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ComEd Lighting Controls

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Agenda

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2. ComEd EE Plan 6 Lighting Control Goals
3. ComEd EE Program Design
 - Lighting Controls Measures
 - Historical Participation & Progress to Goal
 - Tactics/Initiatives
 - Market Feedback
4. Future Plan/Outlook

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Introduction

Introduction

Lighting Controls Presentation Team

1. Elder Calderon (ComEd)
2. Kanchan Swaroop (Resource Innovations)
3. Rick Tonielli (ComEd)

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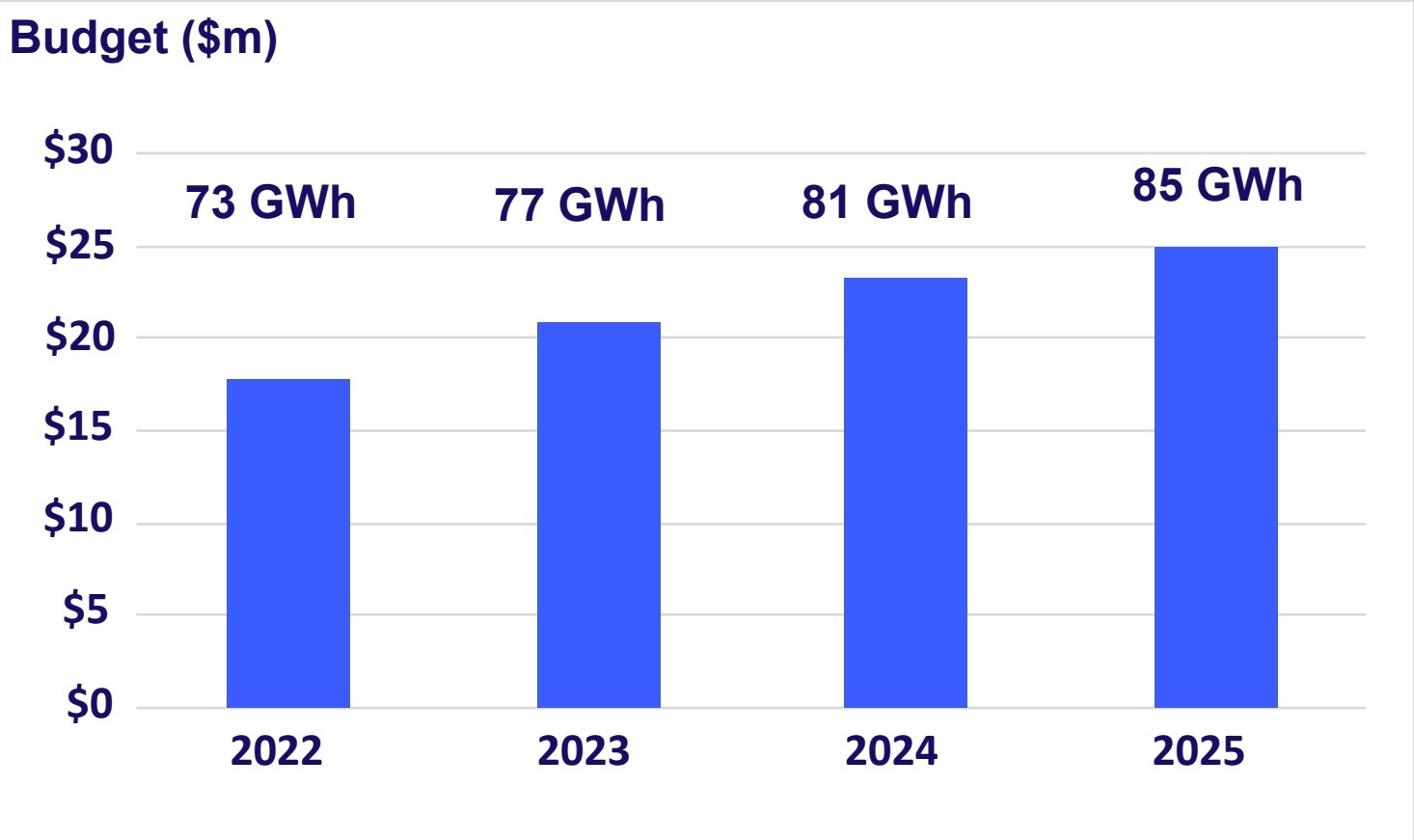
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ComEd EE Plan 6 Lighting Control Goals

ComEd EE Plan 6 Lighting Control Goals



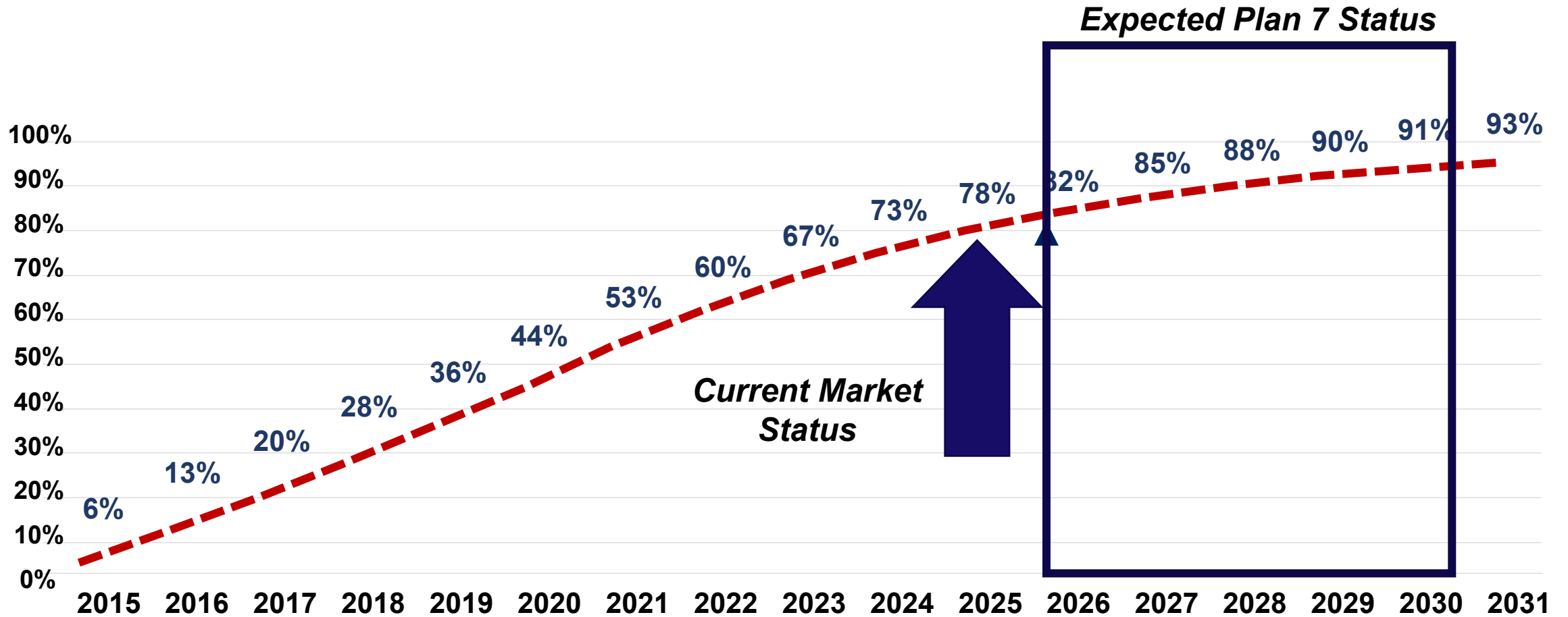
Commercial Lighting Controls

Looking Backward to Plan 6 (2022-2025) and Forward to Plan 7 (2026-30)

- **Since Plan 6 (December, 2020):**
 - **ComEd has invested in lighting controls market development**
 - **Experimented with increased controls incentives**
 - **Kept SAG informed through NLC-targeted calls**
- **Observations & NLC Experience**
 - **Barriers remain to NLC**
 - **NLC savings are not as cost-effective as LED Lighting**
 - **As LED fixtures approach saturation, fewer opportunities to add controls**

Market Saturation of Commercial Sector LED

ComEd Service Territory



DNV Analysis for ComEd

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ComEd EE Program Design

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Lighting Controls Measures

- ComEd provides lighting control incentives through two main programs:
 - Standard Offering – Geared towards mid-size and large customers
 - Small Business Offering – Increased incentives for customers with peak demand below 400 kW (private and public)
- Lighting Control Measures
 - Networked Lighting Controls, baseline with controls
 - Network Lighting Controls, baseline without controls
 - Remote/Fixture mounted Occupancy Sensors and Vacancy Sensors
 - Daylighting Controls
 - Occupancy Sensors + Daylighting Controls
 - Dimming Controls
 - Photocells
 - Timeclocks
 - Photocells + Timeclocks
 - Networked Lighting Controls for LED Grow Lights (included in 2024 Standard data only)

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Lighting Controls Measures – 2025 Incentive Levels

- Standard Offering (STA) 2025 Measure Incentives

- Networked Lighting Controls

- Baseline Without Controls: \$0.50/Watt Controlled
- Baseline With Controls: \$0.40/Watt Controlled
- Additional \$0.25/Watt Reduced if new lighting ↓
- Grow Lights: \$0.40/Watt Controlled

- Occupancy Sensors, Vacancy Sensors, Daylighting Controls

- \$0.15 - \$0.25/Watt Controlled

- Occupancy Sensors plus Daylighting Controls

- \$0.30/Watt Controlled

- Time Clocks for Lighting

- \$0.03/Watt Controlled

- Photocells

- \$0.08/Watt Controlled

- Photocells plus Time Clock

- \$0.13/Watt Controlled ↑

- Small Business Offering (SBO) 2025 Measure Incentives

- Networked Lighting Controls

- Baseline Without Controls: \$0.75/Watt Controlled
- Baseline With Controls: \$0.60/Watt Controlled

- Occupancy Sensors, Daylighting Controls, Dimming Controls

- \$0.20/Watt Controlled (unit change from 2024 to 2025)

- Occupancy Sensors plus Daylighting Controls, Occupancy Sensors with Dimming Controls

- \$0.25 - \$0.35/Watt Controlled (unit change from 2024 to 2025)

- Time Clocks for Lighting

- \$0.25/Watt Controlled

- Photocells

- \$0.20/Watt Controlled

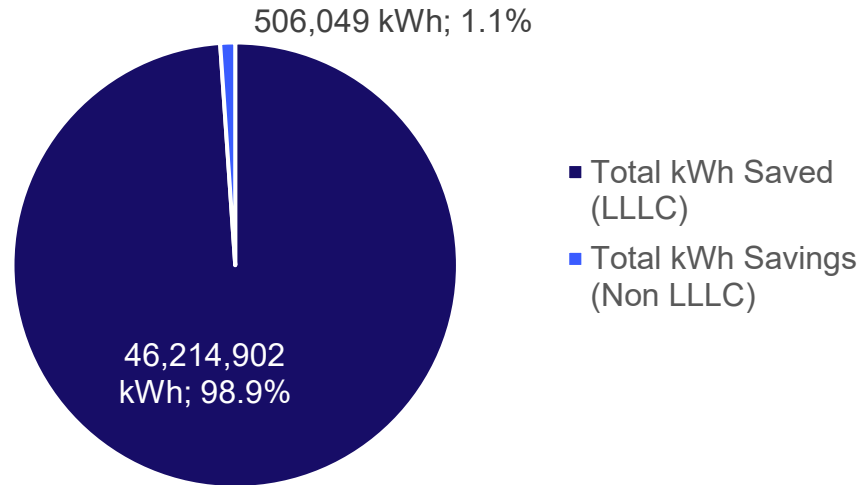
- Photocells plus Time Clock

- \$0.35/Watt Controlled

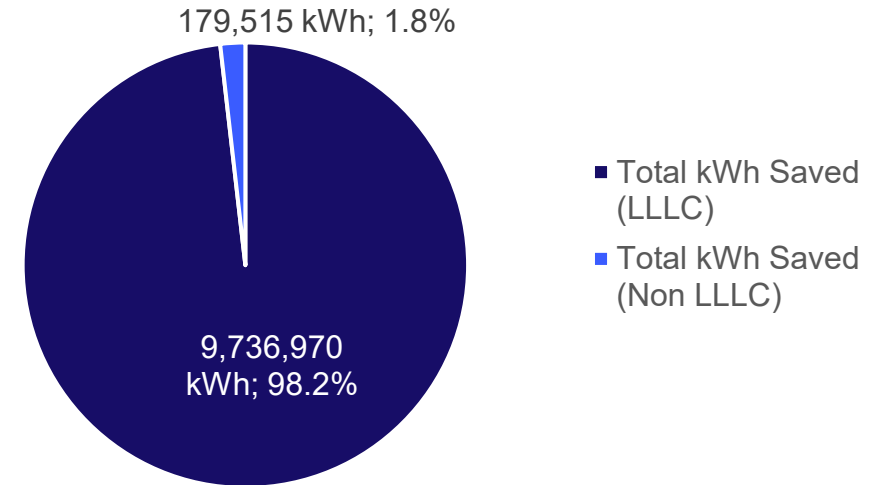
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LLLC Participation Breakdown in 2024

SBO NLC Savings (2024)



STA NLC Savings (July-December 2024)



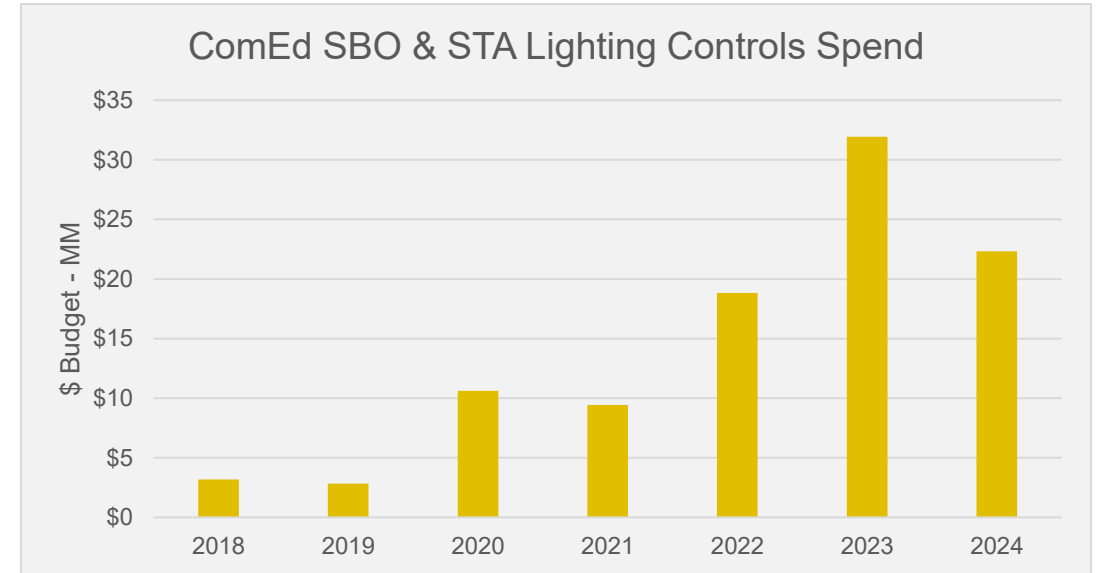
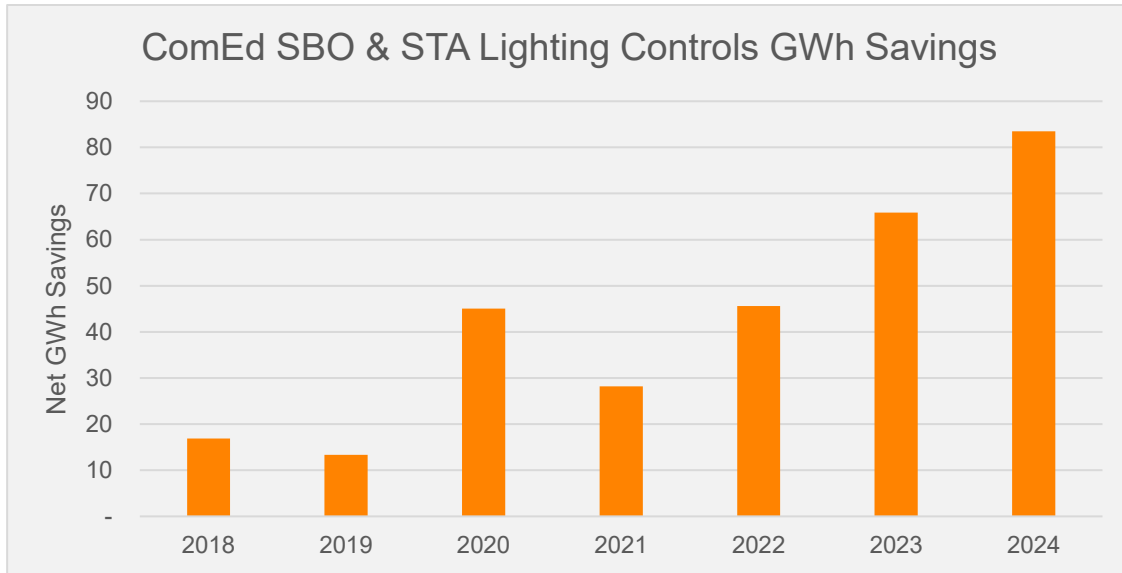
- **Insights:**

- Luminaire Level Lighting Controls (LLLCs) are a type of NLC system with integrated sensors and controls in each luminaire that are wirelessly networked
 - Energy savings from LLLCs are 61% according to the IL-TRM (compared to 35% for non-LLLC controls, and 49% for mixed/unknown NLCs)
- Both programs found that LLLCs are a significant portion of all NLC systems implemented
- In 2024, SBO and STA changed savings methodology to account for the number of LLLC capable controls
 - STA data collection and savings changes only began in July 2024, whereas SBO implemented the savings change for all of 2024

*Savings presented on this slide are gross savings

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Historical Participation – All Lighting Controls



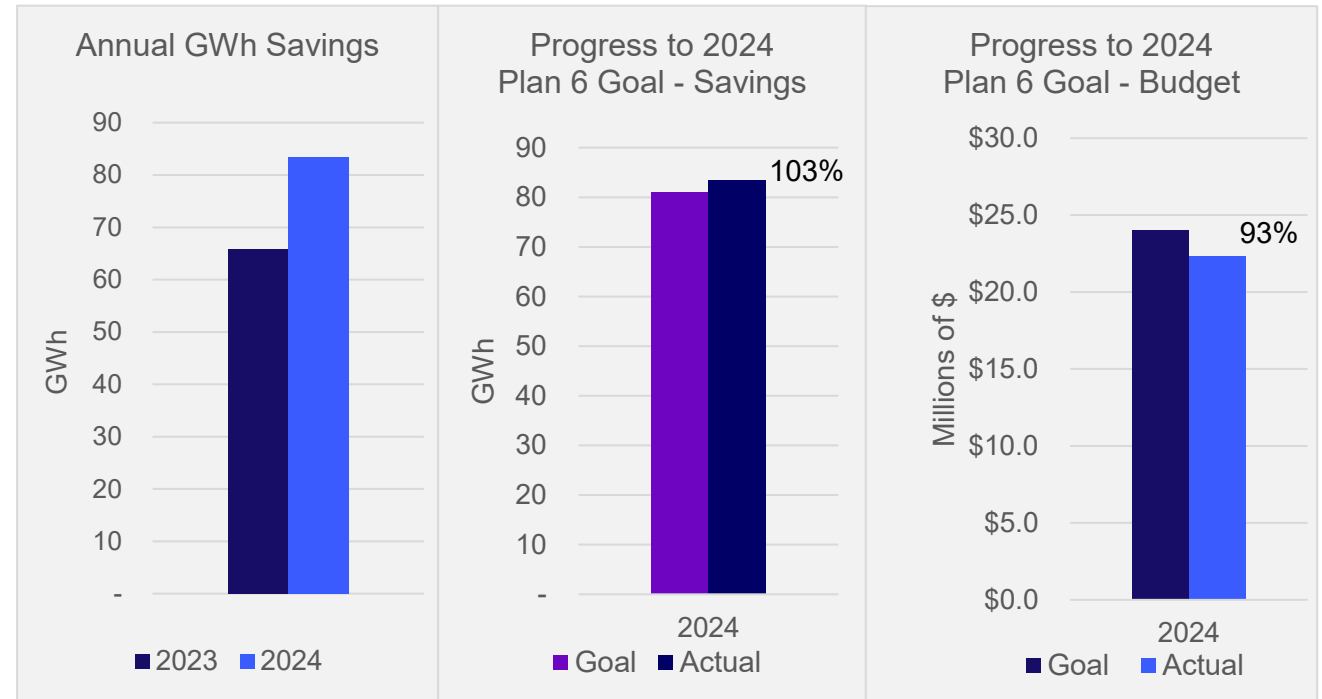
- **Insights:**

- Lighting controls participation has continued to increase while spend decreased from 2023
- Additional campaigns employed in 2024 to further promote Networked Lighting Controls measures
 - Overall lighting controls participation increased by almost 30% from 2023 to 2024
 - Overall lighting controls spend decreased by 30% from 2023 to 2024
- Increased savings for LLLCs were captured in 2024

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Progress to Goal – All Lighting Controls

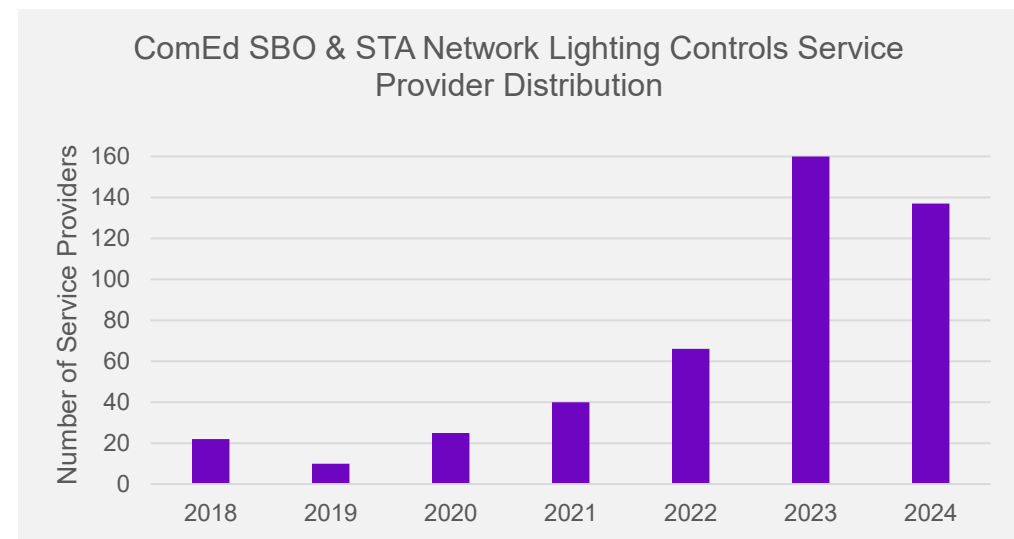
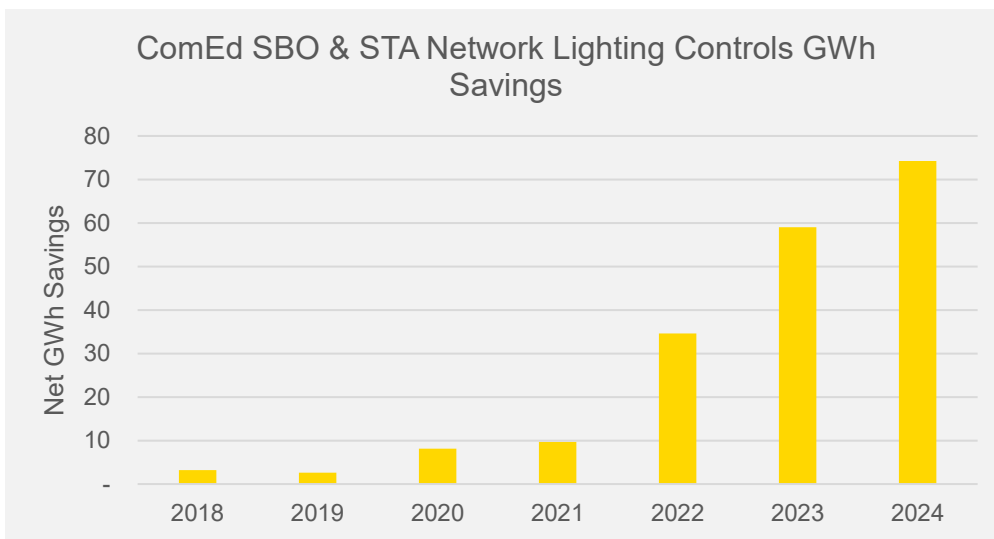
- ~27% increase in savings from 2023 to 2024
- 2024 Plan 6 Goals:
 - 81 GWh
 - ~\$24 Million
- 2024 Results:
 - ~ 83 GWh
 - ~\$22 Million
- Insights:
 - Achieved 103% of the savings goal
 - Under the spend goal by \$1.7M
 - Shift to NLCs continues
 - Scaled back our incentive and campaign promotions to align better with Plan 6 spend goals



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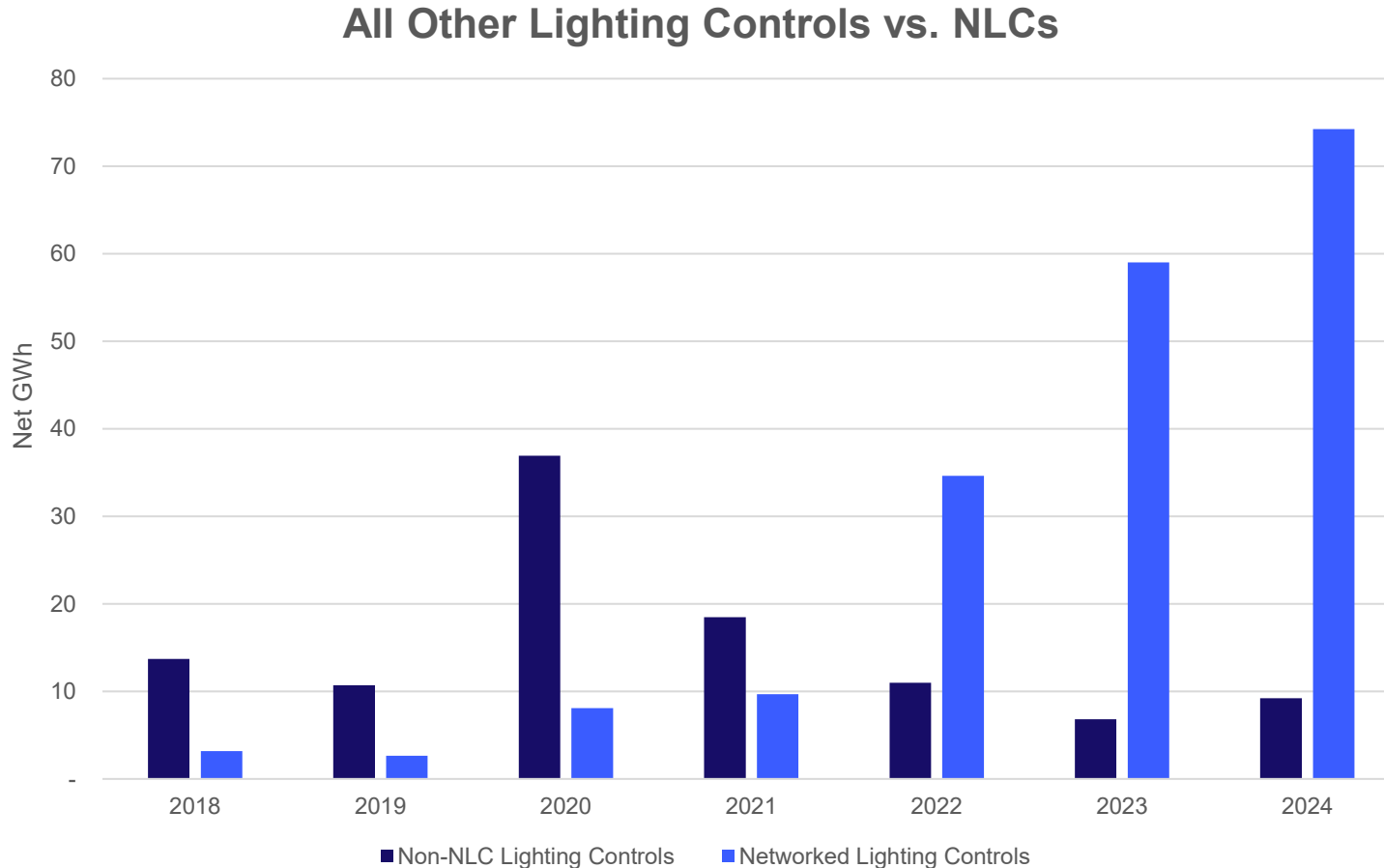
Historical Participation – NLC

Year	Net MWh Savings	Incentives	Projects	Energy Efficiency Service Providers (EESPs)
2018	3,183,698.12	\$662,109	49	22
2019	2,632,093.58	\$494,311	64	10
2020	8,101,466.50	\$1,583,516	74	25
2021	9,692,951.00	\$3,097,096	372	40
2022	34,629,883.25	\$16,461,334	1823	66
2023	58,997,851.62	\$30,328,636	2896	160
2024	74,235,923.60	\$19,917,175	2569	137



ComEd EE Program Design

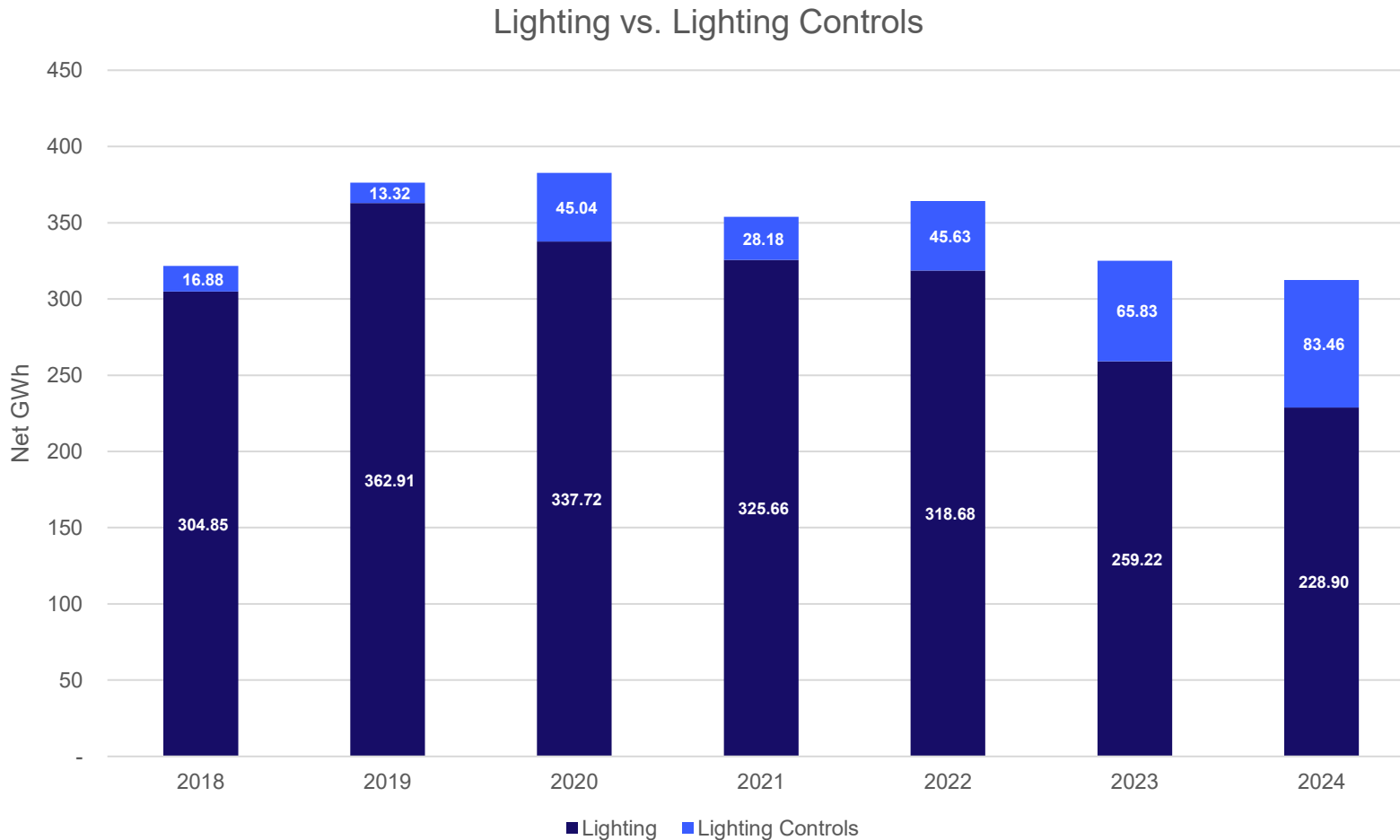
Historical Participation – Lighting Control Type



- **Insights:**
 - Shift in market from non-NLC controls to NLCs
 - Steady increase in NLCs until 2023, where we saw a large increase in participation, which continued into 2024
 - NLCs drove ~89% of all lighting controls savings in 2024

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Historical Participation – Lighting vs. Lighting Controls

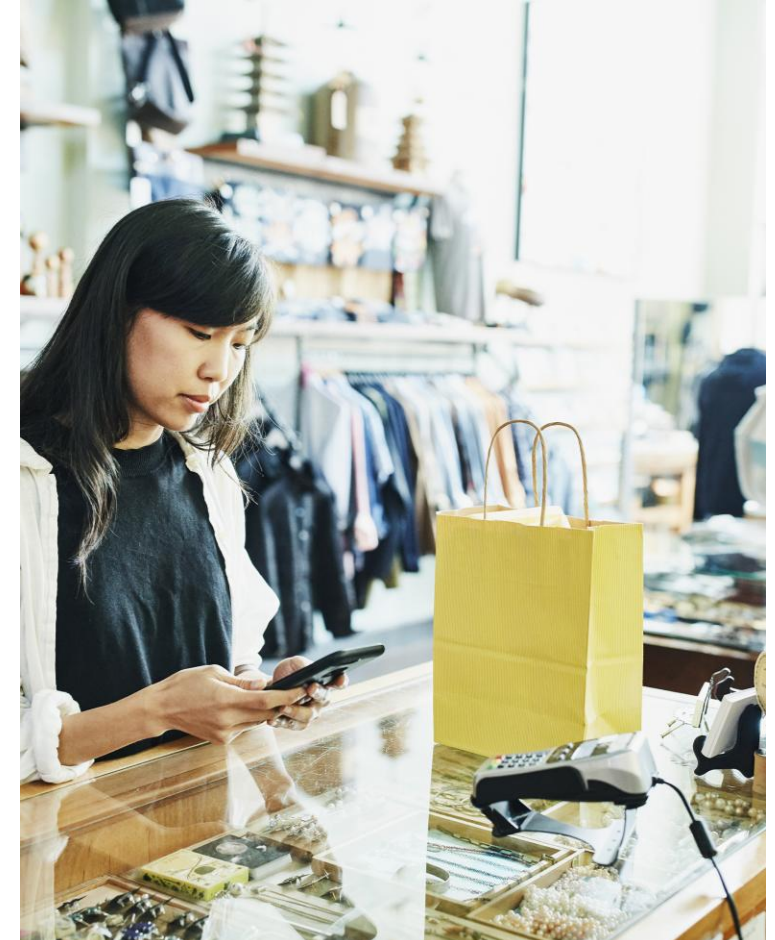


- **Insights:**
 - Year over year increase in savings achieved from lighting controls
 - Larger percentage of lighting projects also included controls
 - In 2024, savings from lighting controls represented 27% of all lighting and lighting controls project savings (increase from 20% in 2023)

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Historical Participation – Projects

- **NLC project volume decreased by 11% from 2023 to 2024, which shows that we might be approaching a plateau for NLCs**
- **Warehouse, Manufacturing, and Schools/Outdoor Sports Facilities are the top three participating facility types**
- **Select Community Public School (SBO):**
 - \$45K project to implement LED upgrades: Indoor TLED & new fixtures with networked lighting controls
 - 63,895 kWh total savings (12% energy reduction). This project highlights how public facilities in select communities can implement NLCs through the installation of NLC-ready new fixtures
- **Select Community Retail/Indoor Mall (STA):**
 - \$212,600 project to upgrade interior and exterior lighting to LEDs with NLCs
 - 954,820 kWh of savings, ~300,000 kWh from indoor NLCs and ~12,000 kWh from outdoor NLCs
 - Occupancy, dimming, zone control, and scheduling strategies implemented



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Tactics in 2025 - Lighting & Lighting Controls

- **Measure and Incentive Updates**
 - Updated lighting product eligibility to the latest version of DLC (DLC V5.1) for both programs
 - The Small Business offering now requires LLLC capabilities for all NLC measures, whereas the Standard program reports this capability for tracking purposes
 - Both programs with our scaled back incentive/campaign promotions to align better with Plan 6 spend goals
 - ComEd Small Business offering allows LED to LED replacements since 2024 alongside Standard
 - Allows customers to upgrade older LEDs with limited control capabilities with newer LEDs and incorporate NLCs wherever applicable
- **EESP Focused Updates**
 - Number of Service Providers participating in NLC measures decreased by 14% in 2024
 - Both offerings continue to provide:
 - Technical Trainings
 - Program Support including Roundtables
 - Fact sheets and case studies
 - Newsletter Spotlight

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EESP/Market Feedback

- EESPs were not opposed to lowering incentives in 2024 to preserve budget over the full program year
 - Both offerings reduced NLC incentives mid year in 2023 and later into 2024
- EESPs anticipate LED saturation and continue to pivot towards NLCs, other lighting controls, and LED to LED upgrades
 - Outreach teams typically don't have issues "selling" EESPs on NLCs given relative ease of adoption and decrease to customer out-of-pocket costs in most use cases
- Some EESPs still interested in additional lighting and NLC related trainings

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Future Plan/Outlook

Future Plan/Outlook

Next Steps

- Continued Market Education
 - Additional awareness for LLLCs with increased tracking and requirements
 - Promotion of NLCs
- Lessons Learned & Keys to Success
 - Continuous EESP Engagement
 - Incentive design
 - Trainings
 - Feedback



Market Transformation for LLLCs

- NEEA, Ameren IL, and MN CEE have all expressed high confidence that a market transformation effort can accelerate the LLLC market, and have efforts underway
- A comprehensive MT model incorporating education, training, and awareness for key market actors can drive behavioral change both among customers and throughout the supply chain
- An MT initiative around LLLC can complement the existing successful Resource Acquisition program by overcoming barriers to adoption throughout the value chain and complementing existing education and training efforts and financial initiatives already in place, resulting in faster program growth

LLLC MT Concept

Lack of awareness & unfamiliarity with LLLCs (Delivery)

- Distributors
- Regional Sales Representative
- Installer
- Designers

Lack of awareness & unfamiliarity with LLLCs (Customer)

- Property owners and managers

High upfront/ first costs

Barriers to Adoption

Lack of market understanding the value proposition of LLLCs (Energy savings, better quality lighting, interoperability, code compliance, plus other non-energy benefits) for different audiences (and what matters to them).

Lack of technical skills among market actors

Lack of product readiness



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Thank you





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