



Department of
Environmental
Conservation



Statewide Greenhouse Gas Emission Limit Regulation

Eastern NY Chapter of Air & Waste Management Association

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What we'll talk about today



Where we are



How we got here

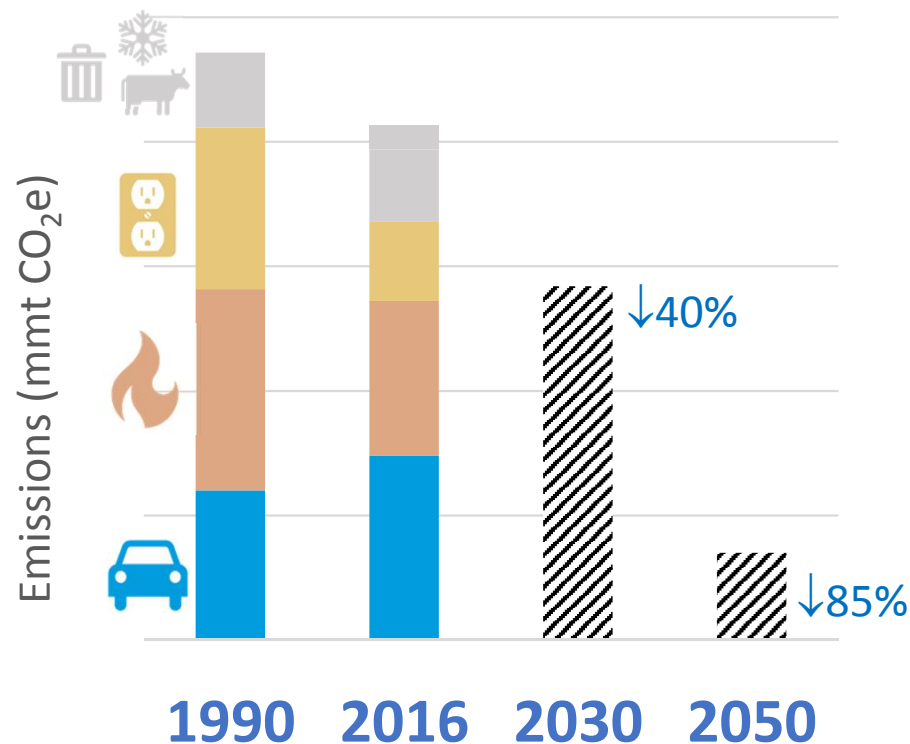


Where we may go in the future



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New York State Emissions



NYSDA 2019

NY's Current GHG Inventory

- Some increases, some decreases since 1990
- A long way to go
- The Climate Act introduces new priorities

Climate Leadership and Community Protection Act

Most aggressive GHG reduction goals of any major economy

- **40X30, 85X50 and net zero across the economy**
- Codifies clean energy targets
- Commitments to environmental justice and just transition



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Climate Act: Key Timelines

Statewide GHG Limits	1 year	2021
Annual GHG Report	2 years	2022
Draft Scoping Plan	2 years	2022
Final Scoping Plan	3 years	2023
Statewide GHG Regulations	4 years	2024
40% Emission Limit		2030
85% Emission Limit		2050



Developing the Scoping Plan

The **Climate Action Council** shall identify and recommend regulatory and other actions to ensure the GHG goals are met.

Advisory panels:

1. transportation
2. land use and local government
3. housing and energy efficiency
4. energy-intensive industries
5. power generation
6. agriculture and forestry

Additional Groups:

- Climate Justice WG
 - Just Transition WG
- ++ Environmental Justice Advisory Panel (consults with all groups)

Developing the Scoping Plan

Purpose

- Provide recommendations to achieve statewide emission limits, including regulatory measures to be implemented by DEC

Timing

- Draft within 2 years of effective date
- Final within 3 years of effective date
- Reviewed & updated every 5 years

Implementing the Scoping Plan – DEC

By 2024, DEC shall promulgate regulations that, for example:

- ensure 2030 and 2050 emission limits will be met
- set legally-enforceable controls
- reflect the findings of Scoping Plan
- minimize leakage
- prioritize disadvantaged communities

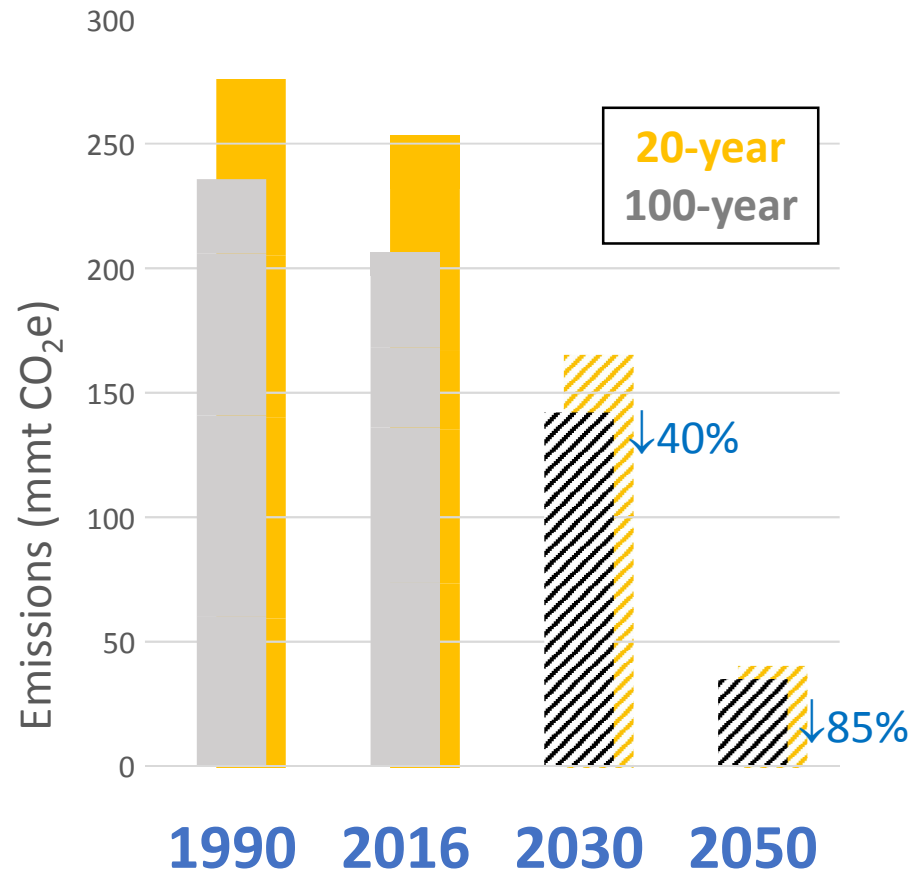
Statewide Emission Limits

The Climate Act amends the Environmental Conservation Law, but also establishes other provisions.

Amendments relevant to the Statewide Emission Limit:

- ECL 75-0101 Definitions
- ECL 75-0105 Statewide Greenhouse Gas Emission Report
- ECL 75-0107 Statewide Greenhouse Gas Emission Limits

New York's GHG Emission Limit



The Climate Act's "New Math":

- 20-year GWP
- Include imports (not shown)
- Our goals are now a regulatory limit
 - Must be comprehensive

Estimated, Deliberative (not final)

6 NYCRR Part 496

Rulemaking to adopt the Statewide Emission Limit, per the Climate Leadership and Community Protection Act.

We are currently accepting pre-proposal feedback
See the webinars on the DEC Climate Change website
<https://www.dec.ny.gov/energy/99223.html>

See details in *Rule Making in NY Manual* <https://www.dos.ny.gov/info/rulemakingmanual.html>

Rulemaking Process

General Steps for Part 496 Rulemaking:

- Initiate the rulemaking
- Conduct informal, pre-proposal outreach with stakeholders and develop rule
- Release draft proposal for formal public comment period
- Conduct public hearing(s)
- Assess public comments and determine whether substantial revisions are necessary
- Final adoption

ECL 75-0101 Definitions

2. “Carbon dioxide equivalent” means the amount of carbon dioxide by mass that would produce the same global warming impact as a given mass of another greenhouse gas over an integrated twenty-year time frame after emission.
7. “Greenhouse gas” means carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and any other substance emitted into the air that may be reasonably anticipated to cause or contribute to anthropogenic climate change.
8. “Greenhouse gas emission limit” means the maximum allowable level of statewide greenhouse gas emissions, in a specified year, expressed in tons of carbon dioxide equivalent, as determined by the department pursuant to this article.
13. “Statewide greenhouse gas emissions” means the total annual emissions of greenhouse gases produced within the state from anthropogenic sources and greenhouse gases produced outside of the state that are associated with the generation of electricity imported into the state and the extraction and transmission of fossil fuels imported into the state. Statewide emissions shall be expressed in tons of carbon dioxide equivalents.
14. “Statewide greenhouse gas emissions limit” or “Statewide emissions limit” means the maximum allowable level of statewide greenhouse gas emissions in a specified year, as determined by the department pursuant to this article.



ECL 75-0107 Statewide Greenhouse Gas Emission Limits

1. no later than one year after the effective date of this article, the department shall, pursuant to rules and regulations promulgated after at least one public hearing, establish a statewide greenhouse gas emissions limit as a percentage of 1990 emissions, as estimated pursuant to section 75-0105 of this article, as follows:
 - a) 2030: 60% of 1990 emissions.
 - b) 2050: 15% of 1990 emissions.
2. greenhouse gas emission limits shall be measured in units of carbon dioxide equivalents and identified for each individual type of greenhouse gas.
3. in order to ensure the most accurate determination feasible, the department shall utilize the best available scientific, technological, and economic information on greenhouse gas emissions and consult with the council, stakeholders, and the public in order to ensure that all emissions are accurately reflected in its determination of 1990 emissions levels.

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ECL 75-0105 Statewide Greenhouse Gas Emission Report

1. No later than two years after the effective date of this article, and each year thereafter, the department shall issue a report on statewide greenhouse gas emissions, expressed in tons of carbon dioxide equivalents, from all greenhouse gas emission sources in the state, including the relative contribution of each type of greenhouse gas and each type of source to the statewide total.



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Greenhouse Gas Inventory Protocols

Gases for consideration

		Primary Source	Secondary Sources
Natural	Carbon dioxide (CO ₂)	Fossil Fuels	Land Use, Waste, Industry
	Methane (CH ₄)		
	Nitrous oxide (N ₂ O)		
Man-made	Hydrofluorocarbons (HFCs)	Ozone Depleting Substance Substitutes	Electronics Manufacturing
	Perfluorocarbons (PFCs)	Aluminum Production	
	Sulfur hexafluoride (SF ₆)	Electricity Transmission	

Comparing Greenhouse Gases

		Marginal Impact (GWP _{20 or 100})	Total Impact (Since 1750)	Lifespan (years)
Naturally-Occurring	Carbon dioxide	Lowest	Highest	~100
	Methane			<100
	Nitrous Oxide			~100
Man-made	HFCs			<100
	PFCs			Permanent
	SF6	Highest	Lowest	

What drives climate change?

- The accumulation of greenhouse gases.
- CO₂ has the highest volume and a long lifespan. CO₂ is responsible for climate change impacts.
- “Short-lived climate pollutants” may determine how soon these impacts occur.



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Greenhouse Gas Inventory Protocols

Emission sectors for consideration

1. Energy

- A. Fuel Combustion
- B. Fugitive Emissions
- C. Imported Electricity
- D. Imported Fossil Fuels

2. Industrial Processes and Product Use

- A. Mineral Industry
- B. Chemical Industry
- C. Metal Industry
- D. Electronics Industry
- E. Ozone Depleting Substance Substitutes
- F. Other

3. Agriculture

- A. Enteric Fermentation
- B. Manure Management
- C. Agricultural Soils
- D. Other

4. Land Use, Land Use Change, and Forestry

5. Waste

- A. Solid Waste
- B. Waste Incineration
- C. Wastewater

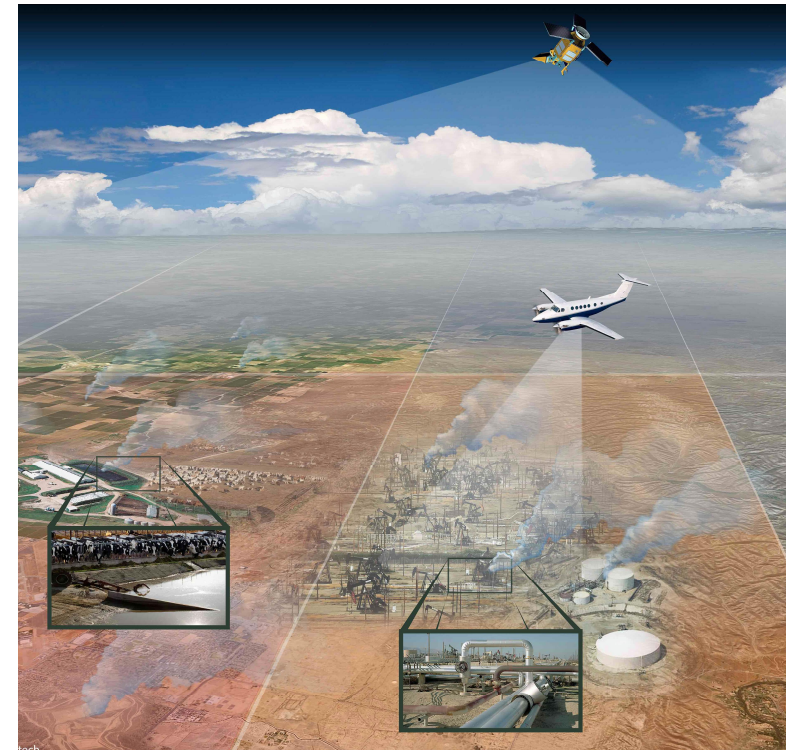


Greenhouse Gas Inventory Protocols

<https://methane.jpl.nasa.gov>

Top-Down vs. Bottom-Up

- Relative terms
- For large jurisdictional inventories:
 - Top-down** = atmospheric observations or models
 - Bottom-up** = local activity data, emission factors
- Ultimate goal is to reconcile these and to be comprehensive



Thanks!

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