Energy Facilities Master Plan and Energy Policy

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Pleasanton/DSRSD Liaison Meeting
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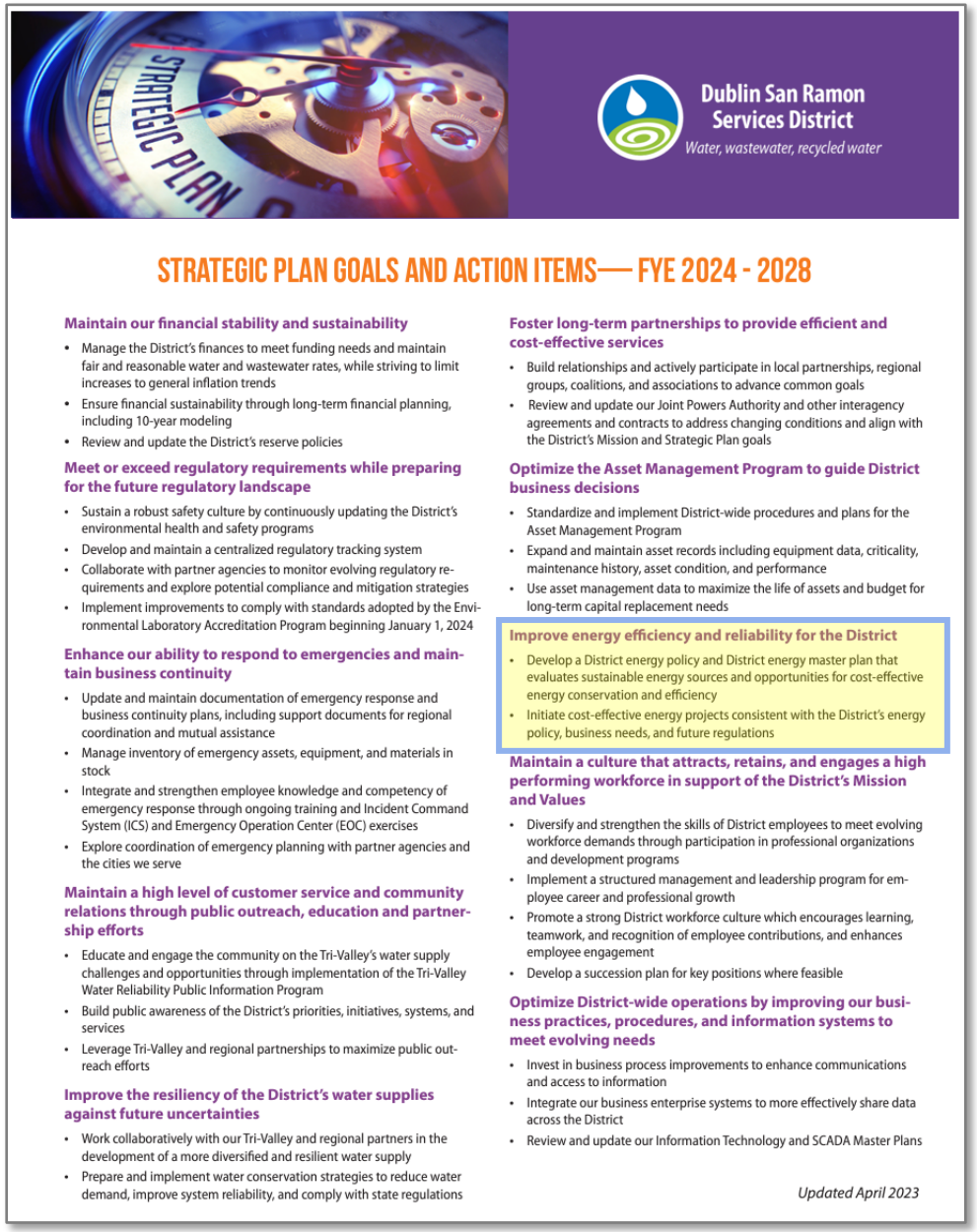
Strategic Plan

Improve energy efficiency and reliability for the District

- Develop a District **energy policy** and District **energy master plan** that evaluates sustainable energy sources and opportunities for cost-effective energy consumption and efficiency
- Initiate cost-effective **energy projects** consistent with the District's energy policy, business needs and future regulations



Dublin San Ramon Services District
Water, wastewater, recycled water

STRATEGIC PLAN GOALS AND ACTION ITEMS— FYE 2024 - 2028

Maintain our financial stability and sustainability

- Manage the District's finances to meet funding needs and maintain fair and reasonable water and wastewater rates, while striving to limit increases to general inflation trends
- Ensure financial sustainability through long-term financial planning, including 10-year modeling
- Review and update the District's reserve policies

Meet or exceed regulatory requirements while preparing for the future regulatory landscape

- Sustain a robust safety culture by continuously updating the District's environmental health and safety programs
- Develop and maintain a centralized regulatory tracking system
- Collaborate with partner agencies to monitor evolving regulatory requirements and explore potential compliance and mitigation strategies
- Implement improvements to comply with standards adopted by the Environmental Laboratory Accreditation Program beginning January 1, 2024

Enhance our ability to respond to emergencies and maintain business continuity

- Update and maintain documentation of emergency response and business continuity plans, including support documents for regional coordination and mutual assistance
- Manage inventory of emergency assets, equipment, and materials in stock
- Integrate and strengthen employee knowledge and competency of emergency response through ongoing training and Incident Command System (ICS) and Emergency Operation Center (EOC) exercises
- Explore coordination of emergency planning with partner agencies and the cities we serve

Maintain a high level of customer service and community relations through public outreach, education and partnership efforts

- Educate and engage the community on the Tri-Valley's water supply challenges and opportunities through implementation of the Tri-Valley Water Reliability Public Information Program
- Build public awareness of the District's priorities, initiatives, systems, and services
- Leverage Tri-Valley and regional partnerships to maximize public outreach efforts

Improve the resiliency of the District's water supplies against future uncertainties

- Work collaboratively with our Tri-Valley and regional partners in the development of a more diversified and resilient water supply
- Prepare and implement water conservation strategies to reduce water demand, improve system reliability, and comply with state regulations

Foster long-term partnerships to provide efficient and cost-effective services

- Build relationships and actively participate in local partnerships, regional groups, coalitions, and associations to advance common goals
- Review and update our Joint Powers Authority and other interagency agreements and contracts to address changing conditions and align with the District's Mission and Strategic Plan goals

Optimize the Asset Management Program to guide District business decisions

- Standardize and implement District-wide procedures and plans for the Asset Management Program
- Expand and maintain asset records including equipment data, criticality, maintenance history, asset condition, and performance
- Use asset management data to maximize the life of assets and budget for long-term capital replacement needs

Improve energy efficiency and reliability for the District

- Develop a District energy policy and District energy master plan that evaluates sustainable energy sources and opportunities for cost-effective energy conservation and efficiency
- Initiate cost-effective energy projects consistent with the District's energy policy, business needs, and future regulations

Maintain a culture that attracts, retains, and engages a high performing workforce in support of the District's Mission and Values

- Diversify and strengthen the skills of District employees to meet evolving workforce demands through participation in professional organizations and development programs
- Implement a structured management and leadership program for employee career and professional growth
- Promote a strong District workforce culture which encourages learning, teamwork, and recognition of employee contributions, and enhances employee engagement
- Develop a succession plan for key positions where feasible

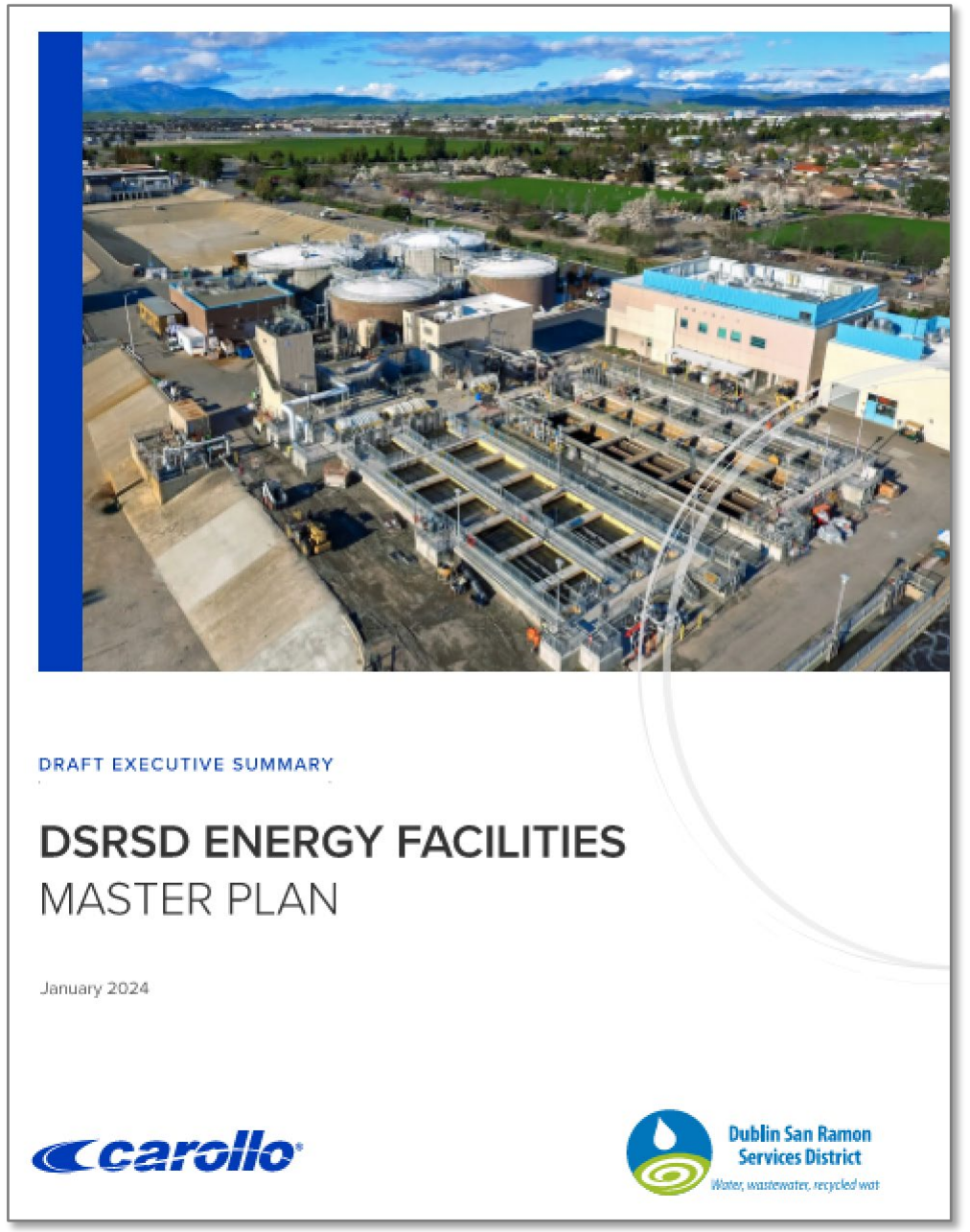
Optimize District-wide operations by improving our business practices, procedures, and information systems to meet evolving needs

- Invest in business process improvements to enhance communications and access to information
- Integrate our business enterprise systems to more effectively share data across the District
- Review and update our Information Technology and SCADA Master Plans

Updated April 2023

Overview

- All-Encompassing Review of All District Facilities
- Energy Master Plan
- Energy Policy
- Capital Improvement Program



Summary of the Baseline Findings

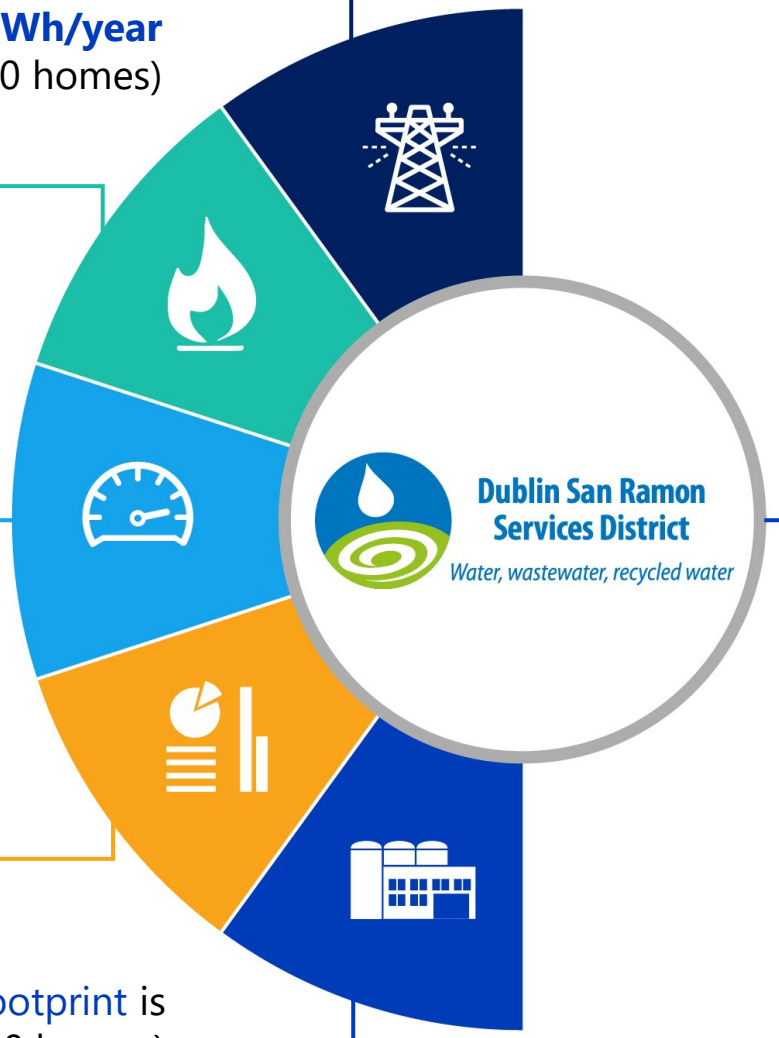
Electricity demand:
~15 GWh/year
(~2,500 homes)

Thermal energy demand:
~720,000 therms/year
(~2,100 homes)

Fuel consumption is comparable to **~60 vehicles** driven in the United States

~94% of the District's electrical energy demands are associated with the operation of its wastewater treatment and water distribution facilities

The District's GHG footprint is **~4,400 metric tons CO2e**(~140 homes)



~96% of the power required for the WWTP is generated on-premise via the cogeneration system

Nearly **100%** of the thermal energy demands for the WWTP are met through thermal energy recovered from the on-premise cogeneration system

Energy Policy

- Energy Diversification, Reliability and Resiliency
- Regulatory Compliance
- Reduce Energy Consumption, Enhance Energy Efficiency, and Reduce Greenhouse Gas Emissions
- Offset Future Energy Demands and GHG Emissions through Renewable Energy
- Fleet Management
- Funding Opportunities

Energy Policy

4. Seek opportunities to increase the use and generation of **renewable energy to offset additional future energy demands** and reduce greenhouse gas emissions.
    a. By 2030, utilize 100% of the biogas generated at the District's Regional Wastewater Treatment Facility.
    b. By 2045, decrease total electricity purchases by 25%, when compared to total electricity purchases in 2021.
    c. By 2045, reduce greenhouse gas emissions by 50%, when compared to greenhouse gas emission levels in 2021.

CIP Project Summary

Regulatory Compliance

1. Fleet Assets Program

Renewable Energy Generation/Energy Diversification

6. Off-Site Solar Power
7. Battery Storage
8. On-Site Solar Power, Battery Storage and EV Charging Stations
9. Co-Digestion of Food Waste
10. Additional Cogeneration Engine

Asset Replacement (Efficiency)

2. Cogeneration Engine Replacement
3. Aeration System Upgrades
4. DAFT Replacement with Mechanical Thickening
5. WWTP HVAC Replacements

Electrical Resiliency/Reliability

11. Install Load Bank for DP-G
12. Reconfigure Switchgear for Power Outages
13. WWTP Electrical Improvements – Phase 1
14. WWTP Electrical Improvements – Phase 2

Renewable Energy Generation & Energy Diversification

Project 6 & 8: On-Site/Off-Site Solar, Battery Storage and EV Charging Stations

Description

» New solar facilities on DSRSD properties, including battery storage and EV charging

Justification

» Stabilization of energy costs

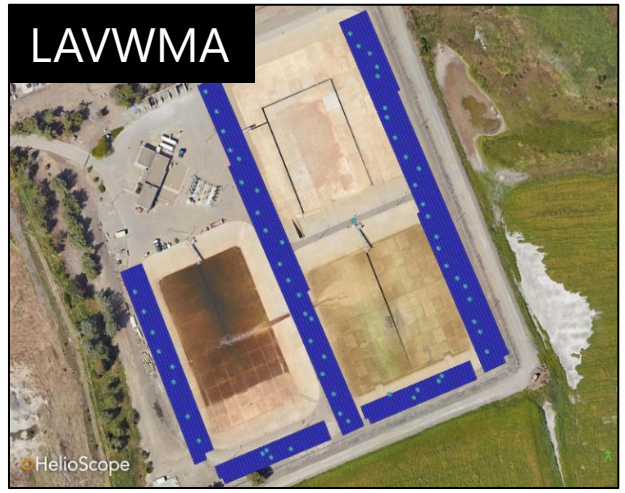
» Offsets future energy demands with renewable energy source

» Supports next generation of Zero Emission Vehicles (ZEVs)

Capital Cost: ~~$18.4 M,~~ Purchase Power Agreement

Project Commencement: FYE 2025

Funding: PPA



Renewable Energy Generation & Energy Diversification

Project 9: Co-Digestion of Food Waste & Other High-Strength Wastes

Description:

- Waste receiving facility for feeding digesters

Justification:

- Regional Partnerships to help jurisdictions meet requirements of SB 1383
- Offsets future energy demands

Capital Cost: $3.9 M

Project Commencement : FYE 2026 to maximize IRA funding incentives and customer base

Funding: Up to 30% available through IRA

Asset Replacement

Project 2: Cogeneration Replacement

Description:

- Two 700 kW engines in a new building

Justification:

- Cogeneration equipment nearing end of useful service life (30-40 years old)
- Newer engines will provide 20% more power to offset future demands

Capital Cost: $44.4 M

Project Commencement : FYE 2026 to maximize IRA funding incentives

Funding: Up to 30% available through IRA

Energy Resiliency & Reliability

Project 13 & 14: WWTP Electrical Improvements

Description

- Improvements to address issues with load and short circuit deficiencies
- Implemented in 2 phases

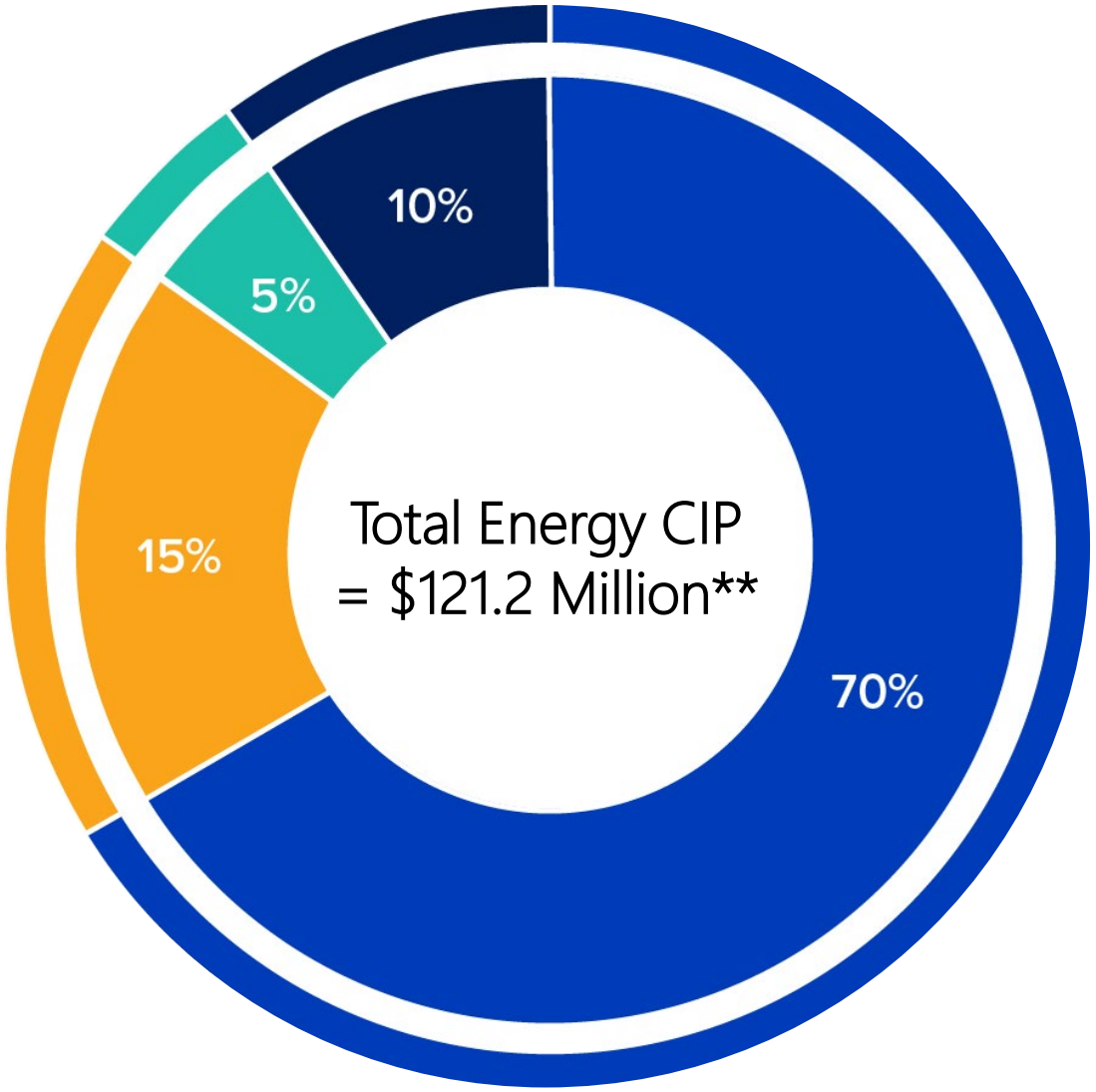
Justification

- Provides for resiliency of equipment by preventing failures due to overloads

Capital Cost: $6.2 M

Project Commencement : FYE 2025 to address immediate needs and provide continued reliability of electrical distribution infrastructure

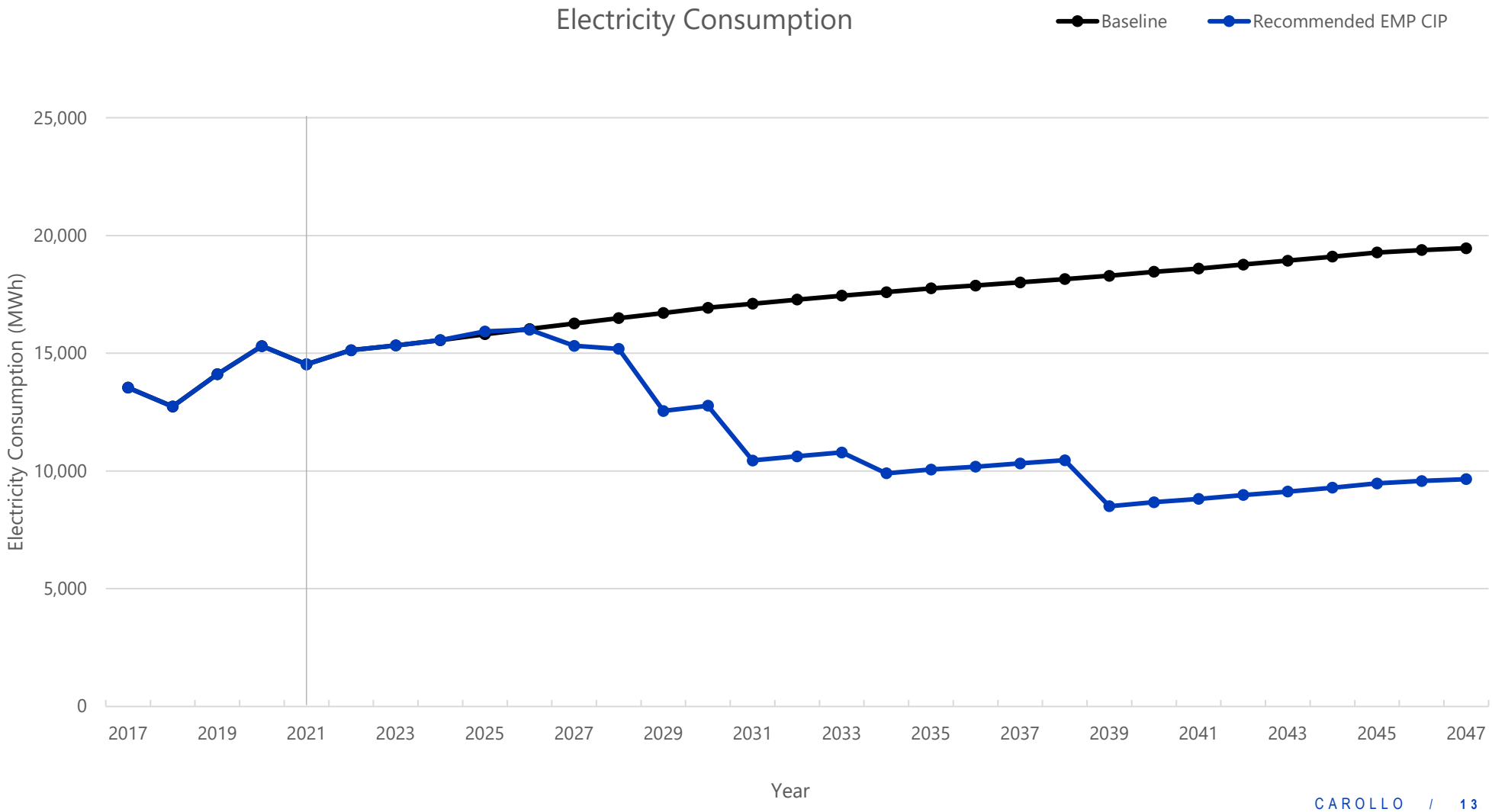
$121.2 Million Energy Capital Improvement Program



Project Type	Total
Asset Replacement	$84,500,000
Regulatory Compliance	$11,700,000
Energy Resiliency	$6,500,000
Renewable Energy Generation/Diversification	$18,500,000
Solar Projects funded through PPA	**$121,200,000****

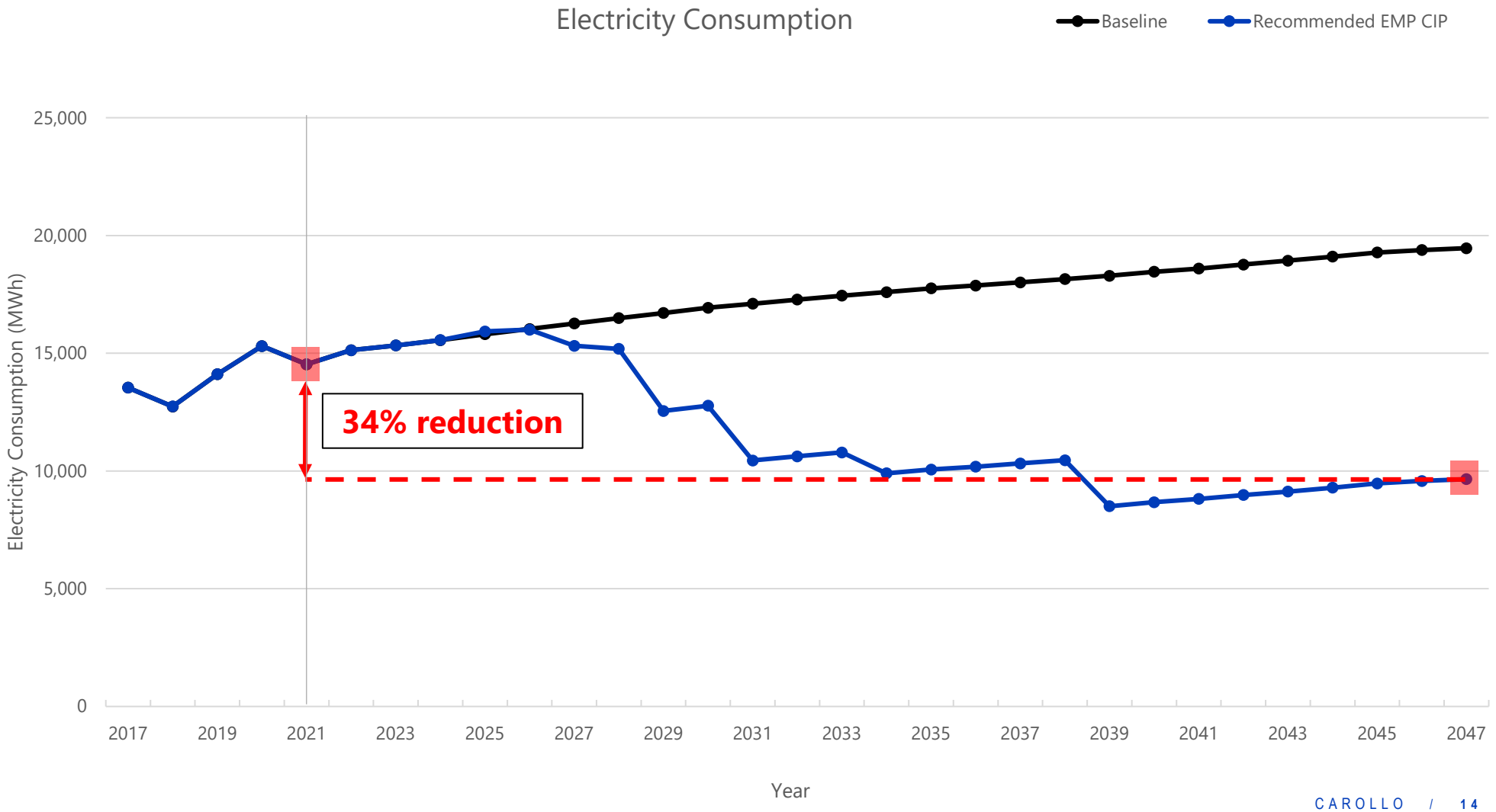
**Total Energy CIP without Solar Projects Funded through PPA is approximately $139.4 million

Energy Impacts

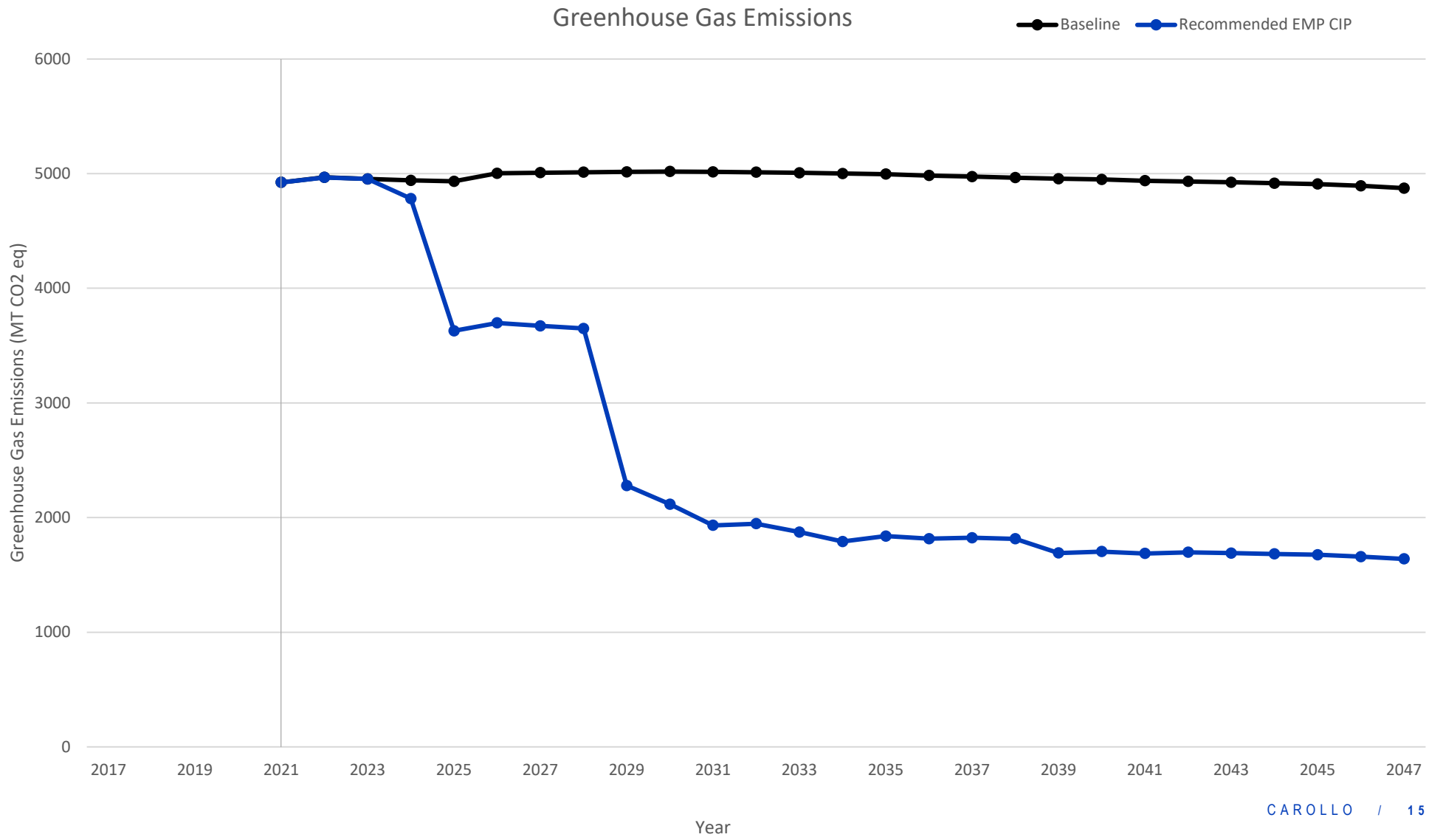


Energy Impacts

- 34% reduction from 2021 baseline

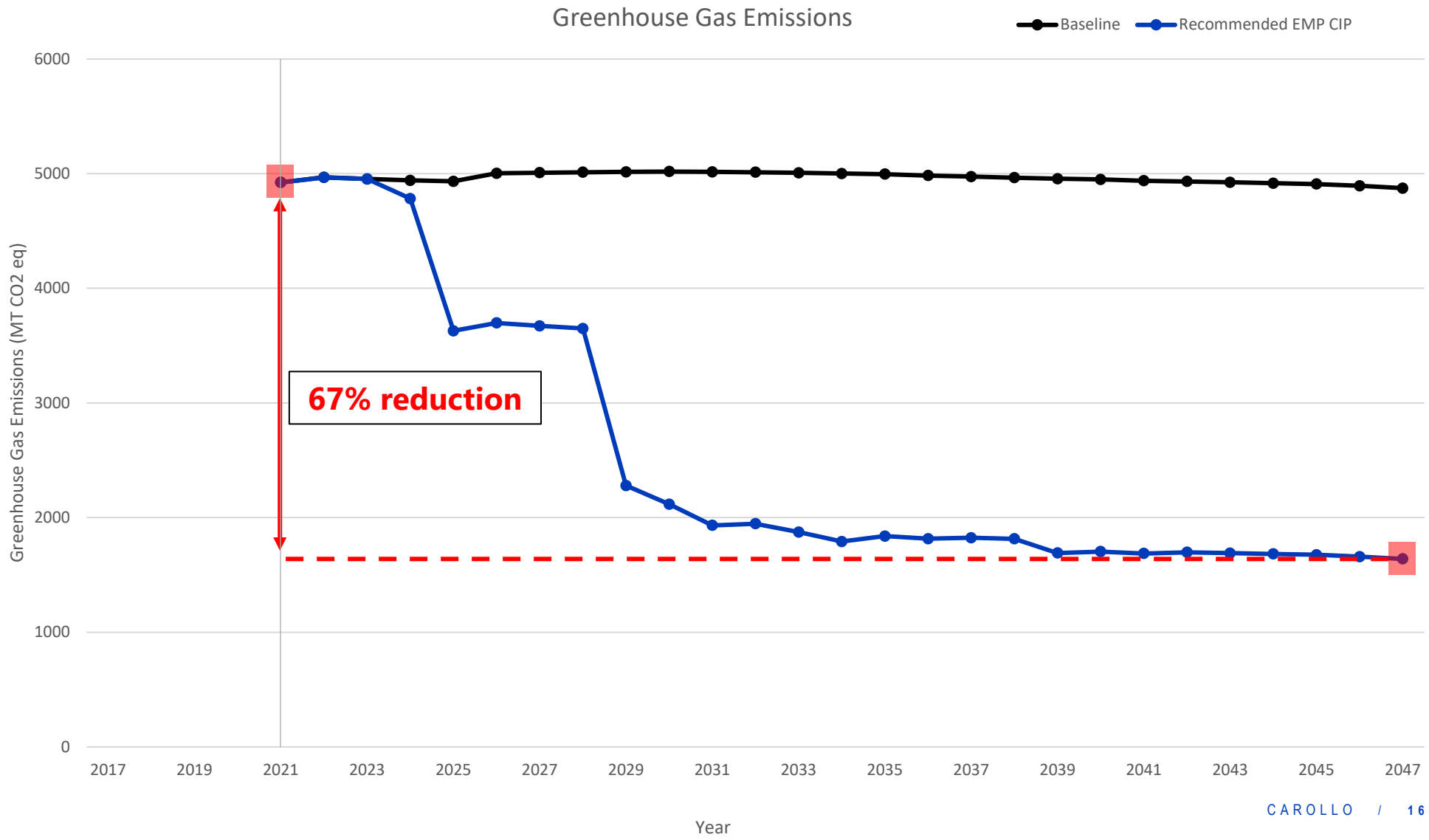


GHG Emissions Impacts



GHG Emissions Impacts

- 67% reduction from 2021 baseline



Energy CIP Key Points

- **17 Projects – 14 CIP and 3 Non-CIP**
- **Energy and GHG Impacts**
  - Reduce **energy** consumption by up to **34%** of 2021 baseline
  - Reduce **GHG** Emissions by up to **67%** of 2021 baseline
- **Other Major Benefits**
  - Stabilizes and reduces energy costs
  - Diversifies energy supplies with renewable energy
  - Ensures regulatory compliance for the District's fleet
  - Improves energy reliability

Questions

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