.7
2035	70.8	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	59.7
2036	70.8	20.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	49.1
2037	70.8	40.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	39.4
2038	70.8	60.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	30.3
2039	70.8	76.4	15.0	5.0	0.0	5.0	5.0	1.0	3.0	23.0
2040	70.8	93.7	15.0	5.0	0.0	5.0	5.0	1.0	3.0	15.4
2041	89.3	93.7	15.0	5.0	0.0	5.0	5.0	1.0	3.0	13.8
2042	89.8	93.7	15.0	5.0	0.0	5.0	5.0	1.0	3.0	15.0
2043	89.8	93.7	15.0	5.0	0.0	5.0	5.0	1.0	3.0	16.3
2044	89.8	93.7	15.0	5.0	0.0	5.0	5.0	1.0	3.0	17.8
2045	89.8	93.7	15.0	5.0	6.8	5.0	5.0	1.0	3.0	13.0
2046	89.8	93.7	15.0	5.0	7.4	5.0	5.0	1.0	3.0	13.2
2047	89.8	93.7	15.0	5.0	7.4	5.0	5.0	1.0	3.0	13.9
2048	89.8	93.7	15.0	5.0	7.4	5.0	5.0	1.0	3.0	14.5
2049	89.8	93.7	15.0	5.0	16.2	5.0	5.0	1.0	3.0	7.0
2050	78.9	93.7	15.0	0.0	41.2	0.0	5.0	1.0	3.0	0.0



Table 17. Scenario 2A: Annual Capacity Purchases (MW)

	Utility Scale Solar (Usolar)	Biomass	Internal Combustion Engine - Fossil (CE)	Renewable Energy Credits (REC)	Hydrogen Fuel Combustion Turbine (CT Hydrogen)	Demand Response (DR)	Energy Efficiency (EE)	City Property Rooftop Solar (Dsolar- Comm Roof)	City Property Ground Mount Solar (Dsolar- Comm Ground)	FL System Purchase (Cap Purch)
2023	20.0	15.0	5.0	0.0	0.0	5.0	3.0	0.0	0.0	75.5
2024	20.0	15.0	5.0	0.0	0.0	5.0	4.0	0.0	0.0	74.7
2025	20.0	15.0	5.0	0.0	0.0	5.0	5.0	0.0	0.0	73.7
2026	20.0	15.0	5.0	0.0	0.0	5.0	5.0	0.0	0.0	73.4
2027	20.0	15.0	5.0	0.0	0.0	5.0	5.0	1.0	0.0	73.1
2028	20.0	15.0	5.0	0.0	0.0	5.0	5.0	1.0	0.0	72.9
2029	20.0	15.0	5.0	14.1	0.0	5.0	5.0	1.0	0.0	72.4
2030	20.0	15.0	5.0	29.9	0.0	5.0	5.0	1.0	0.0	71.9
2031	20.0	15.0	5.0	43.7	0.0	5.0	5.0	1.0	1.0	71.0
2032	20.0	15.0	5.0	68.7	0.0	5.0	5.0	1.0	1.0	70.2
2033	20.0	15.0	5.0	84.5	0.0	5.0	5.0	1.0	1.0	69.4
2034	20.0	15.0	5.0	105.5	0.0	5.0	5.0	1.0	1.0	68.3
2035	20.0	15.0	5.0	121.4	0.0	5.0	5.0	1.0	1.0	67.3
2036	20.0	15.0	5.0	146.9	0.0	5.0	5.0	1.0	2.0	66.7
2037	20.0	15.0	5.0	176.6	0.0	5.0	5.0	1.0	2.0	67.0
2038	20.0	15.0	5.0	192.6	0.0	5.0	5.0	1.0	2.0	68.0
2039	20.0	15.0	5.0	208.3	0.0	5.0	5.0	1.0	3.0	68.8
2040	20.0	15.0	5.0	225.0	0.0	5.0	5.0	1.0	3.0	69.9
2041	20.0	15.0	5.0	242.5	0.0	5.0	5.0	1.0	3.0	71.0
2042	20.0	15.0	5.0	260.9	0.0	5.0	5.0	1.0	3.0	72.3
2043	20.0	15.0	5.0	280.4	0.0	5.0	5.0	1.0	3.0	73.6
2044	20.0	15.0	5.0	300.9	0.0	5.0	5.0	1.0	3.0	75.1
2045	20.0	15.0	5.0	323.7	0.0	5.0	5.0	1.0	3.0	76.7
2046	20.0	15.0	5.0	340.1	0.0	5.0	5.0	1.0	3.0	77.4
2047	20.0	15.0	5.0	341.0	0.0	5.0	5.0	1.0	3.0	78.1
2048	20.0	15.0	5.0	345.8	0.0	5.0	5.0	1.0	3.0	78.8
2049	20.0	15.0	5.0	361.9	0.0	5.0	5.0	1.0	3.0	79.4
2050	20.0	15.0	5.0	412.1	0.0	5.0	5.0	0.0	1.5	80.4



Table 18. Scenario 3A: Annual Capacity Purchases (MW)

Year	Utility Scale Solar (Usolar)	4-hr Battery Energy Storage System (ESS-4)	Biomass	Internal Combustion Engine - Fossil (CE)	Hydrogen Fuel Combustion Turbine (CT Hydrogen)	Demand Response (DR)	Energy Efficiency (EE)	City Property Rooftop Solar (Dsolar-Comm Roof)	City Property Ground Mount Solar (Dsolar-Comm Ground)	FL System Purchase (Cap Purch)
2023	20.0	0.0	15.0	5.0	0.0	5.0	3.0	0.0	0.0	75.5
2024	20.0	0.0	15.0	5.0	0.0	5.0	4.0	0.0	0.0	74.7
2025	20.0	0.0	15.0	5.0	0.0	5.0	5.0	0.0	0.0	73.7
2026	20.0	0.0	15.0	5.0	0.0	5.0	5.0	0.0	0.0	73.4
2027	20.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	73.1
2028	20.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	72.9
2029	35.7	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	70.0
2030	60.7	0.0	15.0	5.0	0.0	5.0	5.0	1.0	0.0	65.8
2031	85.7	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	61.1
2032	110.7	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	56.6
2033	133.0	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	52.4
2034	144.1	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	49.7
2035	144.1	0.0	15.0	5.0	0.0	5.0	5.0	1.0	1.0	48.7
2036	144.1	20.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	38.1
2037	144.1	40.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	28.4
2038	144.1	60.0	15.0	5.0	0.0	5.0	5.0	1.0	2.0	19.3
2039	144.1	80.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	10.2
2040	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	1.3
2041	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	2.4
2042	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	3.7
2043	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	5.0
2044	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	6.5
2045	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	8.1
2046	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	8.8
2047	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	9.5
2048	144.1	100.0	15.0	5.0	0.0	5.0	5.0	1.0	3.0	10.1
2049	128.5	100.0	15.0	5.0	12.9	5.0	5.0	1.0	3.0	1.2
2050	103.5	100.0	15.0	0.0	37.9	0.0	5.0	1.0	3.0	0.0



# Winter Park

# Sustainability Action Plan

## 2023 Update

Presented by:

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Sara Miller, Sustainability Manager

Mia Brady, Sustainability Specialist

Keep Winter Park Beautiful & Sustainable Advisory Board

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## Background

### Vision and Purpose

The 2022 Sustainability Action Plan (SAP) updates and expands upon the City of Winter Park's 2015 SAP. The purpose of the SAP remains the same, to create a roadmap depicting where the city is today and where it would like to be in the future, in regard to sustainability.

The city defines sustainability as responsible and proactive decision-making that minimizes negative impact and maintains balance between social, environmental, and economic growth to ensure a desirable environment for all species now and into the future.

By integrating elements of this plan, Winter Park will:

- Increase quality of life while improving individual and community health
- Become more independent from energy derived from fossil fuels
- Protect and enhance air quality, water quality, and natural systems
- Save money
- Increase economic value

It is the intention of this document to provide high level objectives that are conceptually approved by the City Commission and leadership. The actions listed under each category are put forth as possible avenues for achievement of the approved goals, and do not represent required or prescriptive measures. The plan is a living document intended to evolve over time as the city experiences both progress and challenges.

A progress report will be presented to the City Commission on an annual basis. This annual report will include:

- Summary of progress made toward the previous year's indicators and actions
- Proposed project/action list
- Estimated project costs
- City staff and budget allocations
- Outside funding opportunities

### History

On January 14, 2008, the Winter Park City Commission passed a resolution stating the City would pursue measures to become a certified Green Local Government through the [Florida Green Building Coalition](#) (FGBC). In 2009, Public Works Director Troy Attaway hired Tim Maslow to coordinate the city's sustainability efforts and to develop a plan for achieving the certification. In 2011, after working with each department on a multitude of new projects, policies and programs, the city was officially certified as a Green Local Government at the Gold level, also earning the highest score for a local government that year. The SAP was originally drafted based upon the structure provided by the Green Local Government certification.



In 2012, the city's Environmental Review and Keep Winter Park Beautiful (Keep America Beautiful affiliate since 1993) boards merged with a shared focus of improving community sustainability and achieving the Green Local Government Platinum certification. The new Keep Winter Park Beautiful and Sustainable (KWPB&S) Advisory Board held monthly workshops in addition to their regularly scheduled monthly board meetings in an effort to develop and refine the SAP with community involvement. The 2015 SAP, presented by Kris Stenger, Assistant Director of Building, Permitting and Sustainability and Abby Gulden, Sustainability and Permitting Coordinator, was accepted by unanimous vote of the City Commission on February 9, 2015.

2012-2013 KWPB&S Board Members		2014-2015 KWPB&S Board Members	
Mary Dipboye, Chair	James (Bob) Robinson	Michael Poole, Chair	Mark Roush
Stephen Pategas, V. Chair	Pat Schoknecht	Stephen Pategas, V. Chair	Bruce Thomas
Michele Hipp	Julia Tensfeldt	Michele Hipp	Steven DiClemente
Michael Poole	Kent Tse	Raymond Randall	Mary Dipboye
Raymond Randall	Laura Walda	Pat Schoknecht	John Tapp
John Rife	Carol Kostick	Julia Tensfeldt	Fred Kosiewski
Lucy Roberts	Mark Roush	Laura Walda	Cathy Blanton
Joseph Robillard		Carol Shenck (Kostick)	

## About the 2022 SAP Update

### Overview

The year 2020 was the first target year for many of the 2015 SAP metrics. Due to the COVID-19 pandemic, data from 2020 is not comparable to previous years. For this reason, trend data for the 2021 document were only expressed through the year 2019 (pre-COVID-19 pandemic). The city's progress toward the 2015 SAP Objectives, Indicators, and Actions through 2020 is provided in the 2020 Annual Report available at [cityofwinterpark.org/sap](http://cityofwinterpark.org/sap).

The 2021 SAP revises baselines, where necessary, for more complete and accurate data collection and analysis. It also includes a new category, Climate Resiliency, to help the City better understand and withstand weather and climate-related risks and vulnerabilities. The update also includes actions to apply a [racial equity lens](#) to ensure a future where race can no longer be used to predict life outcomes and where outcomes for all groups are improved.

During 2021, many programs and goals were suspended due to prior sustainability staff no longer employed at the city. In 2022, the Sustainability Program was moved to the newly created Natural Resources and Sustainability Department. The 2022 SAP revision contains edits made to the 2021 SAP being implemented by the Sustainability Division consisting of the Sustainability Specialist, Sustainability Manager, and Natural Resources and Sustainability Director.

In addition, as a result of the above-mentioned delays, the Department of Natural Resources and Sustainability conducted a comprehensive inventory of all SAP metric indicators to benchmark city status in effort to give the new Department a starting point on data trend and analysis moving forward. This information is presented in subsequent tables labeled as “**2021 Status**”.

## 2021 SAP Update Community Engagement Process

The 2021 SAP integrates discussion and feedback from joint virtual KWPB&S Advisory Board work sessions, which allowed for public comments, with the following city advisory boards and respective staff liaisons: Economic Development, Lakes and Waterways, Parks and Recreation, Tree Preservation, Planning and Zoning, and Transportation and Utilities. Additional community input on SAP priorities were gathered using an online survey that had over 200 respondents (over two-thirds were identified as residents). Community input was also gathered from community organizations via an online survey from Hannibal Square Heritage Center, Ideas for Us Orlando, League of Women Voters Orange County, The Nature Conservancy, Winter Park Garden Club, Winter Park History Museum, and Winter Park Public Library.

## Keep Winter Park Beautiful & Sustainable Advisory Board

The mission of Keep Winter Park Beautiful and Sustainable (KWPB&S) Advisory Board is to make recommendations to the city commission concerning matters to improve the quality, health, sustainability and aesthetics of our environment in order to create a healthier, more beautiful place to live, work, and play.

2022 KWPB&S Board Members	Appointed By	End of Term
Ben Ellis, Vice Chair	Mayor Anderson	2024
Carey Bond	Commissioner DeCiccio	2023
Mark J Yonker	Commissioner Cruzada	2025
Kay Hudson, Chair	Mayor Anderson	2024
Stephen Pategas	Commissioner Weaver	2025
Rishona S Teres	Commissioner Sullivan	2023
Laura Gustafson-Hullinger	Mayor Anderson	2024

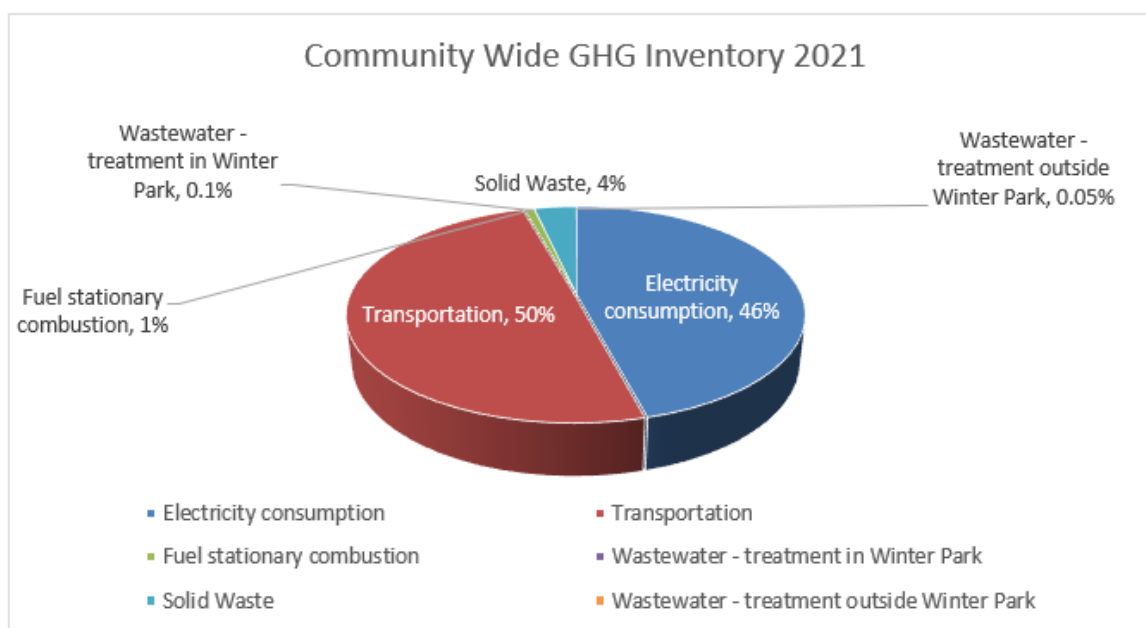
## Highlights and Accomplishments

- [East Central Florida Regional Resilience Collaborative](#) Partner and Regional Greenhouse Gas Reduction Advisory Committee Member
- [Solar United Neighbors](#) Partner
- [America In Bloom's](#) 2020 Outstanding Achievement Award for Environmental Efforts
- [SolSmart](#) Gold Designee
- EV Charging Infrastructure Readiness Ordinances ([3203-21](#), [3204-21](#))
- Backyard Chicken Permit Pilot Program Ordinance ([3182-20](#))
- Single-use Products Policy for City Facilities Pilot Program Resolution ([2238-20](#))
- Electrified the Building & Permitting Department's entire fleet
- Purchased 20MW of utility-scale solar, expanding the city's renewable portfolio
- Launched [Green Business Recognition Program](#)
- Collaborations with UCF and Rollins College students on energy benchmarking and Green Business recruitment
- [Rollins College Bonner Leaders Program](#) Partner

- Awarded over \$100,000 in Florida Department of Transportation Keep America Beautiful Florida Affiliates Grants
- Single-stream Residential Recycling Program including [Schedule Reminding and Waste Lookup Tool Digital Service](#)
- Electric Vehicle Charging Stations available to the public throughout the city at no cost
- Residential audit and rebate programs encouraging [energy](#) and [water conservation](#)
- Sustainability Program moved to the Natural Resources and Sustainability Department where the Program now is addressed as a Division to work collaboratively with Lakes and other Departments
- Sustainability Specialist position was increased from part-time to full-time in order to help the Sustainability Manager and Natural Resources and Sustainability Director fulfill the goals of the SAP
- Awarded \$100,000 from the Department of Environmental Protection to go towards the City's Climate Risk Vulnerability Assessment

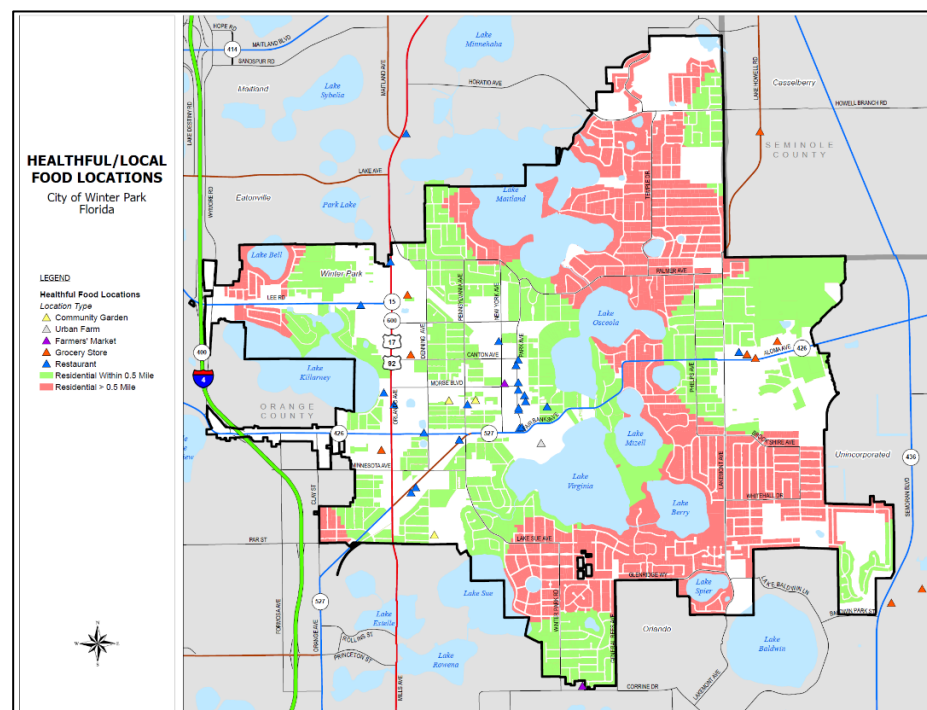
## Climate Resiliency

The [Climate Resiliency](#) category outlines long-term objectives and short-term actions focused on improving the city's capacity to cope with [climate change](#) impacts and to respond in ways that allow the city to maintain its essential functions while also maintaining the capacity for adaptation, learning, and transformation. In 2021, the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report asserts that human activities are estimated to have caused approximately 1°C of global warming to date and further warming of 1.5°C and 2.0°C will be exceeded during the 21<sup>st</sup> century unless deep reductions in CO<sub>2</sub> and other [greenhouse gas](#) emissions occur in the coming decades. Warming at this level is projected to increase the mean temperature of most land and ocean regions, increase hot extremes in most inhabited regions, and increase climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth.



The city's Community-wide Greenhouse Gas (GHG) Emissions Inventory consists of all major direct and indirect GHG emissions generated and occurring within the City of Winter Park's organizational boundary. Transportation-related (50%) and electricity consumption-related (46%) activities contribute the largest proportion of greenhouse gases emissions in the city. As a municipally owned-utility, the Electric Utility is uniquely situated to increase the percentage of its energy portfolio coming from renewable and clean alternative sources. Transitioning to 80% [renewable energy](#), for all electricity and transportation may be more feasible and accessible for the City of Winter Park than many of its neighbors given that it has purchasing power over its electricity and is implementing policies that will ready future developments for a transition to electric vehicles.

In May of 2022, the City of Winter Park was awarded \$100,000 in grant funding from the Florida Department of Environmental Protection to conduct a [Climate Risk Vulnerability Assessment](#) which will identify ways in which the city is susceptible to harm from climate threats and vulnerabilities. This uses science-driven data about climate threats and works with private/public organizations, the City's [Emergency Management](#) Team, and [FEMA](#). The scientific data is combined with information about the City of Winter Park's residents, assets, and businesses to better understand current and future challenges with long-term operability and recovery. Creating a Food Security policy, one that allows front yard structures (such as arbors, trellises), for growing edibles is one of many desired outcomes in strengthening the city's vulnerability. A key component would be delivering access to affordable, healthy food options (community gardens, or farmers markets) through a selection process involving community partners (such as Center for Health and Well Being and Winter Park Library's Seed Library Program) and investors. Below is a map illustrating healthy food locations within the Community Restoration area (CRA).



## OBJECTIVES

1. Increase the city's resiliency to the impacts of climate change, ensuring a healthy, livable and sustainable community for present and future generations
2. Ensure a robust and resilient technology infrastructure with high-speed communications available for all
3. Increase proportion of renewable energy in Winter Park Electric Utility's Energy portfolio
4. Reduce community wide greenhouse gas emissions
5. Encourage on-site renewable energy generation for residential and commercial buildings

6. Ensure access to affordable, healthy food options for food security (community gardens, grocery stores or farmers markets)
7. Increase residential and commercial customers knowledge of city's renewable energy portfolio and opportunities for reducing their [carbon footprint](#)
8. Benchmark all indicators to current state of the city given pandemic and operational delays

The Department of Natural Resources and Sustainability conducted a comprehensive inventory of all SAP metric indicators to benchmark city status in effort to give the new Department a starting point on data trend and analysis moving forward. This information is presented in all subsequent tables labeled as “**2021 Status**”.

## INDICATORS

	Indicator Description	2012 Baseline	2021 Status	2025 Target	2035 Target	2042 Target	2050 Target
CR-1	Proportion of renewable energy in Winter Park Electric Utility's Energy portfolio <sup>1</sup> – Baseline Year: 2021 includes Covanta	4%	13%	23%	80%	89%	100%
CR-2	Community wide greenhouse gas emissions [Tons of carbon dioxide equivalent] <sup>2</sup> – Baseline Year: 2018	398,919	405,394	355,000	235,000	151,000	58,000
CR-3	WVP Electric Utility customers with Solar – Baseline Year: 2012	7	139	300	700	950	1300
CR-4	Proportion of Residents within 1/2 mile of affordable, healthy food options – Baseline Year <sup>3</sup> : 2012	-	46%	50%	75%	80%	TBD
CR-5	Undergrounding of Winter Park's electrical utility <sup>3</sup>	-	74%	85%	100%		

<sup>1</sup>Approximations with plans for refinement as reaching 100% target in 2050 is contingent on a dramatic cost reduction in dispatchable energy from renewable sources.

<sup>2</sup>The baseline for this updated indicator will be calculated in 2023, previous indicator did not include “affordable” identifier.

<sup>3</sup>Target completion date is no later than 2030.

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Conduct Renewable Energy Feasibility Study	5.25.22 commission approved to move forward	Initiated	Sustainability Division, Quanta, & WVP Electric Utility, Public Works
2023	Establish community grants for food security and sustainability initiatives	No	None	Sustainability Division

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Implement an Artificial Turf Ordinance which will help mitigate the number of houses that have artificial turf by addressing stormwater and sustainability concerns	No	None	Sustainability Division, Public Works
2022	Adopt Backyard Chicken Program (exp. September 2022) to evaluate program outcomes and possibility of expanding and extending the program	No	Initiated	Sustainability Division, Planning & Transportation
2023	Upon feasibility study results, pass resolution committing the City to at least 80% of all electricity consumed in the City to come from renewable energy resources by feasible target date	No	Initiated	Sustainability Division, WP Electric Utility
2023	Conduct a Climate Risk and Vulnerability Assessment via FDEP Resilient Florida Program \$100K grant. Upon completion, create Climate Mitigation and Adaptation Plan (CMAP) to include creating <a href="#">resilience hubs</a> within the city reducing impacts of climate change on human health, esp. for most vulnerable communities	No	Initiated	Natural Resources & Sustainability Dept., Emergency Management Team, Pubic Works, IT
2023	Build a community based sustainable food system which includes education and outreach that promotes seed access, growing edible gardens at home, encourages community supported agriculture, and local food consumption	No	None	Sustainability Division, Communications
2023	Implement a food security policy. Must have community garden/ farm near most vulnerable areas and educate on reducing consumption of <a href="#">carbon-intensive foods</a>	No	None	Sustainability Division, GIS

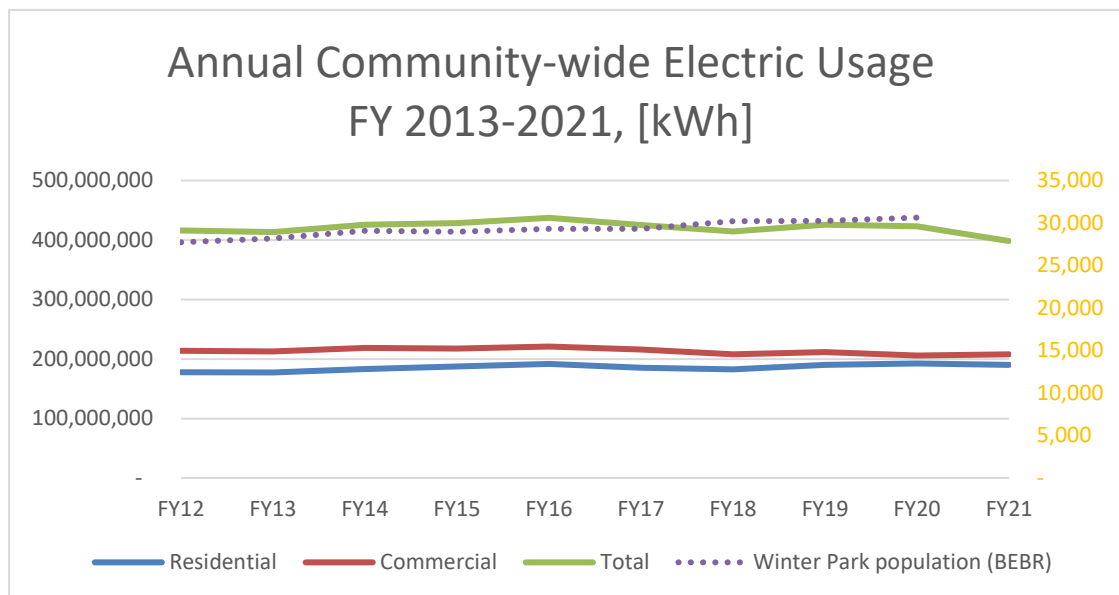
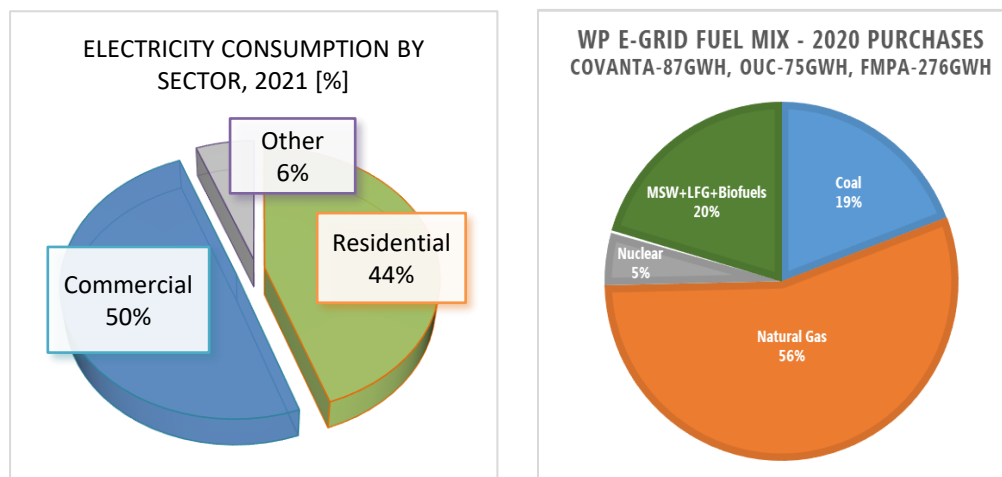


Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2024	Research and design policies to increase green building standard requirements in residential & commercial developments	No	None	Sustainability Division, Planning & Transportation, Building & Permitting, Economic Development
2024	Update Land Development Code, to allow food processing and handling in accordance with F.S. 500.80 (Cottage Food Operations) as a home occupation to encourage local food production	No	None	Planning & Transportation, Economic Development, Sustainability Division
Continue Annually	Develop a policy to replace gas-powered leaf blowers with electric alternatives	Yes	Completed	Sustainability Division, Economic Development
Continue Annually	Evaluate potential for increasing Winter Park Electric Utility's Energy Portfolio coming from renewable resources	Yes	Ongoing	Sustainability Division, WP Electric Utility
Continue Annually	Conduct Community-wide Greenhouse Gas Emissions Inventory and track proportion of renewables in the WP Electric Utility's portfolio. Continue to report to CWP	Yes	Ongoing	Sustainability Division
Continue Annually	Participate in Regional Sustainability and Resilience Professional Networks (Urban/Southeast/Florida Sustainability Directors Networks, East Central Florida Regional Resilience Collaborative, Good Food Central Florida Regional Policy Council, etc.)	Yes	Ongoing	Department of Natural Resources & Sustainability Dept.
Continue Annually	Provide green building best practices (e.g., energy/water efficiency, tree conservation, waste management) education to building professionals and residents	Yes	Ongoing	Building & Permitting, Sustainability Division, Urban Forestry

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
Continue Annually	Energy Conservation Rebate Program	Yes	Ongoing	Sustainability Division
Continue Annually	Develop recommendations to City Commission that would allow for broadband availability, expanding public WiFi, and enhanced public safety and security	Yes	Ongoing	IT, Sustainability Division, Planning & Transportation, Police Dep., Public Works
Continue Annually	Explore opportunities for smart street lights able to gather local environmental data, optimize light energy consumption, and improve public safety	Yes	Ongoing	IT, WP Electric Utility, Planning & Transportation, Police Dept., Sustainability Division
Continue Annually	Work with Planning & Transportation Department to ensure Comprehensive Plan Update incorporates sustainability and resilience related goals, objectives and policies	Yes	Ongoing	Planning & Transportation, Sustainability Division

## Energy

The Energy category focuses on measures that can reduce the environmental consequences of the construction, reconstruction and operation of buildings and infrastructure with a focus on energy efficiency, energy conservation, and clean energy sources. With buildings' energy usage contributing to nearly half of all of the community-wide greenhouse gas (GHG) emissions in 2021, implementing the prescribed actions is critical to achieving a more sustainable city. Electricity is primarily being used to power buildings for commercial (50%) and residential (44%) activities, while a smaller fraction (%) is being used to power city scale infrastructure such as streetlights and transporting water and [wastewater](#). Between 2012 and 2021, electric usage remained generally stable.



All utility data is sourced from the city's Comprehensive Annual Financial Reports, which can be reviewed on the city's website.

## OBJECTIVES

1. Increase energy efficiency of residential and commercial buildings
2. Increase energy conservation in residential and commercial sectors
3. Increase solar energy in residential and commercial sectors
4. Increase educational awareness for energy efficiency and conservation best practices
5. Maintain utility rates that are competitively low for consumers

## INDICATORS

	Indicator Description	Baseline	2021 Status	2025 Target	2035 Target	2042 Target	2050 Target
E-1	Energy usage in residential buildings [kWh/customer/year] – Baseline Year: 2012	15,263	14,739	13,718	12,064	13,560	12,710
E-2	Energy usage in commercial buildings [kWh/customer/year] <sup>1</sup> – Baseline Year: 2012	91,850	86,704	81,004	73,312	73,858	70,838
E-3	Residential building audits performed annually – Baseline: Average # of audits/yr and between 2017-2020	63	91	125	200	240	300
E-4	Residential Rebates provided annually – Baseline: Average # of audits/ yr and between 2017-2020	-	26	75	100	125	150

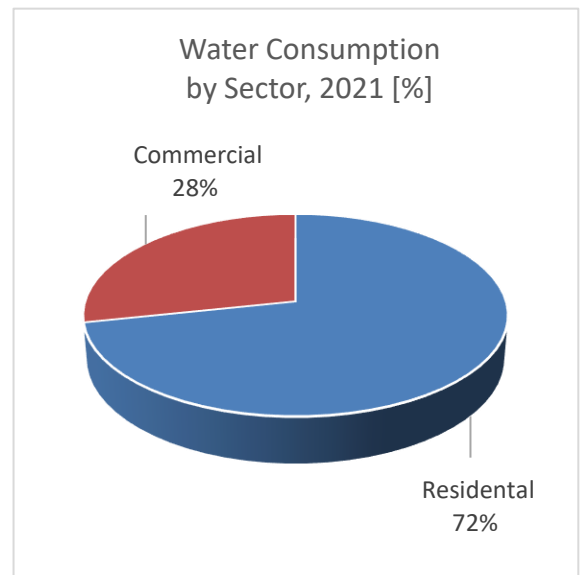
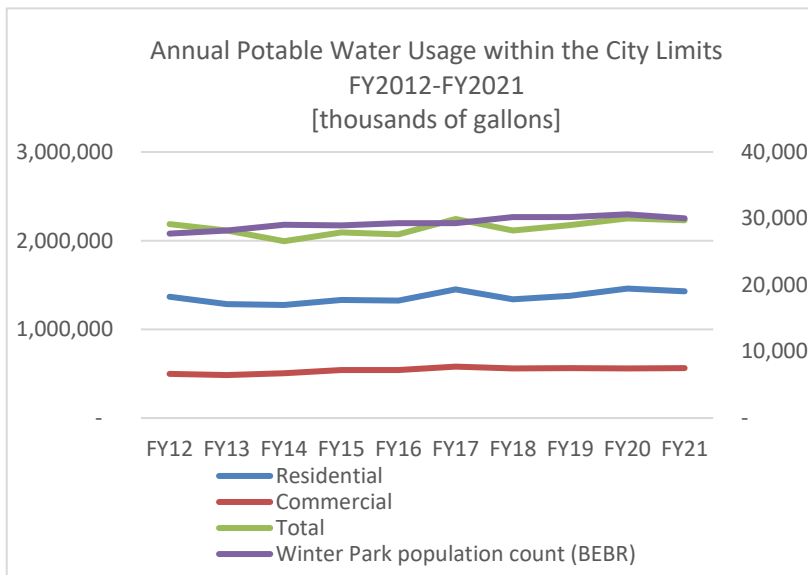
## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Internal employee energy conservation training – reduction in energy and water use that provides incentives to help motivate conservation	No	None	Sustainability Division; Human Resources
2023	Conduct Energy Efficiency Study benchmarking city buildings utilizing 70% of city electricity portfolio and identify technology to improve energy efficiency	No	Initiated	Sustainability Division, WP Electric Utility, WP Water Utility
2023	Implement Energy Efficient Technologies based on Energy Efficiency Study i.e motion detection lighting and programmable thermostats	No	Initiated	Sustainability Division, WP Electric Utility, Public Works

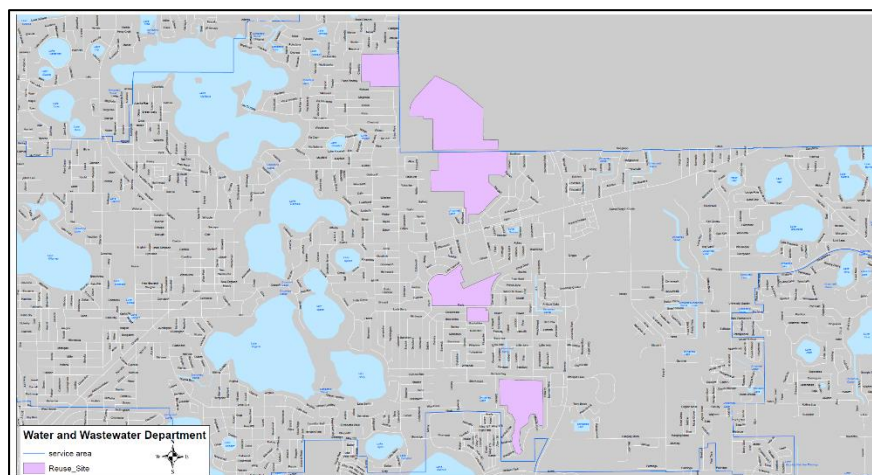
Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Explore incentive programs for commercial customers that encourage energy conservation	No	None	Sustainability Division, WP Electric Utility, Economic Development
2024	Identify methodology for expressing energy use intensity in kWh per square foot for residential and commercial customers via Smart Works Technology and Energy Star	No	None	GIS, IT, WP Electric Utility, Sustainability Division
Continued Annually	Maintain competitive rates for WP Utility Customers	Yes	Ongoing	Sustainability Division, WP Electric Utility, WP Water Utility
Continue Annually	Promote Energy Conservation opportunities such as audits and rebates, providing energy conservation kits, and solar feasibility reports for customers that undergo energy audits including local schools	Yes	Ongoing	Sustainability Division, WP Electric Utility, Communications
Continue Annually	Provide technical assistance and education to commercial property owners and tenants on Energy Star Portfolio Manager	Yes	Ongoing	Sustainability Division
Continue Annually	Continue to pursue clean transportation options. Expanding City Fleet and EV Charging Stations for commuters	Yes	Ongoing	Sustainability Division, WP Fleet Services, WP Utility

## Water

The Water category focuses on measures that can increase water efficiency and water conservation in residential and commercial sectors. In the City of Winter Park, residential and commercial customers use potable water for indoor and outdoor (irrigation) purposes. Over the last decade, potable water has remained generally stable, reflecting the minimal change in population growth over that time. The majority of potable water consumed in the city is used by residential customers (71%), with nearly half of residential water usage being spent on irrigation. Implementation of technological tools, such as Advanced Metering Infrastructure (AMI), will allow for effective monitoring of water usage, efficiency, and recognizing irregularities. The city hopes to continue promoting irrigation rebate incentives in addition to providing water conservation education for residential, commercial, and Winter Park schools.



All utility data is sourced from the city's Comprehensive Annual Financial Reports, which can be reviewed on the city's website.



Water and Wastewater Service area in Winter Park including reuse areas.

## OBJECTIVES

1. Increase water efficiency of residential and commercial buildings
2. Increase water conservation in residential and commercial sectors
3. Increase residential and commercial customers knowledge of water efficiency and conservation best practices and benchmarking tools
4. Implementing smart technologies to aid in water conservation efforts

## INDICATORS

	Indicator Description	2012 Baseline	2021 Status	2025 Target	2035 Target
W-1	Water usage in residential buildings [gallons/customer/year] <sup>1</sup>	127,777	130,849	TBD	TBD
W-2	Water usage in commercial buildings [gallons/customer/year] <sup>1</sup>	294,098	303,788	TBD	TBD
W-3	<u>Reclaimed water</u> usage [million gallons/year] <sup>2</sup>	144.5	91.612	10% increase	30% increase
W-4	Residential Rebates provided annually	-	34	75	150

<sup>1</sup>Targets will be determined upon the renewal of St. Johns River Water Management District Consumptive Use Permit in 2025

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Create water conservation education to residential and commercial customers through on-line, print campaigns, and social media including water wise check list	No	Initiated	WP Water & Wastewater Utility, Sustainability Division, Communications, Economic Development
2022	Increase public awareness of Florida-friendly landscaping and irrigation regulations for city (internal), residential, and commercial customers; i.e. raingardens	No	Initiated	Natural Resources & Sustainability Dept., Communications
2023	Implement Sewer Impact Fee Deferral Program throughout the city to reduce both residential and commercial customer upfront costs for connecting to the sewer system	No	None	WP Water & Wastewater Utility



Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Explore a code requirement for commercial customers that encourages water conservation	No	None	Sustainability Division, WP Water & Wastewater Utility, Economic Development
2023	Amend ordinance for grease trap collection for above ground unit collection & maintenance	No	None	Sustainability Division, WP Water & Wastewater Utility, Stormwater Div, Economic Development
2024	Identify methodology for expressing water use intensity in gallons per capita upon renewal of SJRWMD Consumptive Use Permit	No	None	WP Water & Wastewater Utility, Sustainability Division
2025	Upon renewal of SJRWMD Consumptive Use Permit, review inverted water utility rate structure to increase water conservation efforts	No	None	WP Water & Wastewater Utility
2025	Upon renewal of SJRWMD Consumptive Use Permit, expand reclaimed water system	No	None	WP Water & Wastewater Utility
Continue Annually	Explore grant opportunities for septic to sewer conversion projects	No	Initiated	WP Water & Wastewater Utility; PW; Sustainability Division
Continue Annually	Using AMI system to identify customers in non-compliance with SJRWMD irrigation policies and provide non-compliant customers with water conservation best practices	Yes	Initiated	WP Water & Wastewater Utility, Sustainability Division
Continue Annually	Promote existing water conservation educational opportunities such as audits and rebates including Schools	Yes	Initiated	WP Water & Wastewater Utility, Sustainability Division, Communications
Continue Annually	Replace Advanced Metering Infrastructure (AMIs) to allow for new, more effective monitoring of water usage, system efficiency, detecting malfunctions and recognizing irregularities	Yes	Initiated	WP Water & Wastewater Utility

## Community Engagement & Green Economy

The Community Engagement and [Green Economy](#) category outlines long term objectives and actions focused on encouraging residents, business owners, schools and other organizations in the city of Winter Park to begin incorporating more sustainable solutions in their daily activities. To foster and build upon a culture that values health, environmental stewardship, and financial wellbeing, the city will support public engagement campaigns to educate, inspire and offer some of the most cost effective, healthy and easy solutions. The campaign will seek to engage diverse partners and sectors of the community; create a shared community vision, goals and progress indicators of a low-carbon future; connect individuals and organizations to education, tools and resources; and celebrate positive changes and successes. A fully engaged community is the key to successfully making the city a more sustainable community.

### OBJECTIVES

1. Communicate, educate and motivate residents to begin incorporating more sustainable solutions in their daily actions to change their behaviors in ways that support the objectives of the Sustainability Action Plan
2. Engage businesses, offer sustainable solutions and recognition for greening their daily operations that support the objectives of the Sustainability Action Plan
3. Provide opportunities for schools to implement sustainable practices in their daily operations that support the objectives of the Sustainability Action Plan
4. Work collaboratively with community organizations to identify and implement sustainable solutions that support the objectives of the Sustainability Action Plan

### INDICATORS

	Indicator Description	Baseline	2021 Status	2025 Target	2035 Target
CEGE-1	Volunteer hours for Community engagement events – Baseline Year: 2012	240	1,304	No less than 1,500	No less than 2,000
CEGE-2	Green Businesses Recognized per year – Baseline Year: 2012	0	26	No less than 10	No less than 10
CEGE-3	Green School Grant Funding – Baseline: Average amount of funding between 2017-2020	\$3,300	\$2,890.00	Equal or more than \$3,500/year	Equal or more than \$3,500/year

### ACTIONS

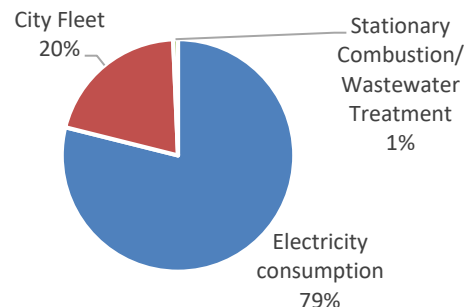
Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Re-participate in America In Bloom's annual nationwide competition in addition to researching grant opportunities to help aid KWPB&S	No	Yes	Sustainability Division, KWPBS Board, Communications

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Create Green Event Guide and Volunteer Program for city events	No	None	Sustainability Division, Parks & Recreation, Communications
Continue Annually	Promote sustainability program initiatives through various social media platforms and traditional print media, at in-person events, and maintain and update Program's website	Yes	Yes	Sustainability Division, Communications
Continue Annually	Administer Green Business Recognition Program and promote Green Business initiatives: Facilitate Green Business networking events	Yes	Yes	Sustainability Division, Communications, Economic Development
Continue Annually	Administer Green School Grant Program and Green Education opportunities for educators	Yes	Yes	Sustainability Division
Continue Annually	Partner with local universities (e.g., University of Central Florida, Rollins College) to provide educational trainings on sustainability-related subjects	Yes	Yes	Sustainability Division
Continue Annually	Ensure all requirements are met for remaining a Keep America Beautiful affiliate	Yes	Yes	Sustainability Division
Continue Annually	Provide volunteer opportunities for litter cleanups of city's lakes and rights-of-way and opportunities for beautification of city parks and greenspaces	Yes	Yes	Sustainability Division, Lakes Division, Parks and Recreation
Continue Annually	Provide education on Sustainability Division at Neighboring Community Events	Yes	Yes	Sustainability Division
Continually Annually	Create and implement environmental education opportunities at parks and city buildings (e.g., Mead Gardens, Howell Branch Creek, Dinky Dock and Fort Maitland)	No	Yes	Sustainability Division, Parks & Recreation, Communications

## Local Government Operations

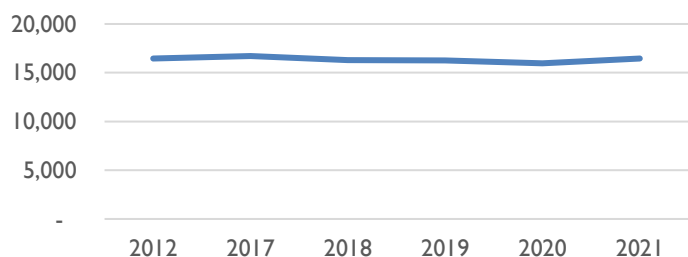
The Local Government Operations category outlines long term objectives and actions focused on reducing GHG emissions of municipal operations, increasing municipal facilities' resiliency to the impacts of climate change, and encouraging resource protection and conservation. Creating healthier and more comfortable environment for employees and building occupants are also anticipated benefits from the city renovating existing buildings and building new city facilities to meet high performance, green building standards.

Local Government Operations  
Greenhouse Gas Emissions  
[tons of CO<sub>2</sub>e] - 2021

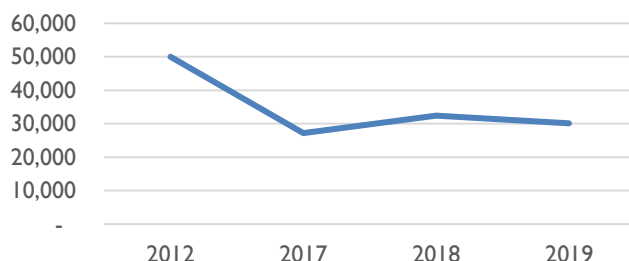


The city's Local Government Operations GHG Emissions Inventory consists of all major direct emissions from the burning of fossil fuels by the City's fleet and indirect GHG emissions associated with the electricity consumption for local government operations. City Fleet-related (20%) and electricity consumption-related (79%) activities contribute the largest proportion of greenhouse gases emissions in government operations. Energy usage has remained generally stable since the baseline year of 2012.

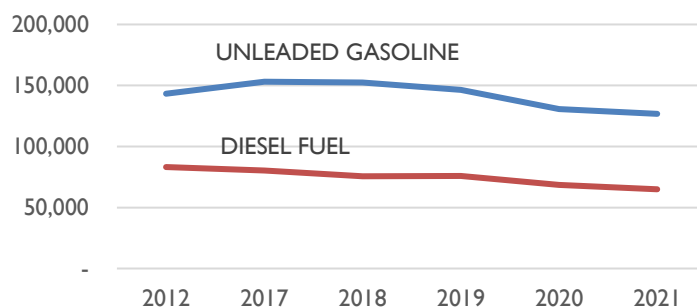
Annual Energy Usage for  
Local Government Operations  
(MWh)

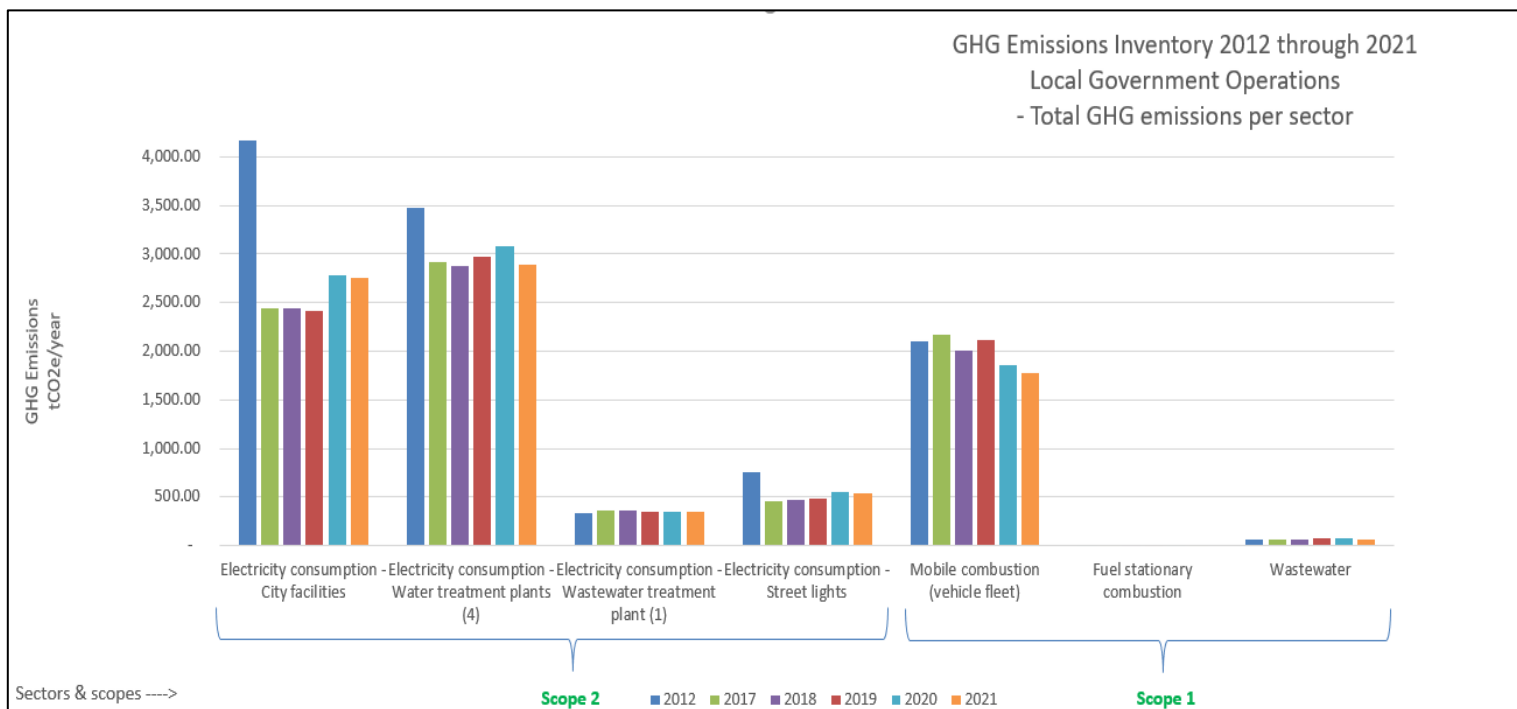


Annual Potable Water Usage for  
Local Government Operations  
[thousands of gallons]



Annual City Fleet Fuel Usage  
[gallons]





Workforce commute also contributes to GHG emissions. City adoption of a flexible work plan to a four-day work week would decrease carbon emission. This provides both climate and employee well-being benefits.

Energy audits of city facilities would allow for projects to be selected that will provide the greatest energy reduction at the best return on investment. Several city parks use reclaimed water, lake or well water, reducing the amount of high-quality potable water being used by the city to irrigate. Efforts to expand the use of reuse water for park irrigation is planned.

City fleet gasoline and diesel consumption has remained generally stable since the baseline year of 2012. In 2020, there was a decrease in both unleaded gasoline and diesel due to the pandemic. We expect 2022 to jump back to average consumption with a goal to steadily decrease over the next decade with the establishment of a fleet electrification policy. By 2023, the City of Winter Park is committed to establishing a policy that creates a vehicle replacement and purchase tiered structure that prioritizes zero tail pipe emissions, high fuel efficiency vehicles would help further fleet electrification and fuel usage reduction. The city plans to expand EV charging stations that would be used for both city employees and for public use.

Sustainability education and incentivization for city employees also plays a vital role. By providing a green procurement guideline, the guesswork of selecting sustainable and compostable products is taken out while the city implements greener purchasing choices. City sponsored events, and hired vendors such as catering services, should be required to follow green event policies. While

green choices are made at the workplace, employees learning about these choices could help make greener choices at home.

## OBJECTIVES

1. Increase the city's municipal facilities resiliency and energy use efficiency to the impacts of climate change
2. Improve city services and broaden public access to information about city performance
3. Reduce Local Government Operations (LGO) greenhouse gas emissions
4. Increase energy and water efficiency of existing and new city-owned and city-operated facilities
5. Encourage on-site renewable energy generation at city-owned and city-operated facilities
6. Reduce fossil fuel consumption by city fleet vehicles
7. Communicate, educate and motivate city employees to incorporate more sustainable solutions in their daily actions to change their behaviors in ways that support the objectives of the Sustainability Action Plan
8. Reduce the amount of waste generated from local government operations
9. Encourage reuse and other means of disposal that divert generated waste away from the landfill
10. Consider reducing carbon emission by implementing four-day work week where applicable

## INDICATORS

	Indicator Description	Baseline	2021 Status	2025 Target	2035 Target
LGO-1	Local Government Operations greenhouse gas emissions [Tons of carbon dioxide equivalent]	11,315	8,735	40% less than baseline year	80% less than baseline year
LGO-2	Energy usage for Local Government Operations [MWh/yr]	16,471	16,443	5% less	15% less
LGO-3	City-owned and city-operated facilities audited	3	3	50%	100%
LGO-4	Potable water usage [thousands of gallons] <sup>2</sup>	-	70,172	50% less	TBD
LGO-5	City Fleet fuel usage [gallons of unleaded gasoline] <sup>3</sup>	143,268	126,747	Downward trend	TBD
LGO-6	City Fleet fuel usage [gallons of diesel fuel] <sup>3</sup>	83,142	64,929	Downward trend	TBD

LGO-7	Number of city-owned Electric Vehicles <sup>4</sup>	0	8	Increase	Increase
LGO-8	Number of Electric Vehicle charging Stations available for city business use [ports] <sup>4</sup>	1	13	Increase	Increase

<sup>1</sup>By the end of 2020, the city had 266kW of installed solar capacity (City Fleet Building, Aloma Water Treatment Plant)

<sup>2</sup>Target based on data received from utility reporting based on all city facilities meters

<sup>3</sup>By the end of 2020, the city had 6 electric vehicles (2% of total fleet) and 7 EV Charging Ports for Fleet Use

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Solicit proposals for energy conservation audits for all city facilities	No	Initiated	Public Works, Procurement, Sustainability Division, WP Electric Utility
2022	Conduct Renewable Energy Feasibility Study – 5.25.22 commission approved to move forward	No	Initiated	Public Works, Sustainability Division, Procurement, WP Electric Utility
2023	Pilot food waste collection program at a city facility (City Hall and or Center Street)	No	No	Sustainability Division
2023	Create & establish sustainable fleet policy that creates vehicle replacement EV hybridization	No	No	Fleet, Sustainability Division
2024	Develop educational programs for city employees on best practices for workplace energy & water conservation, sustainable transportation modes and waste management; include incentives like Sustainability Olympics/Challenges	No	No	Sustainability Division, Human Resources
2023	Reestablish Single Use Product Policy	No	No	Sustainability Division, City Administration, Parks & Recreation
2024	Research energy and water management software capable of identifying low-efficiency city facilities and early detection of usage anomalies	No	No	Sustainability Division, Public Works



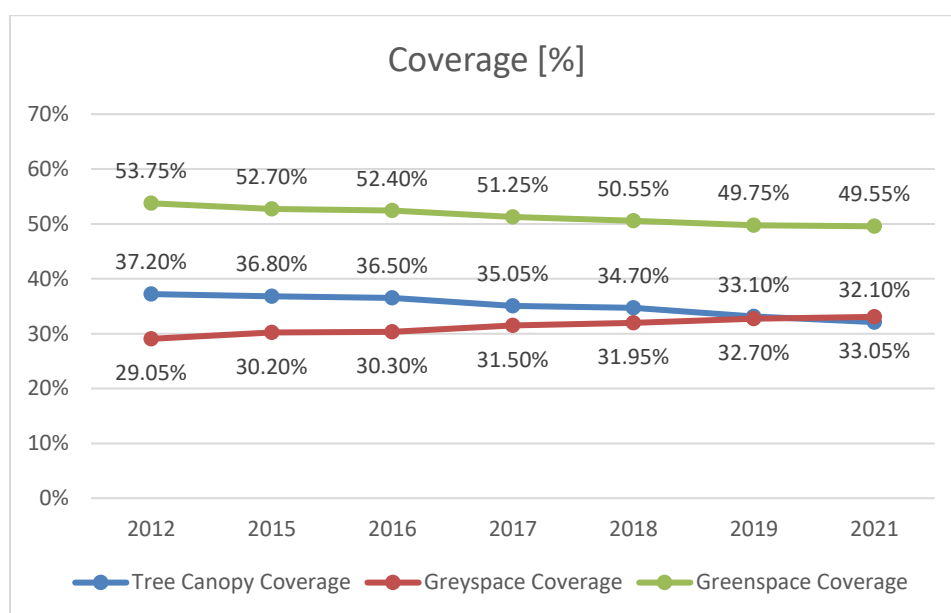
Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Install high efficiency dishwashing machines and water bottle filling stations at city facilities to facilitate the reuse of dishware for city-business meetings and gatherings	No	No	Public Works, Sustainability Division
2023	City adoption of a flexible work plan to a four-day work week would decrease carbon emission	No	No	City Management, All City Departments
2024	Explore ways to quantify waste generated from city offices	No	No	Sustainability Division
2024	Design/implement a sustainability procurement policy that is fiscally responsible and aligns with sustainability goal that will include in the cities current comprehensive procurement policy	No	No	Procurement, Sustainability Division
2025	Upon renewal of SJRWMD Consumptive Use Permit, assess and identify opportunities for water conservation measures for all city facilities	No	No	WP Water & Wastewater Utility
2025	Ensure that all new, significantly renovated, occupied, city-owned buildings will be designed to incorporate measures that would allow them to be FGBC or minimum of <a href="#">LEED</a> “Silver Certification” level	No	No	Public Works, Sustainability Division
Continue Annually	Use data and analytics to improve city services and broaden public access on information about city performance	Yes	Ongoing	IT, All City Departments
Continue Annually	Utilize racial equity lens to assess city policies, initiatives, programs, and budget issues	Yes	Ongoing	All City Departments
Continue Annually	Work with OMB annually to identify sustainability-related project needs and budget with city departments on Capital Improvement Plan	Yes	Ongoing	Office of Management & Budget, Sustainability Division, All City Departments
Continue Annually	Monitor city buildings’ energy and water usage through ENERGY STAR Portfolio Manager	Yes	Ongoing	Sustainability Division
Continue Annually	Conduct Local Government Operations Greenhouse Gas Emissions Inventory	Yes	Ongoing	Sustainability Division
Continue Annually	Shift from fossil-fuel to electric powered landscaping equipment upon replacement; exception to leaf blowers with due date of 2024	Yes	Ongoing	Parks & Recreation

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
Continue Annually	Continue to partner with FDOT's reThink Your Commute program to encourage employees' use of SunRail, Lynx, vanpools, bikes, and walking to work	Yes	Ongoing	Human Resources, Sustainability Division

## Natural Resources

The Natural Resources category is focused on preserving and enhancing the City of Winter Park's valuable natural features that help make the city such a great place to live. The city is known for its lush tree canopy and pristine lakes. Both of these features provide a multitude of benefits including improved air quality, wildlife habitat, cooler temperatures through reduced [urban heat island](#) effect, beautification and increased property values. In recognition of a downward trend from 2012 to 2019, the target goals for tree canopy coverage and greenspace coverage reflect a commitment to reversing the trend.

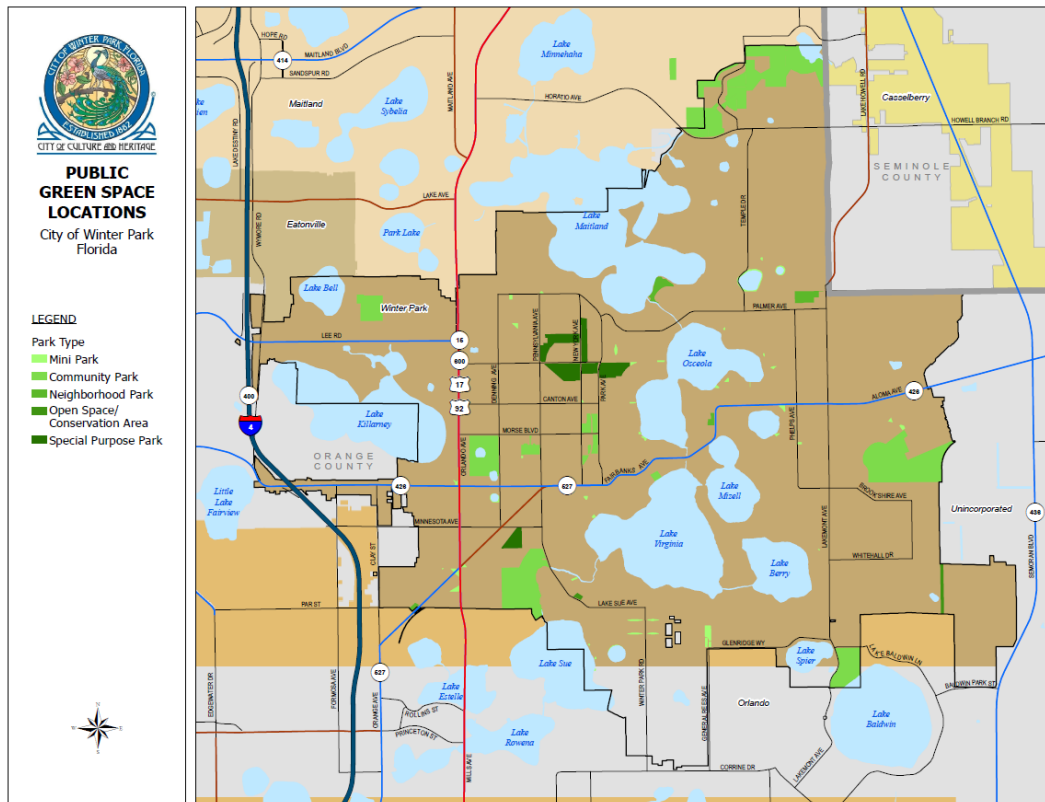
In 2020, the city's Urban Forestry Division began using [i-Tree Canopy](#). The online tool randomly lays points onto Google Earth imagery and then the user manually classifies what cover class (e.g., tree) each point falls upon. While 500-1,000 points are suggested, the Urban Forestry Division classified 2,000 points, increasing the accuracy of the estimates. Since the aerial imagery from Google Earth is normally about 2 years old, the assessment presented goes only through 2021.



Using i-Tree Canopy, Urban Forestry was able to determine the city's tree canopy coverage (includes trees and shrubs), greenspace coverage (includes trees, shrubs, grass and herbaceous cover) and greyspace coverage (includes impervious surfaces and buildings). A trend of gradual decline in tree canopy and greenspace coverage and gradual incline of greyspace coverage is evident during the reporting years. Tree canopy loss is most likely attributable to changes in land development use. Land development regulations and city programs that protect and expand the existing canopy are critical to ensure tree canopy coverage does not continue to decline.

City parks play a crucial role in residents and visitors mental and physical well-being and stimulate social cohesion. The city's Parks and Recreation Division has consistently exceeded its goal of

more than 10 park acres per 1,000 people. Maintaining the percentage of residents living within a half mile from park space will not only ensure that residents are within walking distance of places that are good for their mind and body, but these green areas also help mitigate localized air pollution and provide habitat for numerous animal and plant species. In addition, adding designated “no-smoking zones” to city parks and events reinforces clean air initiatives.



In 2021, the city’s Lakes Division will begin tracking the city’s Main Lakes meeting the “Good” Water Quality Standard [average annual trophic state index (TSI) below 60]. The city’s Main Lakes include Lakes Baldwin, Berry, Killarney, Maitland, Mizell, Osceola, Sue and Virginia. TSI is a classification system designed to “rate” individual lakes, ponds and reservoirs based on the amount of biological productivity occurring in the water. Using the index, one can gain a quick idea about how productive a lake is.

In 2022, the Natural Resources and Sustainability Department implemented discussions with Mead Botanical Garden in efforts to create a Comprehensive Plan. The Comprehensive Plan is intended to become a guiding document between Mead Garden, City of Winter Park, and Stakeholder groups (such as Winter Park Land Trust and Native Plant Societies). The plan would address projects, management plans (both removal and revegetation), and Howell Creek water

quality stabilization. This further illustrates the City of Winter Park’s partnership with Mead Botanical Garden in allowing for the further success of our current and future projects. Mead Botanical Garden not only brings tourism to our city, but provides environmental conservation and educational opportunities for our city to experience and enjoy.

The restoration and preservation of Howell Branch Preserve is equally vital to environmental conservation efforts. Continuing with invasive species management and restoring with native species, to include a robust reforestation plan, is key to the long term protection of this unique park/preserve system.

## OBJECTIVES

1. Maintain and expand an equitable urban tree canopy
2. Increase overall greenspace
3. Increase parks and conservation space
4. Increase street trees within the city’s rights of way
5. Maintain number of lakes meeting good water quality standard
6. Increase residents’ and businesses’ knowledge of best practices for urban tree canopy maintenance
7. Increase residential awareness on pollution prevention of natural water resources, including impacts of stormwater runoff and over-fertilizing for Winter Park lakes
8. Designate “no-smoking zones” for city parks and events
9. Creating a Mead Botanical Garden Comprehensive Plan document

## INDICATORS

	Indicator Description	Baseline	2021 Status	2025 Target	2035 Target
NR-1	Tree Canopy Coverage – Baseline Year: 2019	33.10%	32.10%	Maintain	5% more
NR-2	Greenspace Coverage – Baseline Year: 2019	49.75%	49.55%	Maintain	5% more
NR-3	Greyspace Coverage – Baseline Year: 2019	32.70%	33.05%	Maintain	5% less
NR-4	# of Trees Removed	-	120	Maintain	TBD
NR-5	# of Trees Planted	-	150	Increase trend	TBD
NR-6	Percentage of City of Winter Park’s Main Lakes <sup>1</sup> meeting Good Water Quality Standard [Average Annual Trophic State Index (TSI) below 60] – Baseline Year: 2012	100%	100%	Maintain	Maintain

<sup>1</sup>Lakes Baldwin, Berry, Killarney, Maitland, Mizell, Osceola, Sue and Virginia

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2022	Provide education on pollution prevention of natural water resources (e.g., impacts of stormwater runoff and over-fertilizing) to residents and businesses through on-line, print campaigns, and social media	No	Initiated	Lakes Division, Sustainability Division, Communications
2023	Research establishing an Energy-Savings Tree Giveaway Program that delivers a diverse variety of canopy and understory trees to residents	No	No	Urban Forestry, Sustainability Division
2023	Explore opportunities to preserve existing trees on private property such as increase front set backs on septic for property owners and developers	No	No	Building & Permitting, Urban Forestry, Sustainability Division
2023	Conduct <i>tree equity score</i> study to determine if tree canopy cover is distributed in a way that all residents can experience the climate, health and other benefits that trees provide	No	No	Urban Forestry
2023	Develop a checklist of trees for residents to reference	No	No	Urban Forestry, Communications
2023	Incorporate opportunities to build a green infrastructure (bio-swales, rain gardens, green roofs, etc.) demonstration project within the city limits	No	No	Sustainability Division, Stormwater Division
2022	Adopt Artificial Turf Ordinance	No	Initiated	Natural Resources & Sustainability Dept., Public Works

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Periodic Review for Natural Resources Protection. Increase policy to save more trees within building code – land development code	No	No	Urban Forestry, Natural Resources and Sustainability Dept., Building & Permitting
2023	Explore implementation of Tree Equity Score indexing	No	No	Urban Forestry & Sustainability Division
2023	Water quality data readily accessible for all WP citizens to utilize	No	Initiated	Communications , WP Electric Utility
2023	GIS Modeling to predict tree canopy	No	No	GIS & Urban Forestry
2023	Establish Lakes Newsletter to inform citizens on the importance of lake side living	No	No	Lakes Division, Communications
2023	Establish a lakeside living checklist for use when hiring lawn care/maintenance to prevent excess fertilizers and grass clippings from entering our waterways	No	No	Lakes Division, Communications
2023	Implement lake vegetation bioassessment to benchmark and track the health of WP's Shorelines	No	No	Lakes Division
2023	Add pollinator gardens to the initial landscape plan throughout the city	No	No	Parks & Recreation, Landscaping, Natural Resources & Sustainability
2024	Enhance tree canopy coverage via the urban forest management plan and update every 5 years	No	No	Urban Forestry, Natural Resources & Sustainability Dept.



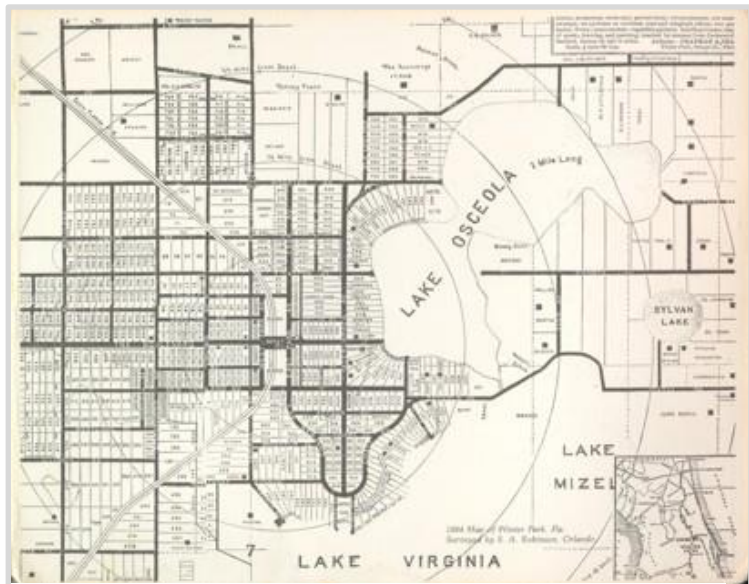
Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
Continue Annually	Increase beneficial native aquatic plant shorelines for all Winter Park Lakes	Yes	Ongoing	Natural Resources & Sustainability Dept.
Continue Annually	Explore funding to support green infrastructure and tree canopy development	Yes	Ongoing	Urban Forestry, Natural Resources & Sustainability Dept.
Continue Annually	<a href="#">Administer city's tree management program</a>	Yes	Ongoing	Urban Forestry
Continue Annually	Consider the usefulness and availability of state and federal grant programs for the acquisition of lands for conservation areas or passive recreation	Yes	Ongoing	City Administration, Parks & Recreation, Planning & Transportation
Continue Annually	Administer <a href="#">integrated aquatic plant management program</a>	Yes	Ongoing	Lakes Division
Continue Annually	Provide Tree Canopy Conservation education (e.g., environmental/health benefits, cost savings, aesthetics) to residents, building professionals, realtors and businesses through on-line, social media, print campaigns and in-person workshops	Yes	Ongoing	Urban Forestry, Sustainability Division, Building & Permitting, Communications
Continue Annually	Increase Watershed Clean Ups, Tree Plantings, and Shore Restoration Events	Yes	Ongoing	Natural Resources & Sustainability Dept., Urban Forestry

## Transportation and Urban Form

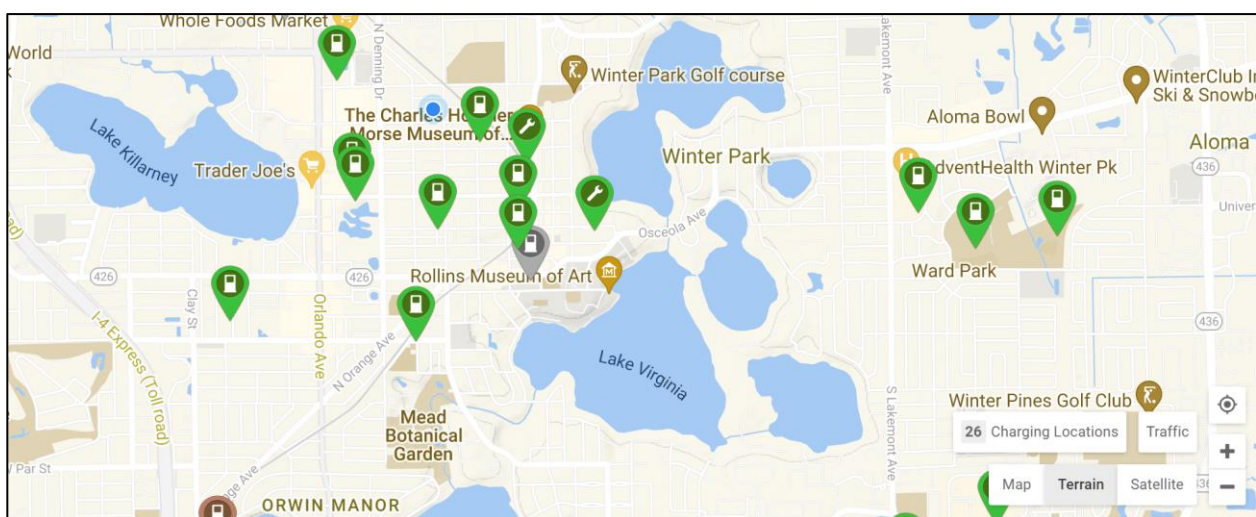
The Transportation and Urban Form category is focused on encouraging healthier, more active forms of transportation such as walking, bicycling and using mass transit such as LYNX bus and SunRail commuter rail and increased [connectivity](#). As the first planned community in Florida, the city was founded around the concept of walkability and human scaled urbanism. Since owning a car was a rarity in the 1880s, the city's founders designed the original plan around the Train Station which was the town's first constructed building. Future development was patterned off quarter mile walks around the station.

As discussed in the Climate Resiliency category, transportation is a significant (50%) contributor to the city's community-wide GHG emissions. Climate Resiliency emphasizes the need for people to choose more sustainable transportation options.

Common design elements of [complete streets](#) includes continuous sidewalks, bike lanes, landscaping, and shade trees. These design characteristics, combined with green infrastructure such as bio-swales and rain gardens, also help reduce stormwater runoff, enhance lakes water quality, and reduce the urban heat island effect.



*The original Town Plan for Winter Park, FL placing the train station in the center with development planned around it. The circles represent quarter mile distances.*



*Map from PlugShare showing City of Winter Park's public charging stations in green.*

## OBJECTIVES

1. Improve pedestrian and bicyclist environments with sustainable and safe transportation infrastructure such as sidewalks, multimodal paths, and transit shelters
2. Encourage more complete streets in planning and development
3. Create an environment that encourages residents, businesses, and visitors to transition to electric and less carbon-intensive modes of transportation to achieve a level of air quality that is healthy for all residents and the natural environment (e.g., meeting and exceeding regional indoor and outdoor [air quality standards](#))
4. Increase residents' and businesses' knowledge of benefits and importance of sustainable transportation choices

## INDICATORS

	Indicator Description	2012 Baseline	2021 Status	2025 Target	2035 Target
TUF-1	Sidewalk/Street improvements allowing for pedestrian and bicyclist use [Linear feet] <sup>1,2</sup> - Starting year 2022	-	930 LF	1 mile (cumulative)	3.5 miles (cumulative)
TUF-2	Pedestrian infrastructure improvements (enhanced crossings) [improved site/year] <sup>2</sup> - Starting year 2022	-	5	10	25
TUF-3	Bicyclist infrastructure improvements (enhanced crossings, & bike racks) [improved site/year] <sup>2</sup> - Starting year 2022	-	22	15	30
TUF-4	Improved transit stops (benches, transit shelters, waste receptacles, etc.) [improved transit stop/year] <sup>2</sup> - Starting year 2022	-	0	2	4
TUF-5	Public and Private EV Charging Stations	7	156 current	30 additional	75 additional

<sup>1</sup>e.g., converting a sidewalk to a mixed use trail or adding a bike lane to an existing road

<sup>2</sup>Targets for TUF-1, TUF-2, TUF-3 and TUF-4 will be determined and baseline adjusted upon completion of Mobility Plan

<sup>3</sup>As of 2020, the city has 14 EV Charging Ports for Public Use (info pulled from PlugShare)

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Develop Mobility Plan, considering SunRail, Lynx, safe routes to schools, Complete Streets, and linkages of the City's trails with adjacent counties and municipalities	No	None	Planning & Transportation, Sustainability Division
2023	Explore feasibility of an incentive program for EV Charging Station installation in multifamily and commercial properties	No	None	Sustainability Division, Building & Permitting, WP Electric Utility

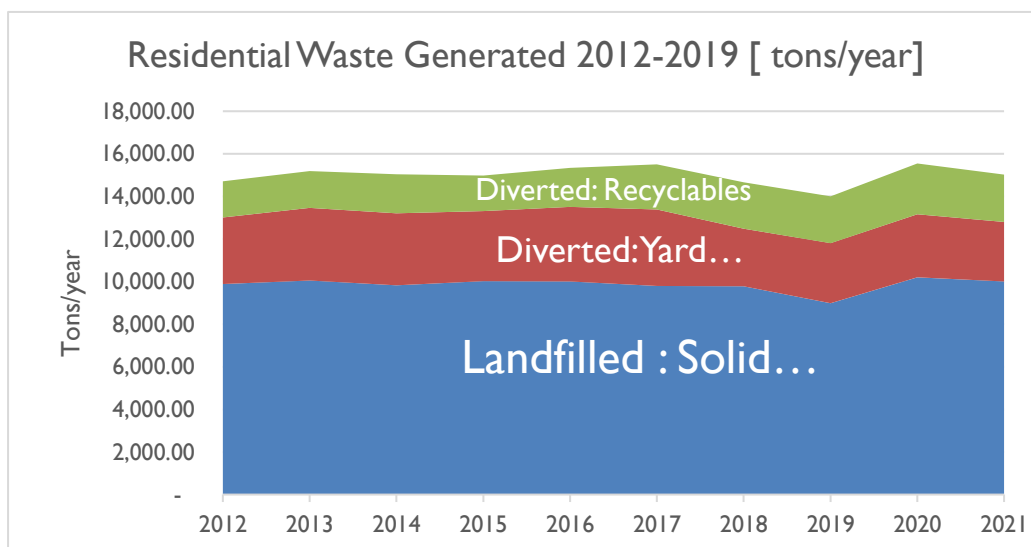
Projected Implementation Year	Action	Accomplished	Status	Responsible Department/ Division
2023	Develop EV infrastructure needs assessment and master plan	Yes	Ongoing	Sustainability Division, WP Electric Utility, Planning & Transportation
2023	Explore opportunities to pilot electric shuttle (Smart Bus)	No	No	City Administration, Economic Development, Planning & Transportation, Sustainability Division
2024	Implement public and private rideshare partnership opportunities that will promote the use of the cities SunRail System	No	No	Economic Development, Planning, Transportation, SunRail, Uber, & Lyft
Continue Annually	Maintain Electric Vehicle Charging Stations available to the public	Yes	Ongoing	Sustainability Division
Continue Annually	Encourage private developments to increase safety and ease of walking and cycling through site plan review process	Yes	Ongoing	Planning & Transportation
Continue Annually	Assess affordable & workforce housing during the Comprehensive Plan's planning process.	No	Ongoing	Economic Development, Planning & Transportation
Continue Annually	Provide education on pedestrian and bicyclist safety, routes, and proximity to amenities to residents and businesses through on-line, social media, interactive map, and print campaigns	Yes	Ongoing	Planning & Transportation, Police Department, Communications
Continue Annually	Evaluate bus stop infrastructure for accessibility and amenities	Yes	Ongoing	Planning & Transportation
Continue Annually	Provide education on benefits and importance of sustainable transportation choices to residents and businesses through on-line, print campaigns, social media, and in-person events	Yes	Ongoing	Planning & Transportation, Sustainability Division, Communications
Continue Annually	Work with Sustainability Division to ensure Comprehensive Plan Update incorporates sustainability and resilience related goals, objectives and policies as it relates to transportation	Yes	Ongoing	Planning & Transportation, Sustainability Division

## Waste Management

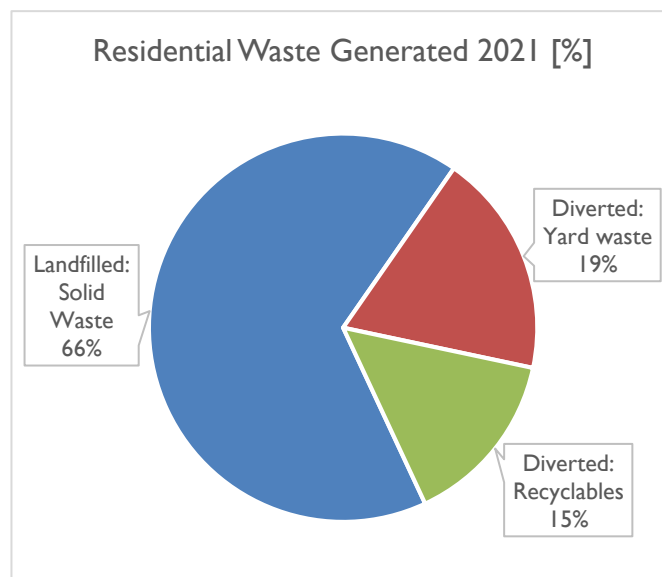
The Waste Management category is focused on reducing the amount of waste generated, encouraging the reuse and repair of products, and diverting waste from the landfill. The EPA developed the non-hazardous materials and [waste management hierarchy](#) in recognition that no single waste management approach is suitable for managing all materials and waste streams in all circumstances. The hierarchy ranks the various management strategies from most to least environmentally preferred.



The City of Winter Park has a franchise agreement with WastePro for hauling of solid waste, yard waste and recyclables from residential properties. Under this contract, WastePro hauls solid waste and yard waste to the Seminole County Transfer Station. Solid waste is landfilled and yard waste is used primarily as road cover at the landfill, allowing yard waste to be counted as diverted waste. WastePro hauls recyclables to the Orange County Transfer Station.



There, recyclables are graded by Waste Management as being “acceptable” or “rejectable” based on the level of contamination. Acceptable loads are transported to Waste Management’s sorting facility in Cocoa for sorting, baling and compaction and then prepared for market. Unacceptable loads are landfilled. Consistency in updating residents to what is acceptable and not acceptable in the recycling bin is key to keeping rejections low.



It is important to recognize that at the top of the waste management hierarchy is avoidance and reduction of waste. The city is leading by example with

its Single Use Product Policy Pilot program that prohibits plastic bags, plastic straws and styrofoam products at city facilities. The Green Business Recognition Program provides a way for businesses to receive recognition for switching from single-use to reusable and compostable alternatives. It is critical to reinforce the message that most environmentally preferable choice an individual can make in regards to waste is to not create it in the first place.

## OBJECTIVES

1. Reduce the amount of waste generated
2. Increase repair, reuse and donation of materials
3. Divert waste generated away from the landfill
4. Increase residents and businesses' knowledge of the benefits and importance of waste prevention and reduction

## INDICATORS

	Indicator Description	2012 Baseline	2021 Status	2025 Target	2035 Target
WM-1	Residential Waste Generated [tons] <sup>1</sup>	14,714	15,018	5% less	10% less from prior target
WM-2	Residential Solid Waste Landfilled [tons]	9,890	10,004	10% less	20% less
WM-3	Residential Waste Diverted from Landfill [tons] <sup>2</sup>	4,824	5,014	10% more	20% more

<sup>1</sup>Includes tonnage collected from residential households (solid waste, yard waste and recycling)

<sup>2</sup>Includes tonnage of waste diverted for other purposes (i.e., recyclables recycled and yard waste used for landfill cover)

## ACTIONS

Projected Implementation Year	Action	Accomplished	Status	Responsible Department(s)
2022	Provide composting education and backyard composters to residents	Yes	Initiated	Sustainability Division
2022	Analyze implementation of a Food Waste Diversion Program for Center Street and Farmer's Market	No	Initiated	Sustainability Division

Projected Implementation Year	Action	Accomplished	Status	Responsible Department(s)
2023	Maintain the list of the city's Registered Haulers	No	Initiated	Sustainability Division
2023	Assist multi-family and commercial buildings with creating recycling education and outreach plans	No	No	Sustainability Division, Economic Development
2023	Increase recycling opportunities at city-owned public facilities and parks	No	No	Parks and Recreation, Sustainability Division
2023	Consider food scrap collection and <a href="#">Pay As You Throw</a> options in Scope of Work description for Solid Waste Services Solicitation	No	No	City Administration, Sustainability Division
2023	Establishing an ordinance to ban all Styrofoam products city-wide	No	No	City Administration, Sustainability Division
2023	Consider a mandate for commercial ordinance for recycling and composting	No	No	City Administration, Sustainability Division
Continue Annually	Host "Fix It, Don't Pitch It" regional community repair event	Yes	Ongoing	Sustainability Division
Continue Annually	Provide residents with online waste management tool that provides collection schedules, reminders and look-up tool to determine how items should be disposed of	Yes	Ongoing	Sustainability Division
Continue Annually	Provide in-person, online and print education on waste management hierarchy (reduce, reuse, recycle)	Yes	Ongoing	Sustainability Division
Continue Annually	Participate in <a href="#">Florida Food Waste Prevention Week</a>	Yes	Ongoing	Sustainability Division
Continue Annually	Hold Annual Household Hazardous Waste (HHW) and Electronics Waste Collection Event	Yes	Ongoing	Sustainability Division
Continue Annually	Increase availability of water bottle filling stations at city-owned public facilities and parks	Yes	Ongoing	Parks and Recreation, Sustainability Division



## 2022 Action Item Tracker List:

Climate Resiliency	Conduct Renewable Energy Feasibility Study
Climate Resiliency	Implement an Artificial Turf Ordinance which will help mitigate the number of houses that have artificial turf by addressing stormwater and sustainability concerns
Climate Resiliency	Adopt Backyard Chicken Program (exp. September 2022) to evaluate program outcomes and possibility of expanding and extending the program
Water	Create water conservation education to residential and commercial customers through on-line, print campaigns, and social media including water wise check list
Water	Increase public awareness of Florida-friendly landscaping and irrigation regulations for city (internal), residential, and commercial customers; i.e. raingardens
Community Engagement and Green Economy	Re-participate in America In Bloom's annual nationwide competition in addition to researching grant opportunities to help aid KWPB&S
Local Government Operations	Solicit proposals for energy conservation audits for all city facilities
Local Government Operations	Conduct Renewable Energy Feasibility Study – 5.25.22 commission approved to move forward
Natural Resources	Provide education on pollution prevention of natural water resources (e.g., impacts of stormwater runoff and over-fertilizing) to residents and businesses through on-line, print campaigns, and social media
Natural Resources	Adopt Artificial Turf Ordinance
Waste Management	Provide composting education and backyard composters to residents
Waste Management	Analyze implementation of a Food Waste Diversion Program for Center Street and Farmer's Market

## Glossary

Air quality standards. The [Orange County Air Quality Management \(AQM\) section](#) ensures that the air quality of Orange County meets standards set forth in the Federal Clean Air Act and in the Florida Statutes. The goal of the [Florida Department of Health Indoor Air Program](#) is to improve the health of Floridians by reducing exposure to indoor air contaminants.

[Best Workplaces for Commuters](#) is an innovative membership program that provides qualified employers with national recognition and an elite designation for offering outstanding commuter benefits such as offering at least \$30 per month towards a transit pass to employees, employee shuttle to transit stations, etc.

[Carbon Footprint](#) The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.

[Carbon-intensive foods](#) include beef (6.61 lbs. of CO<sub>2</sub>e per serving), cheese (2.45 lbs. of CO<sub>2</sub>e per serving), and other animal-based products.

[Climate change](#) refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.

[Climate Resilience](#) The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation.

[Complete Streets](#) are streets for everyone. They are designed and operated to prioritize safety, comfort, and access to destinations for all people who use the street, especially people who have experienced systemic underinvestment or whose needs have not been met through a traditional transportation approach, including older adults, people living with disabilities, people who cannot afford or do not have access to a car, and Black, Native, and Hispanic or Latino/a/x communities. Complete Streets make it easy to cross the street, walk to shops, jobs, and schools, bicycle to work, and move actively with assistive devices. They allow buses to run on time and make it safe for people to walk or move actively to and from train stations.

[Connectivity](#) reduces the distances traveled to reach destinations, increases the options for routes of travel, and can facilitate walking and bicycling. Well-connected, multimodal networks are characterized by seamless bicycle and pedestrian infrastructure, direct routing, accessibility, few dead-ends, and few physical barriers. Increased levels of connectivity are associated with higher levels of physical activity from transportation. Connectivity via transportation networks can also improve health by increasing access to health care, goods and services, etc.

[Florida Food Waste Prevention Week](#) raises awareness and inspires action to prevent food waste, save money, reduce hunger and protect the environment.

[Florida Green Building Coalition](#) has developed green certification programs that apply to construction projects and local government operations. Seeking FGBC certification demonstrates a commitment to providing your customers with products or services that are green and sustainable.

[Food Recovery](#) is the practice of collecting wholesome food that would otherwise go to waste and donating it to local food distribution agencies to help feed those in need.

[Google EIE](#) uses exclusive data sources and modeling capabilities in a freely available platform to help cities measure emission sources, run analyses, and identify strategies to reduce emissions — creating a foundation for effective action. Starting in 2021, the city's Greenhouse Gas emissions inventory uses Google EIE estimates for transportation emissions (baseline year 2018).

[Green Economy](#) is defined as an economy that is low carbon, resource efficient and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.

[Green Infrastructure](#) includes a range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters.

[Greenhouse gases](#) are those gaseous constituents of the *atmosphere*, both natural and *anthropogenic*, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. Water vapour (H<sub>2</sub>O), *carbon dioxide* (CO<sub>2</sub>), *nitrous oxide* (N<sub>2</sub>O), *methane* (CH<sub>4</sub>) and *ozone* (O<sub>3</sub>) are the primary GHGs in the Earth's atmosphere.

[Integrated Aquatic Plant Management Program](#), established by the City of Winter Park, attempts to meet the challenges of maintaining beneficial plants while minimizing undesirable ones. The program includes chemical, biological and mechanical control methods.

[LEED](#) (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world. Available for virtually all building types, LEED provides a framework for healthy, highly efficient, and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership.

[Pay As You Throw](#) is a system in which residents pay for municipal solid waste (MSW) services per unit of waste discarded rather than solely through a fixed fee or property tax.

[Racial Equity](#) occurs when race can no longer be used to predict life outcomes and outcomes for all groups are improved. For more detailed information review the GARE [Advancing Racial Equity and Transforming Government](#) Resource Guide.

[Racial Equity Lens](#) is the set of questions we ask ourselves throughout the decision-making process. The lens interrupts the impact of unintended consequences by taking into consideration the lived experiences and perspectives of the racially diverse communities we intend to serve.

[Reclaimed water](#) is wastewater that has been thoroughly treated to remove harmful organisms and substances, such as bacteria, viruses and heavy metals, so it can be reused.

[Renewable energy](#) is energy from sources that are naturally replenishing but flow-limited; renewable resources are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. The major types of renewable energy sources are: Biomass, Hydropower, Geothermal, Wind and Solar.

[Resilience Hubs](#) are community-serving facilities augmented to support residents, coordinate communication, distribute resources, and reduce carbon pollution while enhancing quality of life. Hubs provide an opportunity to effectively work at the nexus of community resilience, emergency management, climate change mitigation, and social equity while providing opportunities for communities to become more self-determining, socially connected, and successful before, during, and after disruptions.

[Urban Heat Islands](#) occur when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs (e.g., for air conditioning), air pollution levels, and heat-related illness and mortality.

[Tree Equity Score](#) is an indicator of whether an area has a sufficient amount of tree canopy cover distributed in a way that all residents can experience the climate, health and other benefits that trees provide.

[Tree Management Program](#), established by the City of Winter Park, maintains existing vigorous trees, removes dead/diseased/dying trees, and replants with a diverse species. The Urban Forestry division is also responsible for maintaining trees in parks and around facilities, trees coexisting with electrical facilities, rights of way trees, and community outreach and education.

[Trophic State Index \(TSI\)](#) is a classification system designed to “rate” individual lakes, ponds and reservoirs based on the amount of biological productivity occurring in the water. Using the index, one can gain a quick idea about how productive a lake is.

Trophic State Index	Trophic State Classification	Water Quality
0-59	Oligotrophic through Mid-Eutrophic	Good
60-69	Mid-Eutrophic through Eutrophic	Fair
70-100	Hypereutrophic	Poor

Climate Risk & Vulnerability Assessment: a structured process that identifies ways in which a community is susceptible to harm from climate threats and identify corrective actions that can reduce or mitigate the risk of serious consequences due to climate change. This assessment will look at the City's critical facilities, water infrastructure, economic factors, our natural resources, people and socioeconomic statistics, property, transportation, and mobility. As a city that is mostly in land but surrounded by wetlands, Winter Park is still no stranger to climate events such as hurricanes, flooding, and extreme heat. As rapid growth in development continues, we continue to find ways to be adaptable to these climate changes. Within this assessment we will have key indicators which will allow us to keep track of this data for continued planning and prevention. These indicators include: GHG Emissions, Heat (Rising Temperatures and Extreme Heat), and Precipitation.

Waste Management Hierarchy: EPA developed the non-hazardous materials and waste management hierarchy in recognition that no single waste management approach is suitable for managing all materials and waste streams in all circumstances. The hierarchy ranks the various management strategies from most to least environmentally preferred. The hierarchy places emphasis on reducing, reusing, and recycling as key to sustainable materials management.

Wastewater is used water. It includes substances such as human waste, food scraps, oils, soaps and chemicals. In homes, this includes water from sinks, showers, bathtubs, toilets, washing machines and dishwashers.

## RESOLUTION 2271-23

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF WINTER PARK, FLORIDA, AMENDING THE SUSTAINABILITY ACTION PLAN ADOPTED BY RESOLUTION 2267-23; PROVIDING FOR SEVERABILITY, NON-LIMITATION OF AUTHORITY, AND AN EFFECTIVE DATE.

WHEREAS, on January 25, 2023, the City adopted the Sustainability Action Plan that promotes, “responsible and proactive decision-making that minimizes negative impacts and maintains balance between social, environmental, and economic growth to ensure a desirable planet for all species now and in the future”; and

WHEREAS, the purpose of the Sustainability Action Plan is to create a roadmap depicting where the City is today and where it would like to be in the future, in regards to achieving sustainability goals and targets by a specific time frame; and

WHEREAS, based upon the results from the feasibility study, the target dates in the Climate Resiliency section of the Sustainability Action Plan has been revised to replace ‘TBD’ with specific target goals of 80% renewable energy supply by 2035, 89% renewable energy supply by 2042 with an update to technology available, and 100% renewable energy supply by 2050; and

WHEREAS, the Sustainability Action Plan and revision is supported by the Keep Winter Park Beautiful and Sustainable Advisory Board; and

WHEREAS, the Sustainability Action Plan is a living document intended to evolve over time and is divided into eight categories: Climate Resiliency, Energy, Water, Community Engagement & Green Economy, Local Government Operations, Natural Resources, Transportation and Urban Form, and Waste Management; and

WHEREAS, the Sustainability Action Plan contains long term objectives and short-term actions for helping the City achieve targets related to sustainability; and

WHEREAS, the objectives are intended to be quantifiable so that progress can be measured on an annual basis and reported to decision makers and stakeholders.

NOW, THEREFORE, be it resolved by the City Commission of the City of Winter Park, Florida that:

SECTION 1. Recitals. The foregoing recitals are hereby ratified and confirmed as being true and correct and are hereby made a part of this Resolution.

SECTION 2. Sustainability Action Plan. The City Commission hereby adopts the amendment to the Sustainability Action Plan attached to this Resolution in order to achieve sustainable goals.

SECTION 3. Severability. If any section, subsection, sentence, clause, phrase, word or provision of this Resolution is for any reason held invalid or unconstitutional by any court of competent jurisdiction, whether for substantive, procedural, or any other reason, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions of this Resolution.

SECTION 4. Non-limitation of Authority. This Resolution shall not be construed to limit City Commission authority or discretion over whether or how to budget, allocate, or spend moneys for any purpose. The Sustainability Action Plan is a target based plan and is subordinate to the City's Comprehensive Plan, the City's land development regulations, and other legally binding requirements of the City's Code.

SECTION 5. Effective date. This Resolution and the Sustainability Action Plan shall become effective immediately upon adoption of this Resolution by the City Commission of the City of Winter Park, Florida.

ADOPTED at a regular meeting of the City Commission of the City of Winter Park held in City Hall, Winter Park on this 24th day of May, 2023.

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Mayor Phillip M. Anderson

ATTEST:

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Deputy City Clerk Kim Breland



CITY OF WINTER PARK  
JOB DESCRIPTION

**JOB TITLE: Integrated Resource Plan (IRP) Program Manager**

**DEPARTMENT: Electric Utility Department**

**FLSA STATUS: Exempt**

**GENERAL PURPOSE:**

An integrated resource plan (IRP) is a public planning process to establish a roadmap for how an electric utility meets the projected load of its customers, in a cost-effective and reliable manner.

This position is responsible for defining and managing the implementation of the activities, analyses, and contracts required for the City of Winter Park (CWP) to achieve its renewable energy goals for its electric utility. The CWP renewable energy goals are to achieve 80% renewable electric supply by 2035 and 100% by 2050.

**ESSENTIAL FUNCTIONS:**

**NOTE:** The omission of an essential function does not preclude management from assigning duties not listed herein if such functions are a logical assignment to the position or to reasonably accommodate individuals with disabilities.

The position will create the detailed plan, detailed scope and manage:

Projects to assess options and implement cost-effective, energy efficiency and demand response programs for CWP customers

Projects to assess changes to retail rates including but not limited to time of use rates, and changes to net energy metering rates

Projects to assess resource options and updates to the long-term energy resource supply plan

Supports the CWP Director of Electric Utility to manage the solicitation, financial analysis, and commercial analysis of options for energy supply investments and purchase power agreements

Analyzes options to promote and enable customer installations of distributed solar and distributed storage systems and electric vehicle charging locations

Manages consultants necessary to achieve renewable energy goals

Oversees the Energy Conservation Fund for project implementation and actively seek grant funding for various projects

Development of reporting frameworks with new measurement methodologies, metrics, and key performance indicators including the development and maintenance of a variety of reports and dashboards to track measurements

CITY OF WINTER PARK  
JOB DESCRIPTION

IRP Filing must include data and supporting information sufficient to demonstrate the utility is meeting the renewable energy goals and targets

Develops load and demand forecast if required by the energy commission or by the state

**KNOWLEDGE, SKILLS, AND ABILITIES:**

Knowledge and experience with benefit cost analysis

Excellent skills in verbal and written and communication

Skilled advanced user of MS Excel and MS Word

Skilled in Project Management of construction and analysis projects

Skilled in comfortability facilitating data and analyses to partners at all levels including non-technical audiences

Ability to effectively manage scope, budget and milestone achievement for multiple simultaneous projects that combine both internal and contracted personnel with a range of partners and understanding multiple perspectives

Ability to present data and communicate the findings as expectations around data visibility will continue to grow

Ability to communicate with public and large group presentations and interactive workshops

Ability to scope and evaluate solicitations for goods and services

Ability in creating multi-year financial analysis, forecasts and performance measurement tracking

Ability to translate quantitative analyses into useful recommendations

Ability to balance multiple tasks and meeting goals while working independently with minimal direction

Ability to use Energy Acuity Platform or other platforms to provide accurate data and analysis

**MINIMUM QUALIFICATIONS:**

Bachelor's Degree or equivalent supplemented by a minimum of five years or more of experience in relevant positions or other jobs with similar levels of responsibility and overlapping skills.

**An equivalent combination of education, training and experience, which provide the necessary knowledge, skills and abilities, and other competencies required for the position may be considered.**

**CERTIFICATIONS, TRAINING, SPECIAL REQUIREMENTS:**

NOTE: All certifications must be current at the time of application, and must be maintained as a condition of continued employment.

Possess and maintain a valid State of Florida Driver's License, Class E or higher.

CITY OF WINTER PARK  
JOB DESCRIPTION

**An equivalent combination of education, training and experience, which provide the necessary knowledge, skills and abilities and other competencies required for the position may be considered.**

**OTHER REQUIREMENTS:**

**Physical**

This is light work requiring the exertion of 0 – 20 pounds of force occasionally and 0 – 10 pounds of force frequently to lift, carry, push, pull, and reposition objects.

Ability to traverse about a variety of environments and obstacles throughout the city, with or without reasonable accommodation.

Ability to remain stationary at a keyboard for extended periods of time and continuously operate a computer and other office productivity machinery, such as a calculator, copy machine, and printer.

Ability to manipulate objects and demonstrate small, precise movements repetitively.

**Environmental**

Tasks may require frequent exposure to adverse environmental conditions including inclement weather, sun, extreme temperatures, odors, dirt and dust, loud noises, and hazardous chemicals, etc.\_

**Sensory**

Tasks require the manipulation of objects and demonstration of small, precise movements, the ability to detect and distinguish various features of one's surroundings, and the ability to effectively communicate and exchange information with others.

The job description does not constitute an employment agreement between the City and employee and is subject to change by the City as the needs of the City and requirements of the job change.

**Environmental**

Tasks may require frequent exposure to adverse environmental conditions including inclement weather, sun, extreme temperatures, odors, dirt and dust, loud noises, and hazardous chemicals, etc.

**Sensory**

Tasks require the manipulation of objects and demonstration of small, precise movements, the ability to detect and distinguish various features of one's surroundings, and the ability to effectively communicate and exchange information with others.

**Other Requirements**

The City of Winter Park is an Equal Opportunity Employer. In compliance with United States Equal Employment Opportunity guidelines and the Americans with Disabilities Act, The City provides reasonable accommodation to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.

CITY OF WINTER PARK  
JOB DESCRIPTION

The job description does not constitute an employment agreement between the City and employee and is subject to change by the City as the needs of the City and requirements of the job change.

The City of Winter Park is an Equal Opportunity Employer. In compliance with United States Equal Employment Opportunity guidelines and the Americans with Disabilities Act, The City provides reasonable accommodation to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.

I have read and understand this classification description and hereby certify that I am qualified to perform this job, with or without reasonable accommodation.

Integrated Resource Plan (IRP) Program Manager

Job Title

\_\_\_\_\_

Name (print)

\_\_\_\_\_

Employee Signature

\_\_\_\_\_

Date



# Keep Winter Park Beautiful & Sustainable Advisory Board Meeting Minutes

April 18, 2023 at 11:45 a.m.

City Hall, Commission Chambers  
401 S. Park Avenue | Winter Park, Florida

## Present

Kay Hudson, Rishona Teres, Carey Bond, Laura Gustafson-hullinger, Ben Ellis, Mark Yonker, and Stephen Pategas; Board Coordinator Tatia Ghviniashvili.

## Staff Present

Sustainability Manager Sara Miller; Sustainability Specialist Mia Brady; Lakes Division Administrative Coordinator Victoria Tabor.

### 1) Call to Order

Kay Hudson called the meeting to order at 11:49 a.m.

### 2) Consent Agenda

- a. Approve Meeting Minutes for February 21st, 2023

**Motion made by Carey Bond to approve the minutes as presented; seconded by Stephen Pategas. Motion carried unanimously with a 7-0 vote.**

### 3) Public Comments (for items not on the agenda):

There were no public comments.

### 4) Action Items

- a. Board to vote on feasibility study scenario (1A,2A,3A) and provide a supporting statement

Staff presented the board with the three feasibility study scenarios outlined by Quanta Technology in previous meetings. Scenario 1A, which is 100% renewable energy supply by 2050, 2A which is 100% net-zero carbon energy supply by 2050, and 3A which is 80% renewable by 2035 followed by 100% renewable by 2050. Staff is recommending scenario 3A for board approval. Ms. Gustafson-hullinger read a statement on behalf of Rollins College in support of the City of Winter Park moving forward with the plan to reach 100% renewable energy by 2050, and will work collaboratively towards this goal. The floor opened for discussion and the board asked clarifying questions pertaining to why staff is recommending scenario 3A.

Based on Commission feedback, staff is making the recommendation because this scenario presents the fastest track to renewable energy and aligns with the budget and resources currently available.

Ms. Hudson spoke on the scenario and made mention to the benchmark year of 2042, proposed by the Commission at a previous work session, and whether or not that was something that the Commission required be a part of the Sustainability Action Plan (SAP) moving forward. After further discussion, staff suggested adding a footnote in the SAP pertaining to the 2042 benchmark, and also iterated that the SAP will be reviewed every year regardless with amendments being made as necessary.

**Motion made by Stephen Pategas to recommend scenario 3A for City Commission approval; seconded by Carey Bond.**

Mr. Ellis asked for staff clarification on the thought process behind choosing scenario 3A, considering the city will have to rely on future technologies in order to go from 80% to 100% renewable in fifteen years' time. Staff noted that in this moment in time, 80% renewable is the most realistic and achievable goal for the city, and when/if new technologies (hydrogen energy) become available they will be considered.

The board held further discussion and Ms. Teres suggested forming a plan "B", that would detail the steps toward 100% renewable if future technologies are not available. She also suggested language be included to require a meeting in 2035 to regroup and check the availability/affordability of technology. The board spoke in support of using 2035 as a benchmark year as opposed to 2042.

**Stephen Pategas amended his motion to include a review at 2035 to check the status on the feasibility with a recommitment goal of reaching 100% renewable by 2050.**

Commissioner Sullivan gave comment on the discussion held, and showed his support for the board's decision of scenario 3A, along with the inclusion of 2035 as a benchmark year for reassessment. He also spoke on the possibility of hiring a permanent employee/contract someone out, to help in the planning, management and implementation of climate resiliency, and suggested the board make that recommendation to the City Commission. He also suggested to adjust the aspirational language in the SAP and replace it with the goals that have been decided upon.

A discussion ensued about the SAP and what adjustments staff need to make before those changes are approved by the City Commission and published on the website. The solar feasibility study will be posted alongside the SAP. Staff will work internally to make the necessary adjustment and will report back to this board at the next meeting.

**Per discussion, the amended motion was seconded by Ben Ellis. Motion carried unanimously with a 7-0 vote.**

**Motion made by Ben Ellis to make a recommendation to the City Commission to set aside a portion of the budget for a full-time employee/third-party, to usher the process of renewable energy forward, and administer the recommendations made by Quanta Technology.**

A brief discussion followed about the recommendation above.

**Seconded by Stephen Pategas. Motion carried unanimously with a 7-0 vote.**

- b. EV Charging Stations- Change fee from Free to Pay base parking

Staff sought board approval to convert EV charging stations from free to paid (in-depth discussions were held at previous meetings). The board asked a few clarifying questions regarding costs of the charging stations and parking enforcement.

**Motion made by Rishona Teres to change EV charging stations from free to paid; seconded by Mark Yonker. Motion carried unanimously with a 7-0 vote.**

## **5) Non-Action Items**

There were none.

## **6) Staff Updates**

- a. Quanta Update

Staff is working to finalize the study provided by Quanta Technology, and will utilize the recommendations made by this board and the City Commission. An update will be provided at the next meeting with a final plan to move forward.

- b. Energy Efficiency Study Update

Staff is waiting for a finalized report from 15 lightyears of the audits completed around the city. The report should be available for board review at the next meeting.

- c. Transportation



Staff is looking at the opportunity to partner with freebee, a company that provides on-demand, 100% electric transportation as part of the public transit network of municipalities, universities, resorts etc. Staff believes that this will be a great resource for residents and those visiting, and is already looking at grants to fund this. The city would provide this service and it will be free for the user.

The board asked a few questions about the number of vehicles, the distance covered, and the budget that would be used to pay for this service. Staff answered questions and will send a link to the freebee website for board review.

d. Photography Fundraiser/ Contest

Ms. Hudson gave updates and shared pricing on the calendar research she had done. Ms. Bond is working on coordinating with local Winter Park events to put dates on the calendar, but as of right now, they are not out; might have to engage the resources of the Communications Department for this portion of the project.

Staff feels that due to work-load concerns, focus should shift exclusively toward the contest. The board held a brief discussion and agreed that the committee for the photography fundraiser/contest needs to meet to decide on a few elements and ensure everything is on track. Staff will send an email to coordinate a date to meet in May.

e. Grant Updates

A grant is currently in the works for EV charging stations. Staff is working internally, and with Quanta Technology, to fulfill the grant and submit it by the end of May.

f. Energy Efficiency & Conservation Block Grant: Competitive

Staff will begin working on this grant- which is due to be submitted by the end of 2023. This grant can be applied to everything energy efficiency and conservation related, such as solar power.

The board asked a few questions about money from the Inflation Reduction Act, and staff explained that the two grants mentioned above are coming from this Act.

## 7) Board Comments

a. Green Minute

Ms. Hudson asked staff to post a short presentation on the city's website, to help educate the public/residents on the city's energy goals. A discussion ensued and staff explained that the website is continuously updated, but staff will work with the Communication Department to simplify the information into language/format that is

digestible by the average person, and focused on clean energy goals. The board will be updated on this moving forward.

b. New Business / Announcements

A brief Earth Day announcement was made, with staff reminding the board of the event on Saturday, April 22, and encouraging them to attend. A brief discussion followed about the details of the event, which will include tree giveaways.

Dermot White, Sandlewood Creek Condominiums, who spoke before the board at the February meeting, hopes to have a contact at the city who can aid him in communicating with Waste Pro. Staff will reach out to Mr. White and will discuss further after this meeting.

**8) Upcoming Agenda Items**

a. Discussion for Upcoming Agenda Item

- Review meeting dates for the remainder of the year to account for holidays such as Thanksgiving, Christmas, etc.
- Update about recycling.
- Chair and Vice chair election.

**9) Adjournment**

**Ben Ellis made a recommendation to adjourn; seconded by Carey Bond.  
Motion carried unanimously with a 7-0 vote.**

The meeting adjourned at 1:09 p.m.

Minutes approved by the board on May 16, 2023.  
/s/ Tatia Ghviniashvili, Board Coordinator.

**Rollins College**

1000 Holt Ave.  
Winter Park, FL 32789  
rollins.edu

Rollins College is an educational institution that places a strong emphasis on sustainability and environmental responsibility. As such, it is supportive of the City of Winter Park's proposal to achieve 100% renewable energy by 2050. This initiative is not only a significant step forward for Winter Park, but also for the Central Florida region.

The college recognizes the importance of working collaboratively with the City and other stakeholders to achieve these ambitious goals. Rollins College shares the City's vision of creating a sustainable future for the region and is committed to playing a supporting role in achieving this objective.

One area of particular interest to Rollins College is the City's plan to increase the availability of electric vehicle (EV) charging stations in Winter Park. The college currently faces a shortage of charging stations on campus. Because of this, Rollins welcomes the City's efforts to increase the number of charging stations available off-campus.

Rollins College also supports the City's efforts to increase solar energy production in Winter Park. The college recognizes that transitioning to renewable energy sources is critical to reducing the region's reliance on non-renewable sources of energy.

In conclusion, Rollins College enthusiastically supports the City of Winter Park's plan to reach 100% renewable energy by 2050, and will work collaboratively towards this goal. The college recognizes the importance of investing in sustainable infrastructure and promoting the adoption of renewable energy sources, and is pleased to see the City of Winter Park taking a leadership role in this regard.

## Gloria Eby

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**From:** Michael Poole  
**Sent:** Wednesday, May 24, 2023 8:22 AM  
**To:** City Commissioners  
**Cc:** Randy Knight; Michelle del Valle; Daniel D'Alessandro; Gloria Eby  
**Subject:** [External] Renewable Energy

**[Caution:** This email originated from outside the City of Winter Park email system. Before clicking any hyperlinks, verify the real address by hovering over the link. Do not open attachments from unknown or unverified sources.]

Dear Mayor and Commissioners,

Yesterday the UAB approved support of staff recommendations for the renewable energy initiative with the following additions.

1. Completion of a financial plan by December 2023.
  - a. This financial plan would incorporate the economic analysis of the project - revenue, costs, capital expenditures, impact on rates, etc.
2. The hiring of an additional employee, a financial analyst, to support the project manager recommended by staff.
  - a. The job description provided by staff needs to be narrower. Specifically, the UAB commented that the financial analysis part of the description is better served with an additional staff person or a consultant.
  - b. The UAB is concerned that hiring the project manager may take considerable time. Therefore, the UAB encourages the Commission to engage a consulting firm to complete the recommended financial plan timely.

After approving the recommendations, UAB members raised the critical issue of utility governance. You might remember in the fall of 2022, the UAB recommended to the Commission to hire a consultant to analyze the governance structure of the utilities. The Commission decided hiring a consultant to create a strategic plan for the utilities would be more appropriate. Unfortunately, nearly 18 months later, staff has not moved forward on this directive. So, the UAB's concern about proper staffing for the renewable energy plan is very relevant.

The UAB plans to revisit the issue of governance in upcoming meetings.

### My comments:

The Renewable Energy plan is a monumental undertaking. Therefore, the City needs sufficient and dedicated resources to initiate and implement the project properly.

The City's General Fund receives approximately **\$4 million annually** for administrative services. Yet, neither utility has full-time dedicated financial or marketing personnel. This continued staffing arrangement needs to be revised under current operations, and the adoption of the Renewable Energy emphasizes the need for proper dedicated staff.

Yes, the utilities are providing adequate services. And yes, I understand the need to be fiscally responsible. However, as noted above, the utilities are reacting to issues instead of planning for the future.

Please let me know if you have any questions.

Sincerely,  
Michael Poole  
Chair, Utility Advisory Board

## EDITS REQUESTED TO STUDY:

- Create a Scenario 3E that excludes any City Owned Solar City's owned solar as the recommendation is to prioritize utility scale solar. Zero out the City Solar assumed in Appendix F in effort that City Owned solar can take place in the normal 5/10/25 year investment/capital planning, instead of being a target in and of itself.
- A ballpark cumulative cost to produce the City owned solar in Appendix F of study.
- Cost Recovery Growth Rate notation for the escalator.

## EDITS REQUESTED TO SAP:

- Addition of "Key Assumptions" as an appendix to the Sustainability Plan including notes the \$120/Mkwh target in 2042 target as the path to achieving 100% based on technology that doesn't exist today. Add footnote to CR-1 once Key Assumptions are added to appendix to read "... as noted in the Key Assumptions Appendix."
- Assumption footnote for the 2050/100% goal.
- Add footnote regarding the undergrounding that states the target completion date is no later than 2030, even though it shows up in the 2035 column.
- Adjust E-1 and E-2 targets on energy efficiency and carbon reduction to line up with the Quanta report.