



In the Community to Serve®



2023 - Annual Conservation Plan

Acronym Key

AEG- Applied Energy Group	JUARC- Joint Utility Advanced Rooftop Control
AFUE- Annual Fuel Utilization Efficiency	LDC- Local Distribution Companies
BCP – Biennial Conservation Plan	LoadMAP- Load Management Analysis and Planning
C/I- Commercial/Industrial	MDUG- Montana Dakota Utilities Group
CAG- Conservation Advisory Group	MI – Missing Information
CBSA- Commercial Building Stock Assessment	MOU- Memorandum of Understanding
CEC- Community Energy Challenge	NEEA- Northwest Energy Efficiency Alliance
CEEP- Community Energy Efficiency Programs	NEI- Non-Energy Impacts
CNGC- Cascade Natural Gas Corporation	NFRC- National Fenestration Rating Council
CPA- Conservation Potential Assessment	NGAC- Natural Gas Advisory Committee
CRTU- Condensing Rooftop Unit	NWPCC- Northwest Power and Conservation Council
CY- Calendar Year	POS- Point of Sale
DBtC- Direct Benefit to Customers	PRSV- Pre-Rinse Spray Valve
DCV- Demand Control Ventilation	PUI- Public User interface
DHW- Domestic Hot Water	PUX- Public User Experience
DOE- Department of Energy	QI – Quality Inspection in-person, onsite
DSM- Demand Side Management	QV – Quality Verification, remote software
EE- Energy Efficiency	RCW – Revised Code of Washington
EEIP- Energy Efficiency Incentive Programs	RBSA- Residential Building Stock Assessment
eM&V- Inhouse evaluation Measurement and Verification	RTF- Regional Technical Forum
EM&V- Third party Evaluation Measurement and Verification	RTU – Roof Top Units
ESAP- Energy Savings Action Plan	RVT- Resource Value Test
ESK- Energy Saving Kit	SBCC - State Building Code Council
ESR- Energy Service Representatives	SC- Sustainable Connections
EUI – Energy Use Intensity	SCC- Social Cost of Carbon
EWIP- Enhanced Low-Income Weatherization Incentive Program	SEM- Strategic Energy Management
FE- Fireplace Efficiency	SHGC- Solar Heat Gain Coefficient
GEP- Global Energy Partners, LLC	SIR- Savings to Investment Ratio
GHPWH – Gas Heat Pump Water Heater	SPIF – Short Term Incentive Fund
GHG – Greenhouse Gas Emissions	SWAG- Statewide Advisory Group
gpm- gallons per minute	TA- Trade Ally
GTI- Gas Technology Institute	TE- Thermal Efficiency
HB- House Bill	TRC- Total Resource Cost
HBA- Home Builders Association	TRC Companies – Third party C/I business development
HDD- Heating Degree Days	TREAT- Targeted Residential Energy Analysis Tool
HEPA- High-efficiency particulate Air (filter)	UEF- Uniform Energy Factor
HTR- Hard to Reach	UCT- Utility Cost Test
HVAC- heating, ventilation, air conditioning	WACC- Weighted Average Cost of Capital
IECC- International Energy Conservation Code	WIP- Low-Income Weatherization Incentive Program
IRP- Integrated Resource Plan	WSEC- Washington State Energy Code
	WUTC- Washington Utilities and Transportation Commission
	WWU – Western Washington University



1. Introduction

Cascade Natural Gas Corporation (Company, Cascade, or CNGC) submitted its first Biennial Conservation Plan (BCP) under Docket UG-210838¹ in consultation with its Conservation Advisory Group (CAG) as a roadmap to the 2022 and 2023 Energy Efficiency (EE) Program strategy. This plan aligned with requirements from House Bill (HB)-1257 within RCW [80.28.380](#) which include:

- a. Gas companies must identify and acquire all conservation measures that are available and cost effective
- b. In addition, each company must establish an acquisition target every two years and must demonstrate the target will result in the acquisition of all resources identified as available and cost-effective
- c. The cost-effectiveness analysis required by this section must include the costs of greenhouse gas emissions established in [RCW 80.28.395](#).
- d. These targets must also be based on a Conservation Potential Assessment (CPA) prepared by an independent third party and approved by the Commission to become effective as of 2022

In addition to the 2022/2023 BCP the Company is filing a brief update to the initial 2-year plan to comply with Order No. 04 issued in UG-155286 (Rate Case Order)². Per the settlement agreement the Company shall include:

- a. The Company's conservation target for the ensuing year by program and customer class
- b. The projected budget by program and customer class
- c. An estimate of the portfolio's cost effectiveness
- d. The programs and measures that the Company will employ to achieve its target
- e. A list of all measures offered under the conservation programs and the unit energy savings values and customer incentives for each

Much of what was addressed in the 2022/2023 BCP remains pertinent in the second year of the biennium, although impact from legislation and code changes enacted earlier in the biennium will likely have greater impact throughout 2023. The Company's 2022 outlook anticipated environmental headwinds and building standards and codes which may disincentivize natural gas use as a focus of decarbonization efforts. Pressure to adapt traditional EEIPs (Energy Efficiency Incentive Programs) to accommodate Greenhouse Gas (GHG) emission reductions and a widespread focus on electrification over improvement of efficient gas technologies continue to offer challenges which require unique

¹ Cascade Natural Gas Corporation: Docket UG-210838 CNGC 2022-2023 BCP Plan

² Cascade Natural Gas Corporation: Docket UG-152286 Joint Settlement Agreement: Page 7 Paragraph 21



solutions and collaboration with industry partners.

The BCP discusses savings potential for the Company’s Washington (WA) service territory through its Load Management Analysis and Planning (LoadMAP) modeling tool provided by Applied Energy Group (AEG).

2. Program Targets from the Biennial Conservation Plan

Note the following goals and budgets are taken directly from the BCP. The Company will address the delta between 2022 actuals and progress to the BCP goals in a separate section of this update.

Table 1: EEIP Annual Goals

	Calendar Year 2023			
	Residential	C/I	Low Income	2nd year Totals
Cascade Admin Budget¹	\$1,404,670	\$1,609,349	\$67,296 ³	\$3,081,314
Therm Targets²	507,695	537,858	19,665	1,065,218
NEEA Natural Gas Market Transformation				\$348,908
Regional Technical Forum				\$31,300
Evaluation, Measurement & Verification				\$70,000
Conservation Potential Assessment				\$160,000

¹ Budgets in this table are estimates and refer to administrative costs for program implementation, not rebates

² Therm targets have been developed with LoadMAP through the 2020 CPA Phase 2

³ Represents Cascade staff & outreach for Low-income program delivery and does not include payments for agency overhead

3. Projected Budget for 2023 from the Biennial Conservation Plan

Cascade provided a detailed program budget for 2023 within the Company’s BCP³. Table 2 in this Annual Conservation Plan notes an abridged version of this budget for quick reference. Please note this does not account for changes to costs based on recent inflation which may necessitate higher administrative costs to deliver the program than previously anticipated.

³ Cascade Natural Gas Corporation: UG-210838 Exhibit 1 Table E1.2 – Program Budget Detail for 2023 pg. E1-5



Table 2: Abridged 2023 Program Budget

Program Budgets	
Incentive Estimates	
Program	CY 2023
Residential	\$4,711,663
Commercial/Industrial	\$3,146,469
Low Income	\$1,858,614
Total Incentives	\$9,716,747
Non-Incentive/CNGC Program Implementation Expenses	
Program	CY 2023
Residential	\$1,404,670
Commercial/Industrial	\$1,609,349
Low Income	\$67,296
Portfolio Admin Total	\$3,081,314
Portfolio Admin Expenses Breakout:	
<i>Labor</i>	\$896,788
<i>Third Party Commercial/ Industrial Program Mgmt.</i>	\$1,356,787*
<i>Annual Software fees</i>	\$219,687
<i>Outreach / Pilots / Trade Ally / Quality Control</i>	\$552,994
<i>Other</i>	\$55,059
Total Incentives	\$9,716,747
Portfolio Admin Total (Included from above)	\$3,081,314
Regional Collaboration	\$380,208
Evaluation, Measurement & Verification	\$70,000
Conservation Potential Assessment (CY 2024/2025)	\$160,000
Total Portfolio Expense	\$13,408,270

*Budget includes \$200,000 for C/I pilots that may have been omitted from initial BCP table

4. Estimated 2023 Portfolio Cost Effectiveness

The Company works with the CAG to evaluate its programs through the lens of the Utility Cost Test (UCT) and the Total Resource Cost (TRC) test in its Conservation Plans and Annual Report. Cascade has incorporated the TRC in its model, in addition to the UCT, and is reporting achievements under both parameters. Further information on TRC valuation and calculations within the LoadMAP model can be reviewed in the Company's 2020 CPA. Definitions of potential are available in the BCP Appendix and program cost effectiveness estimates developed for the BCP are available within the workpapers filed



with the latest BCP.⁴

The 2023 UCT was estimated at 2.305 and the TRC was estimated at 1.834. These estimates assumed the Company achieves all targets. It is important to caveat the program’s cost-effectiveness is dependent on individual customer actions and equipment availability. While the Company tries to influence customers through messaging and public outreach, the final cost-effectiveness is measured once the program year is closed and reported through the Annual Conservation Report filed in June. Table 3 notes the estimated UCT and TRC for the 2023 program year.

Table 3: Estimated 2023 Cost Effectiveness

CY 2023		
PROGRAM	UCT COST RATIO	TRC COST RATIO
RESIDENTIAL	1.706	1.181
COMMERCIAL	2.871	2.451
PORTFOLIO TOTAL	2.305	1.834

5. Programs and Measures to Achieve Targets

Section 3.1, and 3.1.6 of the 2022/2023 BCP, as well as Exhibit 1, noted various efforts and program offerings the Company would employ to deliver its incentive offerings in 2023. Cascade will continue the planned projects and increase efforts related to outreach and direct customer engagement to offset the delta between 2022 savings achievements and biennial goal requirements. Some of these efforts include:

- Custom residential program offerings to capture savings identified through the CPA but not viable at an administrative level in the prescriptive program
- New Home Residential Air Sealing Pilot
- Home Energy Report Behavioral Pilot for residential customers
- Trade Ally Connect online portal and software tool implementation
- Increase Point of Sale participation and use by contractors to streamline processing, reduce administrative burden and help remove upfront cost barriers
- Improve Public User Experience online residential rebate application portal
- Increase in person engagement post COVID for all programs
- Explore revision of the Low-Income Program tracking and seek to streamline paperwork requirements to increase participation

⁴ Cascade Natural Gas Corporation: UG-210838, CNGC-2022-2023-BCP-Portfolio-Level UCT-TRC-WP 11-01-21. 2023 & Summary Tab



- Review current individual therm savings estimates for each allowed Low-Income weatherization measure in the Weatherization Incentive Program and Enhanced Weatherization Incentive Program and make updates as appropriate based on AEG’s most recent modeling. This true-up will help better ensure deemed numbers are drawn from the most current building stock, baseline usage, and incremental savings estimates available
- Explore Big Box store Point of Sale discount program for targeted underserved customers
- Continued partnership with NEEA, regional utility partners and the National Gas Heat Pump Collaborative to help bring high-efficiency natural gas heat pumps to the local market
- Focus on Commercial building owners and support for Clean Buildings Act requirements
- Evaluation Measurement & Verification of measure offerings for the Commercial Program
- C/I Strategic Energy Management
- C/I SPIF (short term sales incentive fund) for HVAC Contractors in Zone 3
- Key Account management focus

6. List Measures Offered through the EE Programs

The following measures are currently offered through the Company’s EEIPs, as noted in Exhibit 1 of the BCP. Table 4 lists Residential program offerings and Table 5 notes prescriptive Commercial/Industrial program offerings. Custom offerings for the C/I program are also provided on a project-by-project basis.

Table 4: Residential Energy Efficiency Measures

Measure Name	Zone	Efficiency	Annual Therm Savings	Rebate	Units
Energy * Certified Home (BOP 1)	1	Certified HERS 75	52.89	\$600.00	Per home
Energy * Certified Home (BOP 1)	2	Certified HERS 75	51.72	\$600.00	Per home
Energy * Certified Home (BOP 1)	3	Certified HERS 75	48.51	\$600.00	Per home
Built Green Certified Home	1	Certified from one to five stars	29.11	\$600.00	Per home
Built Green Certified Home	2	Certified from one to five stars	29.11	\$600.00	Per home
Built Green Certified Home	3	Certified from one to five stars	29.11	\$600.00	Per home
95% AFUE Gas Furnace (New & Existing)	1	95% AFUE	94.58	\$650.00	Per unit
95% AFUE Gas Furnace (New & Existing)	2	95% AFUE	95.62	\$650.00	Per unit
95% AFUE Gas Furnace (New & Existing)	3	95% AFUE	83.8	\$650.00	Per unit
98+% Annual Fuel Utilization Efficiency (AFUE)	1	98% AFUE	113.5	\$900.00	Per unit
98+% Annual Fuel Utilization Efficiency (AFUE)	2	98% AFUE	114.74	\$900.00	Per unit



Measure Name	Zone	Efficiency	Annual Therm Savings	Rebate	Units
98+% Annual Fuel Utilization Efficiency (AFUE)	3	98% AFUE	100.56	\$900.00	Per unit
Natural Gas Hearth (Fireplace) – 70% FE Hearth	1	70% FE	56	\$300.00	Per unit
Natural Gas Hearth (Fireplace) – 70% FE Hearth	2	70% FE	56	\$300.00	Per unit
Natural Gas Hearth (Fireplace) – 70% FE Hearth	3	70% FE	57	\$300.00	Per unit
High-Efficiency Exterior Entry (not sliding) Door	1	0.21 U-Factor	13	\$100.00	Per unit
High-Efficiency Exterior Entry (not sliding) Door	2	0.21 U-Factor	13	\$100.00	Per unit
High-Efficiency Exterior Entry (not sliding) Door	3	0.21 U-Factor	13	\$100.00	Per unit
Whole House Air Sealing	1	400 CFM Reduction	75	\$300.00	Per unit
Whole House Air Sealing	2	400 CFM Reduction	71	\$300.00	Per unit
Whole House Air Sealing	3	400 CFM Reduction	84	\$300.00	Per unit
Ceiling Insulation	1	R-49 Post	0.04	\$1.25	Per Sq. Ft.
Ceiling Insulation	2	R-49 Post	0.05	\$1.25	Per Sq. Ft.
Ceiling Insulation	3	R-49 Post	0.03	\$1.25	Per Sq. Ft.
Floor Insulation	1	R-30 Post	0.03	\$1.25	Per Sq. Ft.
Floor Insulation	2	R-30 Post	0.04	\$1.25	Per Sq. Ft.
Floor Insulation	3	R-30 Post	0.04	\$1.25	Per Sq. Ft.
Wall Insulation	1	R-11 Post	0.07	\$1.25	Per Sq. Ft.
Wall Insulation	2	R-11 Post	0.07	\$1.25	Per Sq. Ft.
Wall Insulation	3	R-11 Post	0.07	\$1.25	Per Sq. Ft.
High-Efficiency Combination Domestic Hot Water and Hydronic Space Heating System using pre-approved Tankless Water Heater	1	95% AFUE	148.97	\$1,500.00	Per unit
High-Efficiency Combination Domestic Hot Water and Hydronic Space Heating System using pre-approved Tankless Water Heater	2	95% AFUE	146.04	\$1,500.00	Per unit
High-Efficiency Combination Domestic Hot Water and Hydronic Space Heating System using pre-approved Tankless Water Heater	3	95% AFUE	136.17	\$1,500.00	Per unit
Programmable Thermostat	1	7 Day/5-2 Day Programmable	28.5	\$25.00	Per unit
Programmable Thermostat	2	7 Day/5-2 Day Programmable	25.75	\$25.00	Per unit
Programmable Thermostat	3	7 Day/5-2 Day Programmable	25.3	\$25.00	Per unit
Condensing Boiler	1	95% AFUE	108.78	\$900.00	Per unit
Condensing Boiler	2	95% AFUE	124.22	\$900.00	Per unit



Measure Name	Zone	Efficiency	Annual Therm Savings	Rebate	Units
Condensing Boiler	3	95% AFUE	110.66	\$900.00	Per unit
0.91 UEF Tankless Water Heater	1	0.91 UEF	64.58	\$350.00	Per unit
0.91 UEF Tankless Water Heater	2	0.91 UEF	64.22	\$350.00	Per unit
0.91 UEF Tankless Water Heater	3	0.91 UEF	63.68	\$350.00	Per unit
Windows 0.22 U-factor	1	0.22 U-Factor	0.263	\$9.00	Per Sq. Ft of glazing
Windows 0.22 U-factor	2	0.22 U-Factor	0.349	\$9.00	Per Sq. Ft of glazing
Windows 0.22 U-factor	3	0.22 U-Factor	0.349	\$9.00	Per Sq. Ft of glazing
Windows 0.30 U-factor	1	0.3 U-Factor	0.22	\$5.00	Per Sq. Ft of glazing
Windows 0.30 U-factor	2	0.3 U-Factor	0.29	\$5.00	Per Sq. Ft of glazing
Windows 0.30 U-factor	3	0.3 U-Factor	0.29	\$5.00	Per Sq. Ft of glazing
Duct Sealing	1	30% or more of supply ducts in unconditioned space	68.64	\$150.00	Per home
Duct Sealing	2	30% or more of supply ducts in unconditioned space	69.21	\$150.00	Per home
Duct Sealing	3	30% or more of supply ducts in unconditioned space	60.78	\$150.00	Per home
Duct Insulation	1	R-8 Post	0.17	\$1.00	Per linear foot
Duct Insulation	2	R-8 Post	0.17	\$1.00	Per linear foot
Duct Insulation	3	R-8 Post	0.17	\$1.00	Per linear foot
Clothes Washer	1	Energy Star Certified	7.729	\$50.00	Per unit
Clothes Washer	2	Energy Star Certified	7.729	\$50.00	Per unit
Clothes Washer	3	Energy Star Certified	7.729	\$50.00	Per unit
Prescriptive Air Sealing	1	BPA Weatherization Specifications section 4.4 or 6.2	63.75	\$150.00	Per home
Prescriptive Air Sealing	2	BPA Weatherization Specifications section 4.4 or 6.3	60.35	\$150.00	Per home
Prescriptive Air Sealing	3	BPA Weatherization Specifications section 4.4 or 6.4	71.4	\$150.00	Per home
Smart Thermostat	1	Energy Star Certified	34.197	\$75.00	Per unit
Smart Thermostat	2	Energy Star Certified	34.506	\$75.00	Per unit
Smart Thermostat	3	Energy Star Certified	30.365	\$75.00	Per unit



Table 5: Prescriptive Commercial/Industrial Energy Efficiency Measures

Measure Name	Efficiency	Annual Therm Savings	Rebate	Units
Boiler	Minimum 90% Thermal Efficiency and 300 kBtu/hr input	2.10	\$10.00	kBtu/hr
Boiler	Minimum 85% Thermal Efficiency and *** kBtu input	1.35	\$6.00	kBtu/hr
Boiler Steam Trap	Minimum 300 kBtu input and steam pressures at 7psig or greater	136.90	\$125.00	Boiler Ctrl
Clothes Washer	1.8 MEF	38.41	\$135.00	Units
Convection Oven (Grocery)	>= 44% Cooking Efficiency, <= 13,000 Btu/hr Idle Rate	368.00	\$800.00	1 unit
Convection Oven (Lodging)	>= 44% Cooking Efficiency, <= 13,000 Btu/hr Idle Rate	219.00	\$800.00	1 unit
Convection Oven (Restaurant)	>= 44% Cooking Efficiency, <= 13,000 Btu/hr Idle Rate	649.00	\$800.00	1 unit
Convection Oven (School)	>= 44% Cooking Efficiency, <= 13,000 Btu/hr Idle Rate	141.00	\$800.00	1 unit
DCV	Meet JUARC Guidelines for DCV RTUs in 5-20 ton	11.30	\$60.00	ton
DHW Recirculation Controls	Add time clock or other schedule control for continuous operation DHW recirculation pump	72.00	\$200.00	Per Bldg
Domestic Hot Water Tanks – Condensing	Minimum 91% AFUE or 91% Thermal Efficiency	3.80	\$3.00	1 kBtu/hr
Double Rack Oven	>=50% Cooking Efficiency, <=35,000 Btu/hr Idle Rate	1837.57	\$2,500.00	1 unit
Gas Conveyor Oven	>=42% Baking Efficiency	660.81	\$700.00	1 unit
Griddle (Grocery)	>=38% Cooking Efficiency, <= 2650 Btu/hr-sq ft Idle Rate	155.00	\$600.00	1 unit
Griddle (Lodging)	>=38% Cooking Efficiency, <= 2650 Btu/hr-sq ft Idle Rate	92.00	\$600.00	1 unit
Griddle (Restaurant)	>=38% Cooking Efficiency, <= 2650 Btu/hr-sq ft Idle Rate	273.00	\$600.00	1 unit
Griddle (School)	>=38% Cooking Efficiency, <= 2650 Btu/hr-sq ft Idle Rate	59.00	\$600.00	1 unit
HVAC Unit Heater – Condensing	Minimum 92% AFUE	0.89	\$1.50	kBtu/hr
HVAC Unit Heater – Non-Condensing	Minimum 86% AFUE	0.61	\$1.50	1 unit
Insulation – Attic – Min R-30	Minimum R-30	0.31	\$2.00	Sq. Ft. roof
Insulation – Attic – Min R-45	Minimum R-45	0.32	\$2.50	Sq. Ft. roof
Insulation – Floor	Equal to or greater than R-30 Post and equal to or less than R-11 Pre	0.06	\$1.25	Sq. Ft.
Insulation – Pipe – 1.5”	Retrofit for T>140F<=200F	4.60	\$15.00	boiler pipe
Insulation – Pipe – 2.5”	Retrofit for T>200F	12.00	\$25.00	employee



Measure Name	Efficiency	Annual Therm Savings	Rebate	Units
Insulation – Roof – Min R-21	Minimum R-21	0.35	\$2.00	Sq. Ft. roof
Insulation – Roof – Min R-30	Minimum R-30	0.36	\$2.00	Sq. Ft. roof
Insulation – Wall – Min R-19	Minimum R-19	0.19	\$2.00	Sq. Ft. wall
Ozone Injection Laundry	Minimum 125 lb. Total Washer/Extractor Capacity and Pre Approved by CNGC	2627.67	\$9,000.00	site
Radiant Heating	Direct fired radiant heating	2.66	\$15.00	kBtu/Hr
Tankless Water Heater	Minimum .87 Energy Factor	21.64	\$120.00	gpm
Tankless Water Heater – Tier 2	Minimum .93 Energy Factor	37.63	\$150.00	gpm
Warm-Air Furnace	Minimum 91% AFUE	0.59	\$5.00	kBtu/hr
Windows	0.3 or less U	0.49	\$7.50	Sq. Ft. window
Windows	U-.22 or less	0.54	\$9.00	Sq. Ft. window

7. Potential Adjustments to the 2023 Plan

Regulatory changes in the energy, and specifically, utility industry are occurring so swiftly that some are outpacing the utility’s ability to forecast for all significant impacts in a two-year horizon. While the Company already forecasted program activities, budget, and savings goals for CY 2023, recently approved (and yet to be implemented) building code restrictions on natural gas will require detailed discussions with the CAG. Unfortunately, timing does not support a full analysis of those impacts for this filing, however planned Conservation Potential Assessment research as well as CAG coordination will allow the Company to maintain a robust energy efficiency portfolio for customers throughout 2023.

It’s likely the budget for 2023 will vary from the initial estimate on a cost per therm basis. Initial estimates for the rebate budget in program years 2022 and 2023 were based on the Company’s spending trends using the three previous program years as a reference. Cascade’s rebate budgets were estimated at roughly \$8.05/therm for the Residential program and \$5.85/therm for the C/I program. It’s likely 2023 will experience an increase in costs per therm due to rebate increases in Spring 2022 and a shift in the composition of the measures that are being installed by customers. While it is important to note the 2022 Annual Report data has not been finalized, measure install trends shifted in 2022. This is apparent in at least two of the most popular residential measures over the past year. Approximately 35% of the measures incentivized were furnace upgrades in 2021, in line with historic trends. In 2022 furnace installs decreased almost 7% in percentage of total measures incentivized. At the same time, insulation measures increased from 14% to 26% of residential measures incentivized, an increase of nearly 12% within the



program's overall composition of measures incentivized. Additionally, program uptake for new homes measures, as a result of recent code requirements for builders, is lower than historically experienced.

In 2022 cost per therm for the Residential program is closer to \$12.50/therm after the April 1st tariff update and \$3.09/therm for the Commercial/Industrial program.

It's also relevant to note the Company did not meet its 2022 program year therms goals, so to meet the Biennial goals rebate budgets for the second year of the plan will increase to accommodate the delta between the previously planned 2023 activities and the additional activities and rebates that will need to be delivered to meet those goals. Unofficially the programs are at 36% of the residential biennial goal and 30% of the C/I biennial goal at the beginning of 2023. Based on the estimated revision to the leveled cost per therm at the biennial level, rebate payments for 2023's residential program will need to increase approximately \$2.2 million to deliver enough savings.

Commercial program rebates have a comparatively lower cost per therm, however participation hasn't been robust enough to meet goal. Administrative costs will likely increase to accommodate additional program activities to address customer needs and significant code change impacts to program offerings and therm goal achievement.

The State Building Code Council (SBCC) voted to approve limitations on the use of natural gas in both residential and commercial buildings in WA state effective July 1, 2023 within the 2021 Washington State Energy Code (WSEC). These limitations, intended to reduce GHG emissions, generally prohibit the use of natural gas for space or water heating, unless complying with specific exemptions. These prohibitions and exemptions apply at various levels to new construction and existing buildings. In addition, at the local level there are now restrictions on the use of natural gas space and water heating equipment in new commercial buildings, and for certain retrofits and remodel activities in some Washington cities.

The Company is currently discussing how the code changes will affect its offerings with its CAG, but a result of these code requirements may be significant alterations to the existing portfolio to adjust or remove existing rebates mid-cycle. Some of these impacts for the residential program may include an electric heat pump requirement as primary heating for all new residential construction (with natural gas furnaces used as back-up only), an increase to window efficiencies attributable to a change in ENERGY STAR[®] requirements, and efficiency modifications to ensure rebate qualifications are set to exceed the new code. On the Commercial front it likely means exclusion of natural gas space and water heat in almost all new commercial buildings and a shift up in baseline



efficiency for natural gas equipment replacements for existing customers, which may reduce the number of viable cost-effective above code measures available to customers.

Ultimately the removal and reduction of rebatable measures means the Company will need to work with its CAG to review Biennial Goals and determine if they are still viable considering the reduction in technically achievable savings potential. These discussions will occur in the first half of 2023 in tandem with the Company's plans to address requirements from the Climate Commitment Act.

