Liberty Utilities (St. Lawrence Gas) Corp.

Long-Term Plan Technical Conference

Docket No: 24-G-0630

March 6, 2025

Mark Murray, President

Liberty™

Agenda

1. Introduction
2. Guiding Principles and Reference Case
3. Liberty SLG's Preferred LTP
   - Preferred Plan
   - Emissions Reductions
   - Cost and Bill Impacts
   - Benefit-Cost Analysis
4. LTP Implementation
5. Q&A

Introduction

Members of the Liberty SLG LTP Team

Mark Murray
President

John Rilett
VP, Business Model & Technology Pathways

Erica Menard
Senior Director, Rates & Regulatory Affairs

Kimberly Dragoo
Director, Key Accounts & Energy Programs

Josh Tilbury
Director, Energy Procurement

Dan Burke
Director, Operations

Carolyn O'Connor
Director, Government Affairs

Christine Downing
Director, Customer Experience

Kimberly Baxter
Senior Manager, Rates & Regulatory Affairs

Ryan Hayes
Senior Manager, Engineering & Resource Planning

Long-Term Plan Proceeding Timeline

Liberty SLG Proceeding Timeline

Major Milestones	Timeline
Pre-Filing Information Session	January 8, 2025
Initial Long-Term Plan Filing	January 31, 2025
Technical Conference	March 6, 2025
Independent Consultant Report	~75 days after Initial LTP Filing, mid-April 2025
Stakeholder Initial Comments	~30 days after Consultant Report, mid-May 2025
Reply Comments	~14 days after Initial Comments, late-May 2025
Final Long-Term Plan Filing	~30 days after Reply Comments, late-June 2025

- Liberty SLG LTP Website: www.stlawrencegas.com/new-york-gas-long-term-plan

Liberty SLG Initial LTP Filing

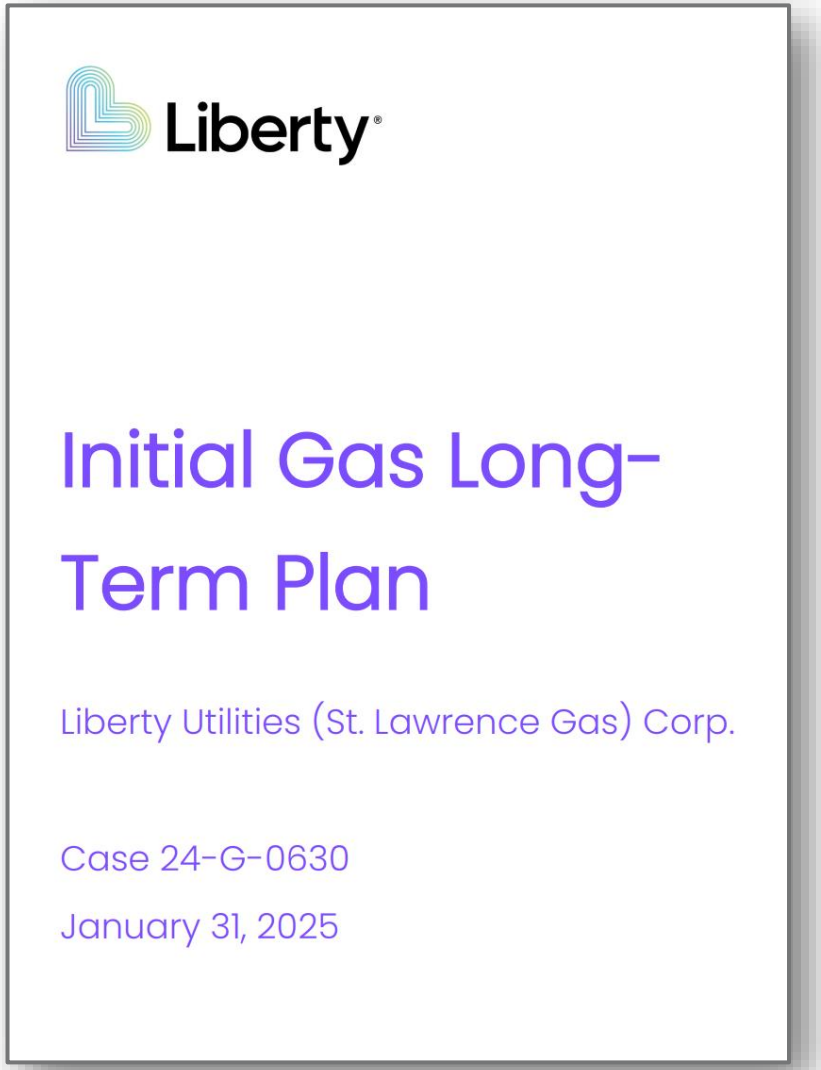
Executive Summary *(11 pages)*

Report *(Background and Narrative Description of Preferred LTP, 72 pages)*

I. Introduction
II. Service Area Characteristics
III. Reference Case
IV. Methodology and Results
V. Conclusions and Implementation Actions

Appendices *(Supporting Documentation, Inputs/Outputs, 110 pages)*

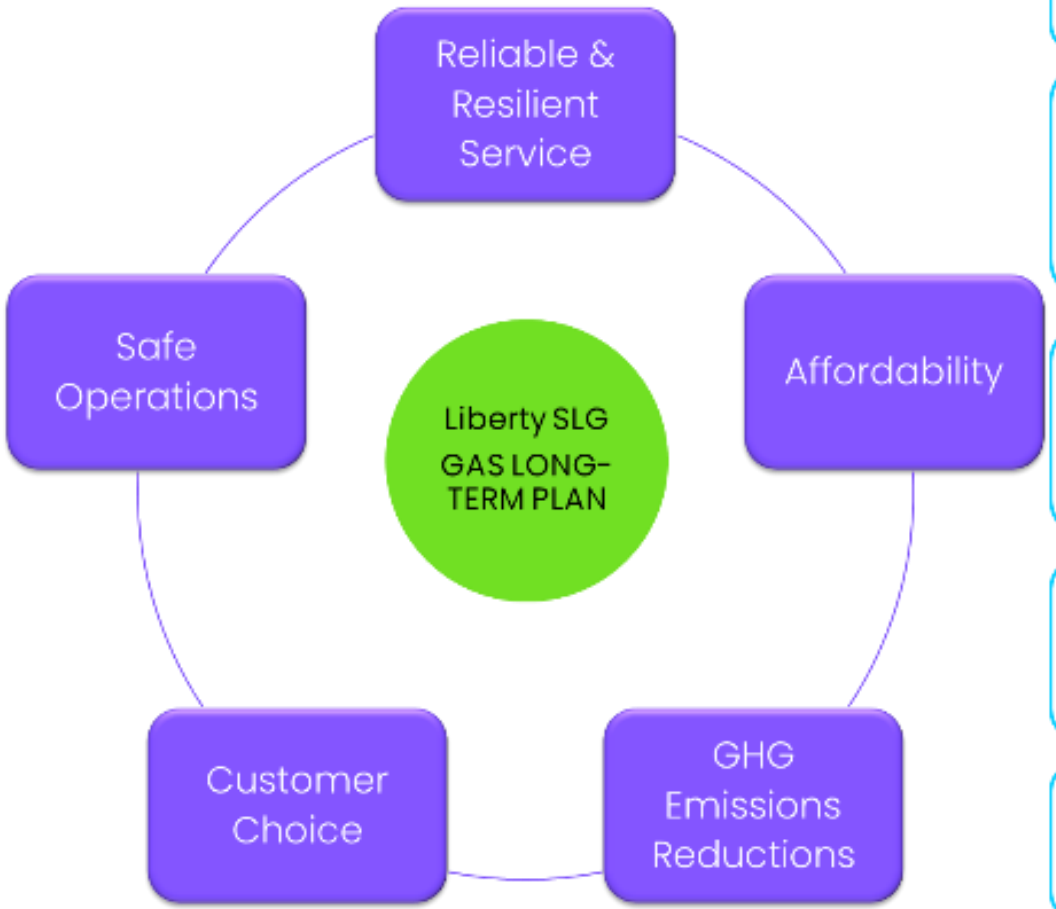
A. Modeling of Decarbonization Actions
B. Energy Prices
C. Benefit Cost Analysis Methodology
D. LTP Modeling Outputs
E. Reference Case



LTP Ref: pp. i-ii

Guiding Principles and Reference Case

Liberty SLG's Guiding Principles



Safe Operations: Meet or exceed all applicable safety regulations, policies, and procedures to assure safe operations of the energy system.

Reliable & Resilient Service: Maintain reliable delivery and supply service to all customers throughout the year, including on the coldest days. Promote energy system resilience by anticipating, responding to, and recovering from disruptions while minimizing the impact on customers.

Affordability: Plan and operate the network, acquire energy supplies, and pursue environmental objectives as efficiently as possible to maintain affordability, with particular attention to the needs of LMI customers and DACs.

GHG Emissions Reductions: Propose, design, and execute climate actions to achieve responsible, meaningful, and sustained GHG emissions reductions.

Customer Choice: Preserve customer choice regarding customer-sited energy investments and energy usage, consistent with legislative and regulatory mandates.

LTP Ref: pp. 5-6

Commitment to GHG Emissions Reductions

- **Liberty SLG has already taken several actions to materially reduce GHG emissions:**
  - **Extension into Franklin County**
    - Approximately 650 customers have converted from higher-emitting fuels such as oil or propane to cleaner natural gas
    - Reduces GHG emissions by 19%-38% per home depending on previous fuel type
  - **RNG Projects Capturing Waste Methane from Dairy Industry**
    - Up to 1,800 MMBtu/day blended into Liberty SLG's system as of end of 2024
  - **Hydrogen Pilot**
    - Use an electrolyzer to produce green hydrogen, which is then blended into the natural gas system at Liberty SLG headquarters
    - Additional phases have been outlined
  - **Hybrid Heating Pilot proposed in rate case (Nov. 2024)**
    - Provide incentives to convert existing homes with natural gas, oil, or propane heating to a gas/electric hybrid heating system
    - If approved, the program will be rolled out over three years and will reduce GHG emissions by an estimated 8,000 metric tons CO2e over the life of the equipment.

LTP Ref: pp. 4, 26-27

Reference Case

- Slight demand growth year over year due to estimated growth in customers (mainly residential class)

- 13.6% emissions reduction from 1990 to 2025, mostly due to reduction in demand from end-use customers

Figure III-2: Liberty SLG Total System Firm Peak Day Capacity and Design Day Demand (MCF)

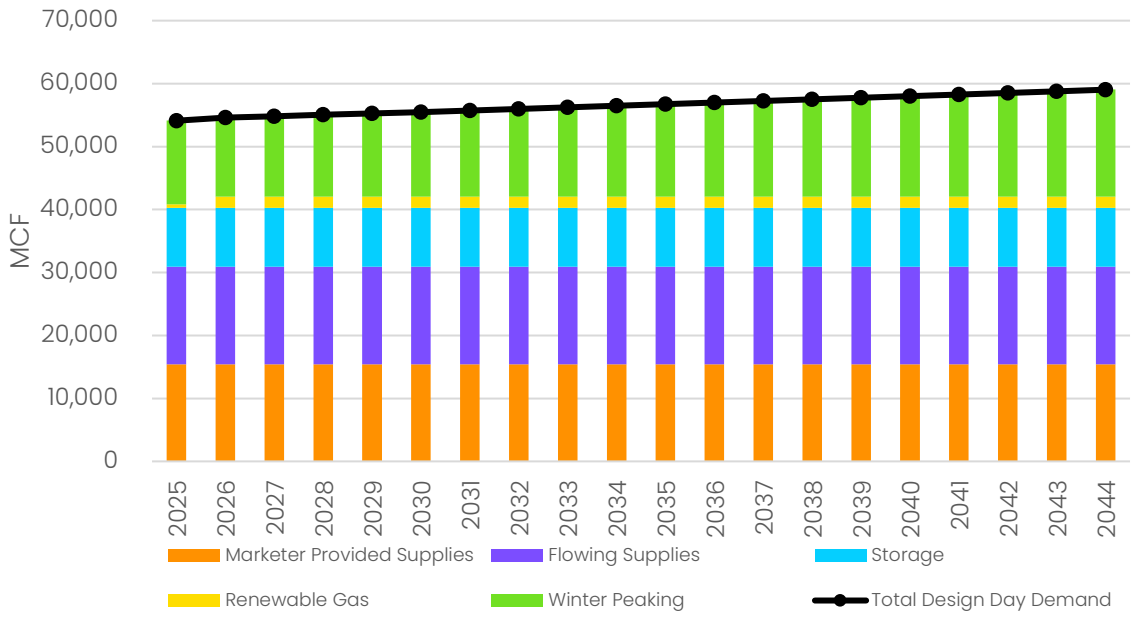
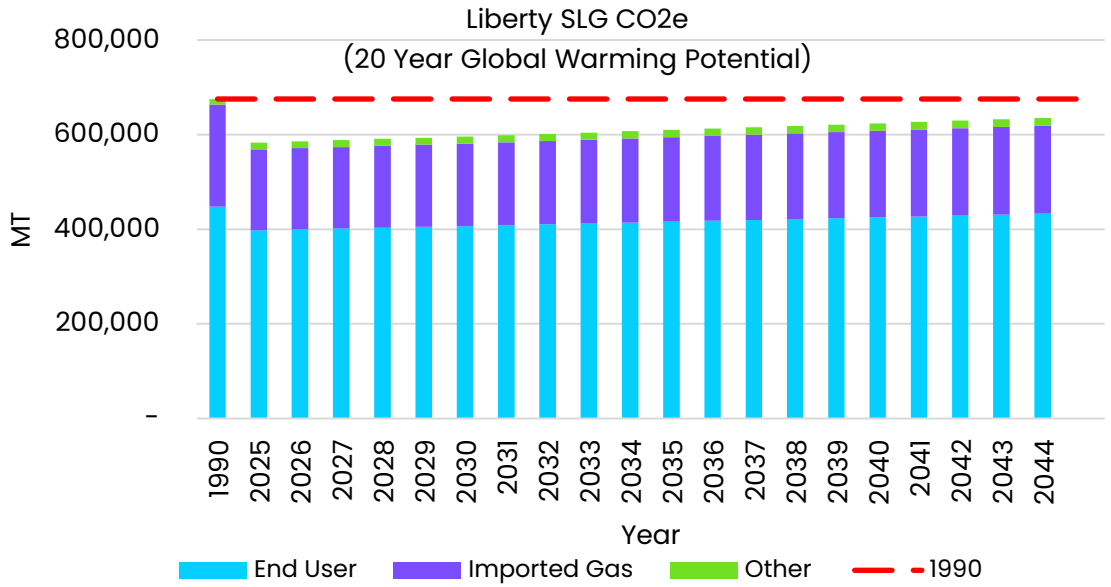


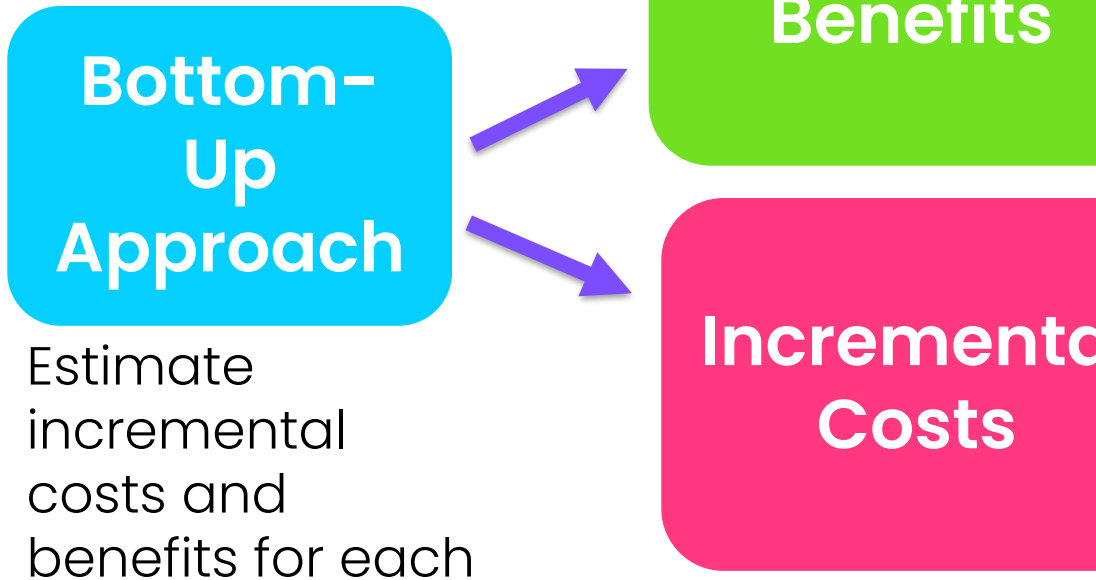
Figure III-4: Liberty SLG Reference Case GHG Emissions



LTP Ref: pp. 32-40; Appendix E

Liberty SLG's Preferred LTP

Bottom-Up Modeling Approach



- Decreased emissions per participating customer
- Decreased emissions per unit of RNG or hydrogen

- Equipment costs
- Changes in energy bill per participating customer
- Incremental cost above conventional supplies for RNG, hydrogen

Estimate incremental costs and benefits for each decarb action

LTP Ref: pp. 42, 61-62

Liberty SLG's Preferred LTP

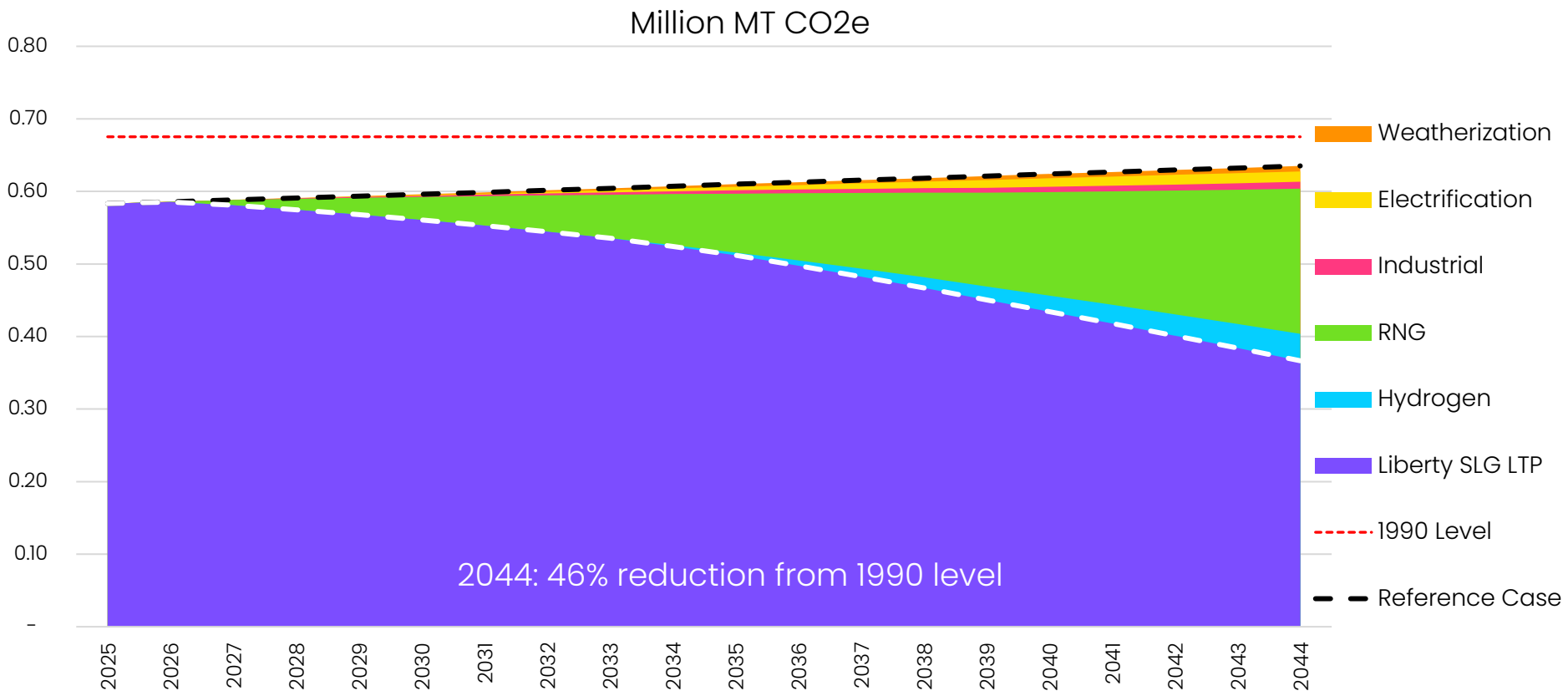
- Liberty SLG plans to pursue the following decarbonization actions, contingent upon Commission approval of its LTP.

	Action	Long-Term Plan
1	**Weatherization** Install building envelope weatherization measures (e.g., insulation) to reduce energy use.	• Residential: 1% of homes/year. • Commercial: 0.25% incremental heat load reduction/year.
2	**Electrification** Install hybrid heating systems (air source heat pumps paired with gas furnaces) to reduce natural gas use and increase electric use	• All segments convert customers with furnaces to hybrid heating systems (standard ASHP paired with gas furnace) at equipment end-of-life (Boilers: No conversions) • Residential: Pace ramps up at 5.4%/year until it reaches a peak of 75% • Commercial: Pace ramps up at 2.1%/year until it reaches a peak of 30%
3	**Industrial Customer Programs** Increase energy efficiency of natural gas use in process loads	• Energy Efficiency of Process Load: 0.25% process load reduction/year
4	**RNG** Replace traditional natural gas with RNG from existing biogas feed sources	• Add new RNG supplies (including attributes) starting in 2027, increasing linearly to Optimistic Growth level of RNG by 2044 (limited to animal manure within the Company's service territory). Assume procurement of attributes from existing RNG projects starting in 2027, increasing linearly to 100% of physical RNG in 2044.
5	**Hydrogen** Replace traditional natural gas with green hydrogen blended into the distribution system	• 2034 start, blend incremental 1.0%/year, increasing to 2.0%/year in 2036 to max hydrogen blend of 20% by volume by 2044.

LTP Ref: pp. 48-60

Liberty SLG's Preferred LTP – GHG Emissions Reductions

Preferred LTP GHG Emission Reductions



LTP Ref: pp. 60-61

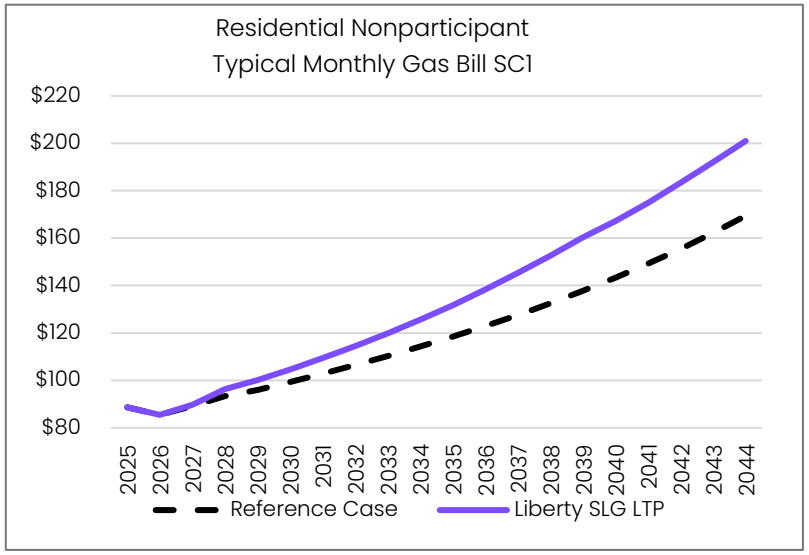
Liberty SLG's Preferred LTP – Costs

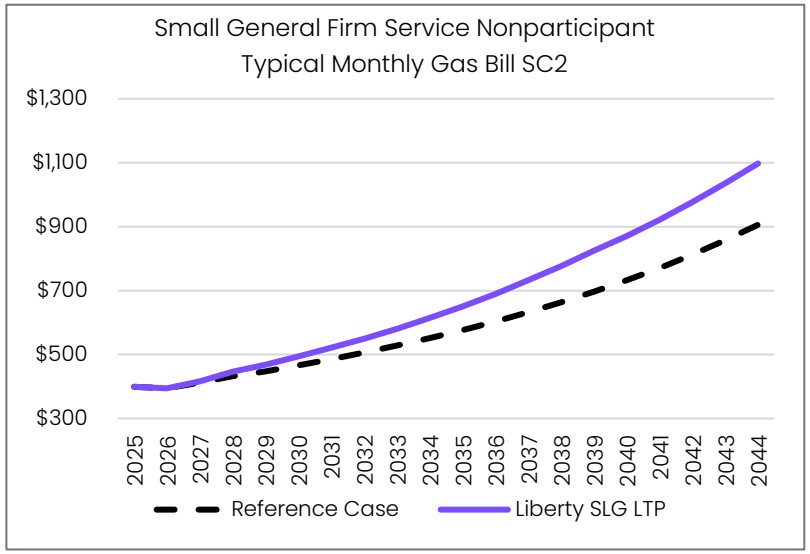
	Preferred LTP		
	$/MT CO2e	2044 CO2e (000s MT)	Total Cost NPV ($M)
Reference Case	n/a	635	n/a
Weatherization			
Residential	$258	(3)	$3.1
Commercial	$311	(4)	$5.0
Electrification			
Residential	$790	(9)	$22.0
Commercial	$786	(5)	$12.2
Industrial			
Process Energy Efficiency	$292	(10)	$10.1
RNG	$229	(200)	$153.8
Hydrogen Enriched Natural Gas	$184	(37)	$12.8
Scenario Total	$258	367	
Change from Ref Case		(269)	$218.9
% Change from 1990 Level		-46%	

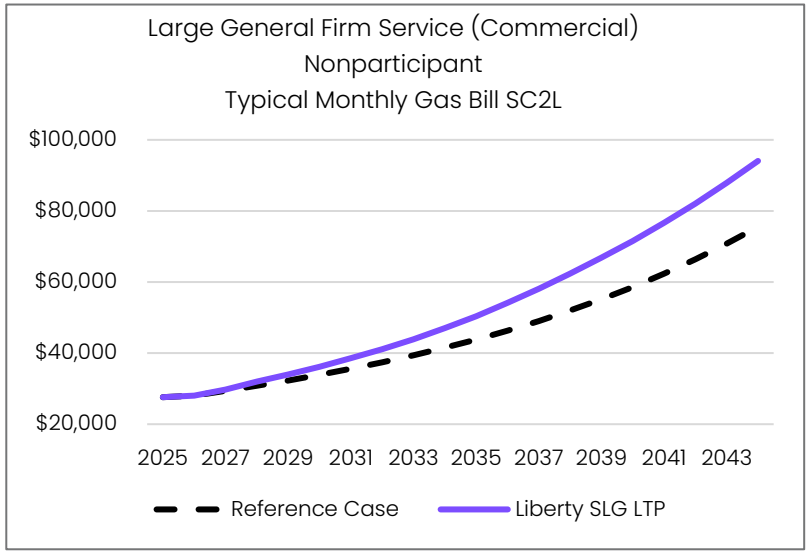
Liberty SLG's Preferred LTP achieves significant emissions reductions and emphasizes decarbonization actions that are more cost effective.

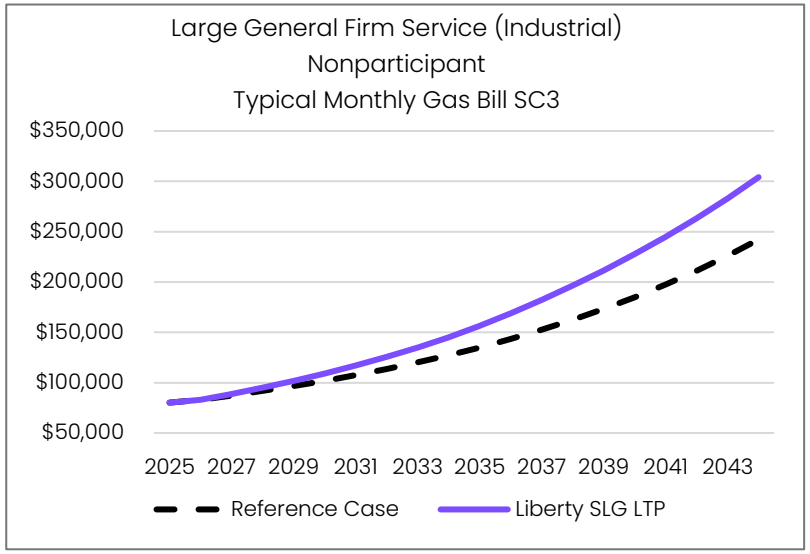
LTP Ref: pp. 61-63

Liberty SLG's Preferred LTP – Bill Impacts









LTP Ref: pp. 63-64; Appendix B

Liberty SLG's Preferred LTP – BCA Results

Benefit Cost Analysis – NPV ($000) (Discount Rate 6.66%)	SCT	UCT	RIM
Benefit: Avoided Gas Costs	(34,396)	(34,396)	(34,396)
Benefit: Avoided Emissions, Societal Cost	(70,418)	N/A	N/A
Total Benefit ($000)	(104,815)	(34,396)	(34,396)
Cost: Incremental Electricity	11,923	N/A	N/A
Cost: Weatherization	10,040	7,419	7,419
Cost: Weatherization - Federal & State Incentive	1,818	N/A	N/A
Cost: Weatherization – Utility Incentive	7,419	7,419	7,419
Cost: Weatherization – Participant Customer	803	N/A	N/A
Cost: Net Installed	33,676	10,227	10,227
Cost: Net Installed - Federal & State Incentive	10,696	N/A	N/A
Cost: Net Installed - Utility Incentive	10,227	10,227	10,227
Cost: Net Installed – Participant Customer	12,753	N/A	N/A
Cost: Hydrogen	19,106	19,106	19,106
Cost: RNG Production	173,950	173,950	173,950
Cost: Lost Utility Revenue - Base Distribution	N/A	N/A	4,865
Cost: Lost Utility Revenue - Pipeline and Storage Fixed Costs	N/A	N/A	902
Cost: Increased Emissions, Societal Cost	71	N/A	N/A
Total Cost ($000)	248,767	210,703	216,469
Benefit/Cost Ratio	0.42	0.16	0.16

LTP Ref: pp. 64-67; Appendix C

LTP Implementation

Implementation Actions

Implement and Expand Pilot Programs

- Hybrid heating system pilot (expand to include C&I and more residential customers)
- Hydrogen blending pilot: continue hydrogen use in Company building & implement additional phases

Design, Propose, and Implement Customer and Supply Programs

- Weatherization programs (for residential, commercial, and industrial customers)
- Refine RNG procurement and cost recovery to include the purchase of environmental attributes
- Modify 3rd-party marketer Ts & Cs to accommodate flow of additional RNG and hydrogen

Engage, Communicate, and Collaborate

- Stakeholders in the ongoing Gas Planning Proceeding
- Customers regarding Liberty SLG's LTP and its implications
- Industrial customers to understand decarbonization opportunities, plans, and unique challenges
- Electric utilities in Liberty SLG's service territory regarding opportunities for coordination of planning activities

These actions are contingent upon Commission approval.

LTP Ref: pp. 69-70

Key Drivers are Somewhat Uncertain

- Customer acceptance of fuel source and equipment technologies

- Regulatory actions related to the CLCPA legislation over the next 20 years
  - Emission reduction targets
  - Gas distribution system rates and development

- Evolution of New York energy policy regulation
  - Allowing the cost of RNG and hydrogen to be recoverable
  - Policies that mitigate up-front conversion costs at customer premises

- Technology advancement for heat pumps, RNG, and hydrogen

- Market conditions – workforce, supply-chain, economics, global energy stability

The **three-year LTP cycle** prescribed in the Gas Planning Order provides for comprehensive updates that reflect new information related to all these uncertainties in future LTPs.

Key Takeaways

Liberty must provide safe, reliable, and affordable energy to all customers

The Preferred LTP contributes to a meaningful reduction in GHG emissions

- The Preferred LTP reduces GHG emissions by 46% from 1990 levels
- Prioritizing relatively cost-effective decarbonization actions helps mitigate affordability concerns

It is important to preserve customer choice for energy investments and energy usage

The Company will continue to monitor developments associated with other LDC's decarbonization actions, such as UTENs and Carbon Capture


Q&A