February 14, 2024

mass save

PA Potential Study Presentation

WE ARE MASS SAVE®:

Berkshire Gas
An Avangrid company

Cape Light Compact

EVERSOURCE

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Introduction to Potential Study

- One of the first steps in the planning process
- Studies estimate the assessment of potential which is one data point the PAs use to plan
- Previously done individually by PAs, in 2023 one study was completed to ensure alignment amongst PAs
- PAs worked with vendor to complete 2 main assessments of potential: Business as Expected and CECP model scenario
- PAs, NV5 Consulting team, and SME participated in 4 different workshops focused on identifying cost and workforce implications of achieving CECP levels

Timeline and Process

Process began in late Summer 2023

Measure characterization and development of scenarios beginning Fall 2023

Draft results initially anticipated in December. Results delayed to late Jan/ early Feb.

Delays have had impacts in communicating potential goals scenarios with C-team

Final studies anticipated in February to be filed with the PAs' October filing

Results will help inform PAs of remaining opportunity and measure mix recommendations to achieve the targets set by the Secretary of EEA, but will not be the only data point used in creating the plans

CECP Scenario

- Focused on achieving goals in line with the CECP mandates. Discussions around what targeted number of GHG reductions were had with the consulting team and Guidehouse.
- Guidehouse led multiple scenario planning workshops where the PAs, vendors, and the consulting team were able to provide input into needs around achieving CECP goals
- Multiple scenarios were run for CECP including a cost premium scenario which included increased labor costs for certain measures where there may be labor competition, and program/sector level cost effectiveness scenarios

Business as Expected

- Estimates achievable potential calibrated to 2022 program actuals, assuming similar budgets and program activity
- Combined with expected program and regulatory modifications and the measures and technologies contained in the technical and economic potential estimates.

EE & Electrification Results – Electric Portfolio

	22-24 Plan	BAE (25-27)	CECP (25-27)
Lifetime MWh	8,012	6,368	9,828
Annual Summer MW	477	1,247	2,489
Lifetime MMBTU	126,758,590	143,003,000	349,007,000
Metric Tons of CO2e Savings in 2030	469,619	524,600	1,310,100
Res & IE HP Installs	58,866	54,024	188,909
Spend	~$2.7B	$2.04 Billion	$5.04 Billion

EE & Electrification Results – Gas Portfolio

	22-24 Plan	BAE (25-27)	CECP (25-27)
Lifetime Therms (in millions)	1,173	1,284	3,448
Lifetime MMBTU	113,637,755	115,570,000	303,411,000
Metric Tons of CO2e Savings in 2030	376,040	395,600	909,400
Res & IE HP Installs	1,012	28,614	97,050
Spend	~$1.25B	$1.16 Billion	$3.41 Billion

EE & Electrification Results – Demand Response

	22-24 Plan	BAE (25-27)	CECP (25-27)
MW (2027 Summer Electric DR)	276 MW	371	382
Spend (Summer Electric DR)	~$105M	$178.2M	$243.3M
Therms (2027 Winter Gas DR)	N/A	125,704	135,840
Spend (for Winter Gas DR)	N/A	$76.1M	$105.4M

**Gas DR as modeled in the potential study is not cost-effective. The savings represent achievable potential estimates if the gas DR options were cost-effective and the associated costs.*

Top Measures - BAE

Top Electric Measures

#	Measure	LT MMBtu Savings
1	Insulation	27,797,200
2	Custom Large C&I	15,851,900
3	Air Sealing	9,264,300
4	Ductless MSHP Partially Displacing Oil Boiler	7,534,100
5	ER Baseboard to DMSHP	7,240,200
6	Programmable Thermostat to Wifi Thermostat	5,780,300
7	Duct Insulation	4,787,700
8	All-Electric Passive House	4,448,000
9	Manual Thermostat to Programmable Thermostat	3,851,000
10	Duct Sealing	3,491,800

Top Measures - BAE

Top Gas Measures

#	Measure	LT MMBtu Savings
1	Insulation	35,696,900
2	Custom Large C&I	17,926,200
3	Air Sealing	13,486,100
4	Programmable Thermostat to Wifi Thermostat	6,658,200
5	Central ASHP Partially Displacing Gas Furnace and AC	3,977,900
6	Manual Thermostat to Programmable Thermostat	3,840,000
7	Duct Insulation	3,720,600
8	Forced Hot Water Boiler - Gas	2,795,200
9	Duct Sealing	2,789,300
10	Ductless MSHP Partially Displacing Gas Boiler and AC	2,611,200

Top Measures - CECP

Top Electric Measures

#	Measure	LT MMBtu Savings
1	Insulation	107,993,900
2	Ductless MSHP Partially Displacing Oil Boiler	36,269,100
3	Custom Large C&I	26,688,500
4	Air Sealing	26,424,600
5	ER Baseboard to DMSHP	22,514,100
6	Heat Pump Water Heater	17,012,900
7	Central Heat Pump	14,625,500
8	Central ASHP Partially Displacing Oil Furnace	8,741,600
9	Programmable Thermostat to Wifi Thermostat	5,780,300
10	Ductless MSHP Partially Displacing Propane Boiler	5,445,700

Top Measures - CECP

Top Gas Measures

#	Measure	LT MMBtu Savings
1	Insulation	155,638,100
2	Air Sealing	31,648,800
3	Custom Large C&I	28,138,600
4	W2A GSHP Replacing Gas Furnace	19,333,400
5	Ductless MSHP Partially Displacing Gas Boiler and AC	18,525,600
6	Programmable Thermostat to Wifi Thermostat	6,658,200
7	Central ASHP Partially Displacing Gas Furnace and AC	4,408,100
8	Manual Thermostat to Programmable Thermostat	3,840,000
9	Duct Insulation	3,720,600
10	Forced Hot Water Boiler - Gas	2,853,800