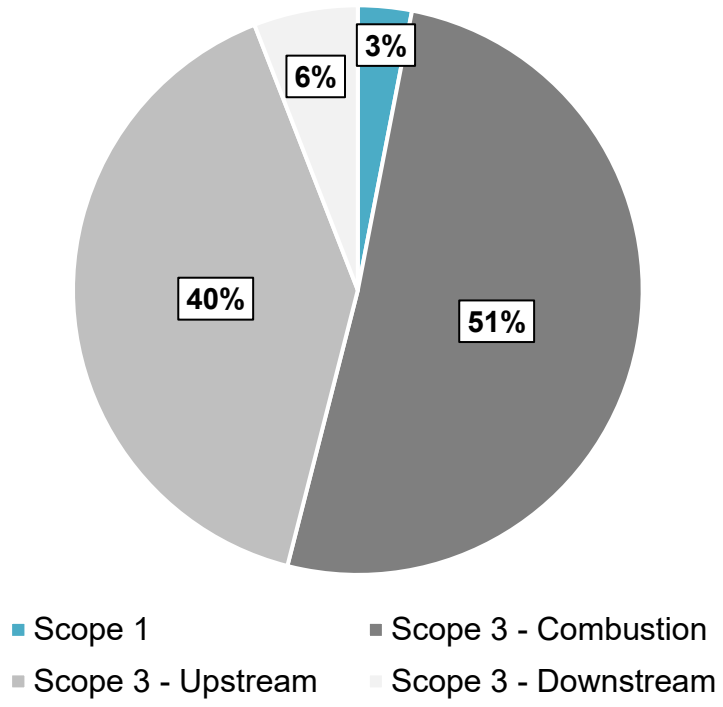
Con Edison and O&R GHG Emissions Accounting for Gas System Long-Term Plan

As of: 10/4/23

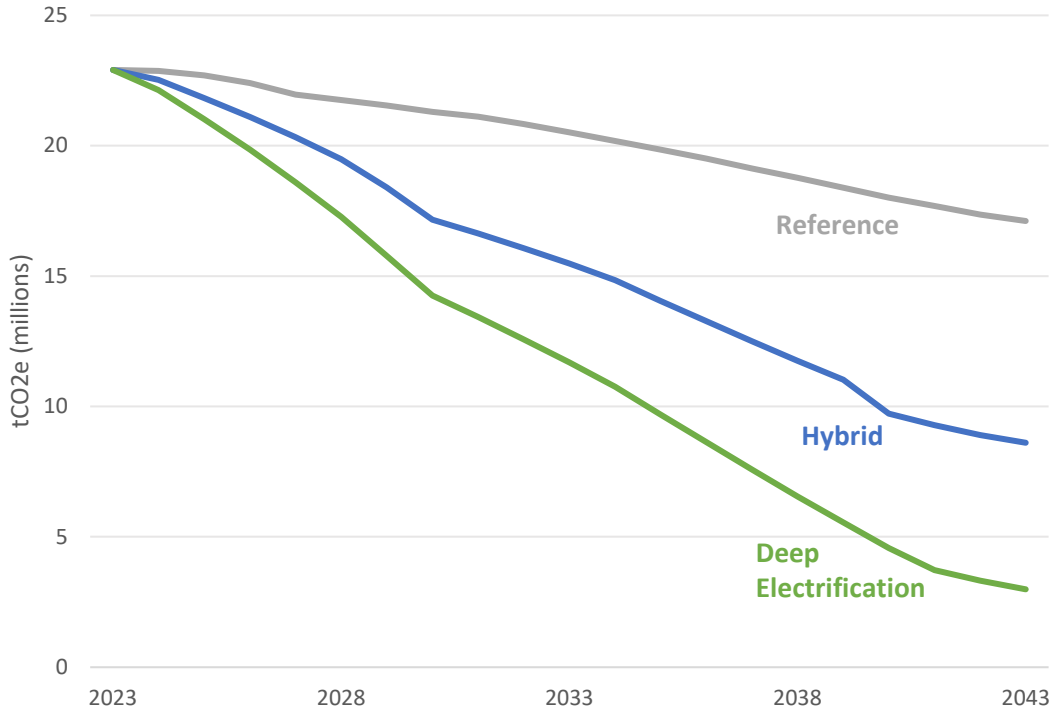
Gas Sector GHG Emissions

97% of the Company's gas sector emissions come from scope 3; over time, emissions are projected to decrease due to reduced volumes, introduction of low-carbon fuels, and continued methane leak reduction on our system

2023 Gas Sector GHG Emissions



Gas-Sector Emissions by Pathway



Sources: Con Edison Sustainability Report, NYS GHG Inventory, Gas System Long-Term Plan (9/22/23)

Scope 3 Emissions Accounting Methodology

To calculate Scope 3 emissions, the Companies used readily available information, primarily from the NYS GHG inventory and the CAC's Integration Analysis, to develop emissions factors for each fuel type

Fossil Gas	Emissions Factor Assumed (gCO_2e/MMBTU, GWP20)	Source	Rationale
Upstream (Not Certified)	41,671	NYS GHG Inventory: Appendix, Table A1	Align with CLCPA accounting
Upstream (Certified)	22,215	Joint Utilities' Proposal For an Annual Greenhouse Gas Emissions Inventory Report (Case 22-M-0149)	Estimated potential savings compared to the factor used in the NYS GHG inventory
Downstream	6,145	NYS GHG Inventory: Appendix, Table A3	Align with CLCPA accounting
Combustion	52,915	CAC Integration Analysis; Technical Supplement Annex 1	Align with CLCPA accounting

Renewable Natural Gas	Emissions Factor Assumed (gCO_2e/MMBTU, GWP20)	Source	Rationale
Upstream	0	CAC Integration Analysis; Technical Supplement Annex 1	Align with CLCPA accounting
Downstream	6,145	NYS GHG Inventory: Appendix, Table A3	Align with CLCPA accounting
Combustion	52,915	CAC Integration Analysis; Technical Supplement Annex 1	Align with CLCPA accounting

Clean Hydrogen	Emissions Factor Assumed (gCO_2e/MMBTU, GWP20)	Source	Rationale
Upstream	0	CAC Integration Analysis; Technical Supplement Annex 1	Align with CLCPA accounting
Downstream	0	Not included in NYS GHG inventory, assumed to be 0	
Combustion	0	CAC Integration Analysis; Technical Supplement Annex 1	Align with CLCPA accounting

Scope 1 Emissions Accounting Methodology

Fugitive methane on our gas system is assumed to be the major driver of scope 1 emissions for the Companies; as a result, it is assumed that the scope 1 emissions rate reduces proportionately as MRP is completed

Existing Pipe Inventory

miles of gas main	CECONY	O&R	Emissions Rate (scf/hour/mile)
Unprotected Steel	788	90	12.58
Cast Iron	881	0	27.25
Plastic	2,404	1,228	1.13
Protected Steel	335	566	0.35
Total	4,408	1,884	--

Leak-Prone Pipe

Source: EPA, Table W-7 to Subpart W of Part 98 - Default Methane Emission Factors for Natural Gas Distribution

Methodology

- Use existing pipe inventory to estimate % of inventory that is leak-prone
- Use emissions rates, existing pipe inventory, and today's reported scope 1 emissions to estimate scope 1 emissions rate post-MRP
- Straight-lines reduction in emissions rate between today and estimated MRP completion date
- Note: due to higher mileage of gas mains per MMBTU of gas delivered, O&R will have a higher gCO_2e/MMBTU than CECONY once leak-prone pipe replacement is completed

Scope 1 Emissions Rate

(gCO_2e/MMBTU, GWP20)	Today	Post-MRP
CECONY	3,665	502
O&R	2,103	1,288