

REWIRE ENERGY



NYS CLCPA & Decarbonization Goals

March 15, 2023

TODAY'S PRESENTERS:

The ReWire Team

- **Ken Evans, Partner, ReWire Group, LLC**
- **Alan Evans, Partner, ReWire Group, LLC**
- **George Ware, Associate, ReWire Group, LLC**

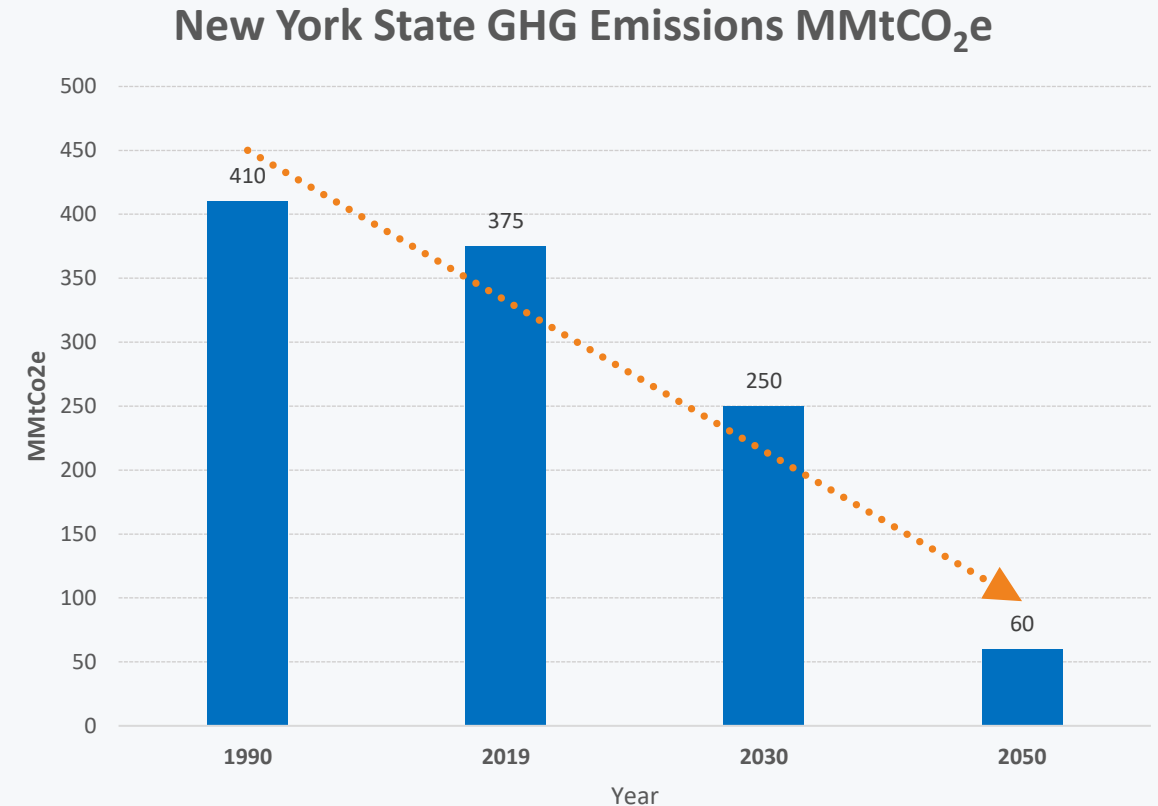
TODAY'S DISCUSSION

- **CLCPA Overview, Goals and Targets**
- **CLCPA Timeline and Next Steps**
- **GHG Emissions by Sector**
- **Energy Efficiency in Buildings**
- **Renewable Energy for Buildings**
- **Opportunities and Challenges**
- **Key Takeaways**

CLCPA **OVERVIEW**: GOALS AND REQUIREMENTS

Targets Codified into Law as of 2019

- **Net Zero emissions by 2050**
- **40% reduction in emissions below 1990 levels, by 2030**
- **85% reduction in emissions below 1990 levels, by 2050**
- **70% renewable electricity by 2030**
- **100% zero-emissions electricity by 2040**
- **10,000 MW of distributed solar by 2030**
- **6,000 MW of energy storage by 2030**
- **9,000 MW of offshore wind by 2035**
- **185Tbtu on-site, building energy savings by 2025**
- **Commitments to Climate Justice and Just Transition**



GOALS AND REQUIREMENTS (CONT.)

- Enormous task is ahead for the State
- Law requires State to reach net zero emissions, reducing the State's GHG emissions from 375mmt to 60 million MMt by 2050
- CLCPA envisions an electrification of the entire State economy
- **Environmental Justice:** Law also requires investments in disadvantaged communities be prioritized. The act directs 40% of the benefits to Disadvantaged Communities
- **Just Transition:** The Act requires that the State develop strategies to support workers in transitioning to new clean energy jobs

SCOPING PLAN TIMELINE AND EVOLUTION (CONT.)

- Climate Act of has a lot of moving parts
- The Act itself does not detail a GHG reduction plan, but the Scoping Plan does and acts as the roadmap to meet the State's goals

Scoping Plan (approved in Dec 2022) was put together by various Stakeholders:

- **Climate Action Council:** 22-member appointees, led by Doreen Harris, NYSERDA and Basil Seggos. Made up of various state agency representatives, including environmentalists, private sector, including power producers
- **Advisory Panels:** 7 sector specific Panels to make recommendations to the state agencies responsible for implementing the CLCPA
- **State Agencies:** The Statute charges DEC with having the primary regulatory role in limiting GHG though other NYS agencies will also issue supporting regulations, with the CLCPA as their authority to do so

SCOPING PLAN KEY DATES

Climate Leadership & Community Protection Act

signed into law & directs the formation of the Climate Action Council

2019

2020
March

The 22-member Climate Action Council held its first meeting

Seven sector-specific Advisory Panels

met & developed recommendations for a Draft Scoping Plan

Stakeholder outreach conducted & feedback submitted

2020
and 2021

2021
April–June

An Integration Analysis outlining costs and benefits of the Plan was developed

Draft Scoping Plan was prepared & released

following nearly 20 public meetings of the Climate Action Council

2021
Sept–Dec

2022
Jan–July

Public comment period held to receive feedback on the Scoping Plan; 11 public hearings and 35,000+ written comments

Subgroups of the Climate Action Council met

to discuss sectors of the Plan and work to reach consensus

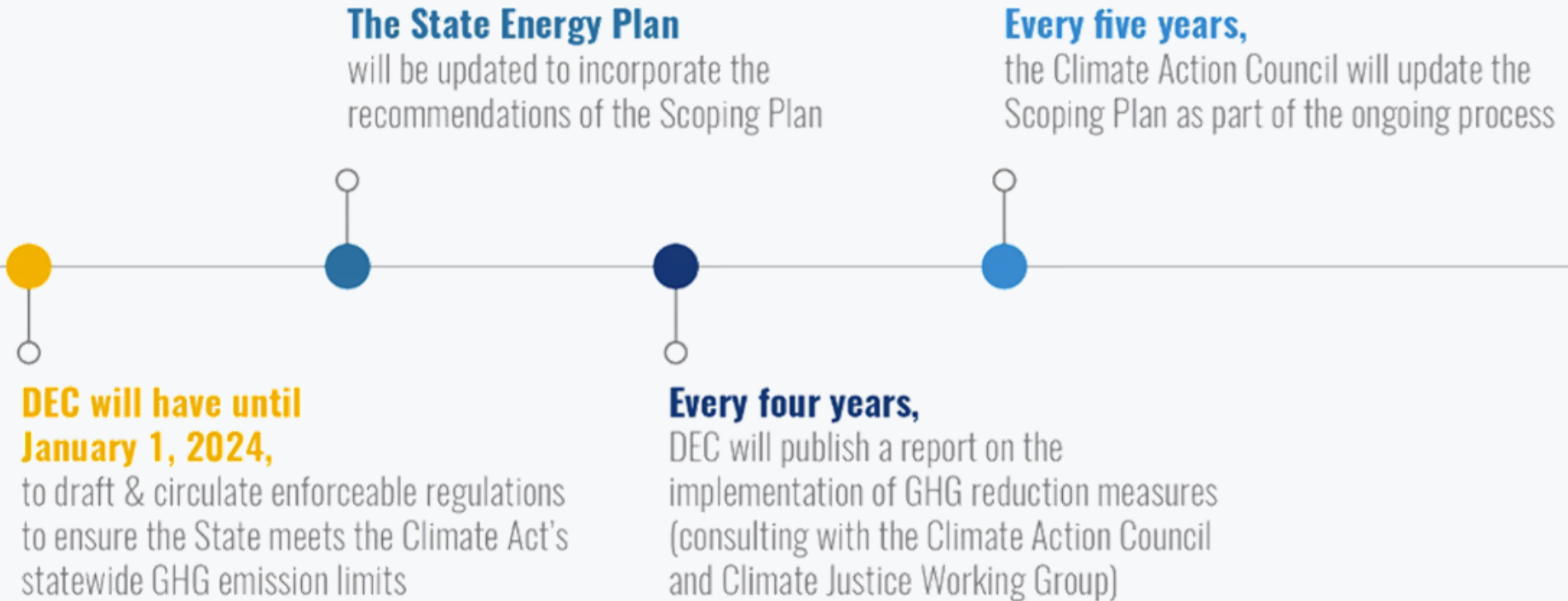
2022
June–Oct

2022
Dec 19, 2022

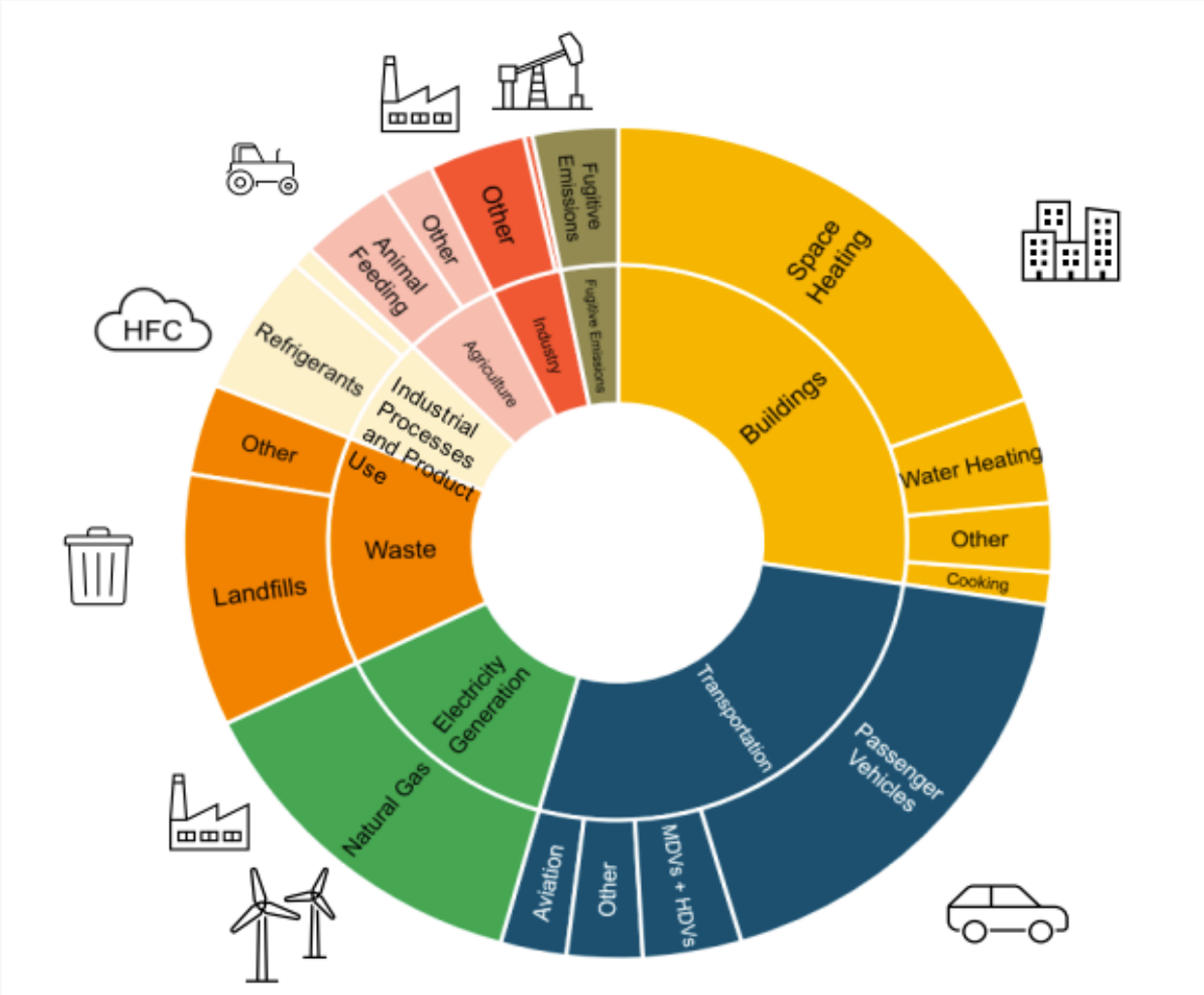
Climate Action Council voted to advance the Scoping Plan to advance New York's nation-leading climate goals.

****Climate Action Council held a total of 32 public meetings to develop and finalize the Scoping Plan.**

NEXT STEPS



ESTIMATED GHG EMISSIONS BY SECTOR



SCOPING PLAN TIMELINE AND EVOLUTION (CONT.)

- DEC issued a GHG Emissions report at the end of 2021
- Inner ring of the circular graph depicts the relative proportions represented by our major emission sectors. The contributing source within each sector
- Understanding the sources of emissions help understand the selection of strategies that went into the Scoping Plan
- **Buildings:** The largest source of GHG emissions in the state, accounting for about 32% of total. Most of these emissions come from the use of fossil fuels for space and water heating, cooking and other (e.g., drying clothes)
- **Transportation:** At 28%, on-road vehicles (cars, trucks, and buses) are responsible for the majority of emissions
- **Energy Generation:** Only contributes 13% of GHG emissions. Majority of emissions in this sector come from power plants that burn fossil fuels such as coal, oil, and natural gas to generate electricity

BUILDING EMISSIONS

Buildings are responsible for 32% of New York State's greenhouse gas emissions

- New York State's plan focused on buildings, transportation, and energy generation as the largest emitting sectors
 - Buildings include residential buildings, commercial buildings, and everything in-between
 - \$6.8 billion will be invested to reduce building emissions
 - Building owners and managers will need to improve energy efficiency in buildings in order to comply with the Act
- Electric Vehicles, EV charging stations. ~3 million zero-emission vehicles will need to be sold by 2030

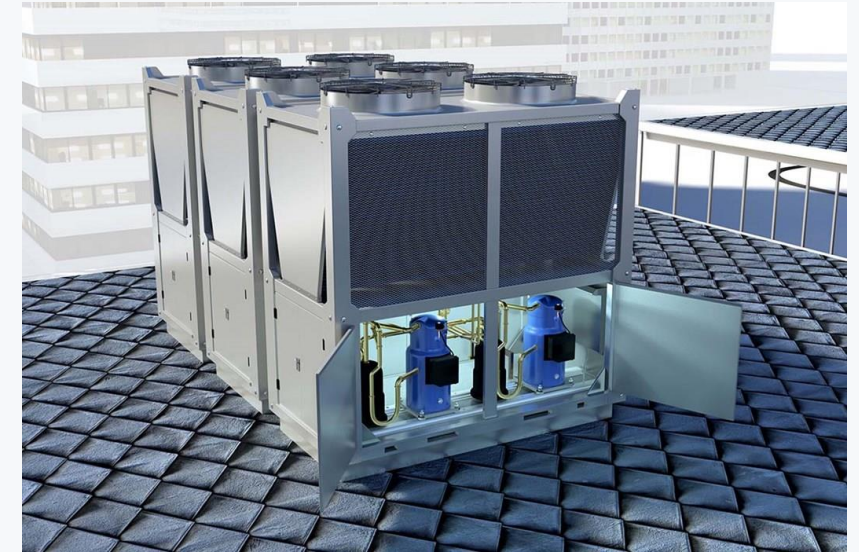


ENERGY EFFICIENCY IN BUILDINGS

Building Upgrades Must be Implemented to Improve Efficiency

The CLCPA requires a 185TBtu end-use savings in buildings by 2025

State's Plan...	Newly Built Buildings	Existing Buildings
Low-Rise Homes: Below 3 stories	2025: No energy or heating from fossil fuels	2030: Advance zero emission heating equipment
Commercial Buildings: Non-residential	2028: No energy or heating from fossil fuels	2035: Advance zero emission heating equipment



➤ **Energy efficiency and end-use electrification are essential.** Energy efficiency measures can include efficient lighting, programmable thermostats, improved insulation, upgraded HVAC systems (heat pump), and efficient electric appliances.

Incentives available through New Efficiency: New York, NYSERDA's Clean Energy Fund and others



RENEWABLE ENERGY

The CLCPA requires an increase to 70% renewable energy sources by the year 2030

- Building owners and managers must consider the use of renewable energy sources
- Renewable sources include solar, wind, and geothermal, complemented by battery storage, when possible
 - Solar is currently the most accessible in these scenarios for buildings
- Energy Storage to reduce emissions, improve grid resilience, reduce impact of building outages, allow intermittent renewables to be available during peak demand



OPPORTUNITIES AND CHALLENGES

Opportunities	Challenges
<ul style="list-style-type: none">▪ Reduced energy costs	<ul style="list-style-type: none">▪ Upfront costs of upgrading buildings
<ul style="list-style-type: none">▪ Improved indoor air quality and occupant health and comfort	<ul style="list-style-type: none">▪ Potential disruption to building operations during upgrades
<ul style="list-style-type: none">▪ Increased property value and marketability	<ul style="list-style-type: none">▪ Changes to building codes and regulations
<ul style="list-style-type: none">▪ Access to financial incentives and funding opportunities	<ul style="list-style-type: none">▪ Uncertainty around future energy policies and regulations
<ul style="list-style-type: none">▪ Improved resilience to power outages and grid disruptions	<ul style="list-style-type: none">▪ Integrating renewable energy systems with existing building infrastructure
<ul style="list-style-type: none">▪ Workforce development and transition	<ul style="list-style-type: none">▪ Availability of skilled labor and contractors

KEY TAKEAWAYS

- If nothing else, begin to assess your buildings' current energy use and energy costs
- Explore and prioritize opportunities for efficiency upgrades and renewable energy installations
- Develop an internal company plan to react to the Climate Law and Property and Portfolio specific parts of plan to manage requirements around compliance with new regulations, mandates and reporting
- Take advantage of the various funding and incentive programs (i.e., rebates, grants, loans and incentives) established under the CLCPA to help finance the necessary upgrades and investments
- Accurate monitoring and reporting systems will be important to comply with energy use and emissions requirements