



SEMCO ENERGY Gas Company

# 2024 Natural Gas Rebate Catalog

**Commercial and Industrial  
Energy Efficiency Program**

**SEMCO**  
Energy Waste Reduction  
 *Save Energy. Save Money.*

# Terms and Conditions

These Standard Terms and Conditions for Participating Customers and the Customer Participation Agreement (collectively, the "Agreement") are made and entered into by and between CLEAResult Consulting Inc., a Texas corporation and/or an affiliate thereof ("CLEAResult"), and Customer for the purpose of evaluating and installing energy efficient measures ("EEM") under the Program funded by SEMCO Energy Gas Company ("Sponsor"). CLEAResult and Customer may be referred to in this Agreement individually as a "Party" and collectively as the "Parties." The Parties acknowledge and agree that the state regulatory governing body (the "MPSC"), Sponsor and Contractor are third party beneficiaries of this Agreement. In consideration of the mutual covenants and agreements set forth below, the adequacy and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

**1. ACCESS AND PARTICIPATION.** Customer agrees to support CLEAResult and Contractor and assign a representative to facilitate services provided under this Agreement. Customer acknowledges its intent to install EEM using Program rebates. Customer agrees to allow CLEAResult and Contractor to access its facilities, energy use and cost information, including information and data from Sponsor, for the purposes of implementing this Agreement. If Customer is a tenant, Customer represents that by signing this document they have obtained the property owner's permission to install EEM under this Agreement. Customer agrees not to use the name or identifying characteristics of Sponsor or its contractors for any advertising, sales promotion, or other publicity of any kind. Customer also confirms that it has not and will not receive rebates or services for any EEMs installed under this Program from another program funded by Sponsor. The Program may be modified or terminated without prior notice and this Agreement is subject to modifications by Sponsor in its sole discretion.

**2. ELIGIBILITY.** Sponsor determines eligibility of Customers at its sole discretion. CLEAResult may request verification of eligibility requirements at any time during the Program period.

**3. REBATE PAYMENT.** Customer acknowledges that rebates will be paid by Sponsor only if: (a) Customer(s) and installed EEM(s) or services meet the Program eligibility requirements and the requirements outlined by the Program; (b) EEMs are installed in eligible project sites; and (c) EEMs are installed at a project site that has not received rebates from any other of Sponsor's energy efficiency programs for the same EEM(s). Customer understands that Sponsor, in its sole discretion, may withhold rebate payments committed to Customer if a project site is proven ineligible or a project otherwise does not comply with the requirements set forth by the Program. Rebate amounts may not exceed 75% of the EEM, including materials, external labor, permits, equipment rental or disposal. Custom rebates may not be provided for projects with less than a 1-year simple payback or greater than an 8-year simple payback. Rebates are based on energy savings and may be limited by the annual customer cap. Rebates are subject to available program funding and only one rebate will be granted for each project. Customer remains solely responsible for any tax liability related to the EEM and the rebate payment. The Program must receive 100% of the energy savings for the rated life of the product(s) or for a period of three (3) years from the receipt of rebate, whichever is less. If the energy savings is not provided, the facility in which the installed projects are located closes or ceases operation within three (3) years from receipt of rebate, or Sponsor ceases to be the energy provider for the facility during the three (3) years, a prorated amount of the rebate will be refunded.

**4. AUDITING, MONITORING AND VERIFICATION.** Customer also agrees to allow CLEAResult, Contractor, Sponsor and the MPSC to access its facilities for the purpose of confirming Customer's participation in the Program, inspecting installed EEM, and verifying the energy savings achieved through the Program. Customer agrees to cooperate with CLEAResult, Contractor, Sponsor and the MPSC, as necessary.

Customer also agrees to remedy any issue arising from auditing and monitoring, at its expense, within the timeframe provided by the Program. Customer understands that any rebates may be withheld if Customer refuses to participate in any required verification within a reasonable period. Customer verifies that all EEM is installed in accordance with all applicable federal, state and local laws and manufacturer's specifications.

**5. CONFIDENTIALITY.** CLEAResult shall keep Customer information confidential. Unless otherwise required by law or this Agreement. Only the Contractor, Sponsor and the MPSC shall be granted access to Customer data as needed or required. CLEAResult will not use the name or identifying characteristics of Customer in advertising sales promotion or other publicity without Customer's written approval. Customer agrees Sponsor may utilize Customer's information in preparing reports and documentation concerning the Program and that such information, aggregated with other data, may be provided to third parties, including the MPSC, as permitted by law.

**6. NO WARRANTY.** CLEAResult, Sponsor and the MPSC make no representations, endorsements or warranties, and assume no liability with respect to quality, safety, performance, design, energy savings, or other aspect of any EEM installed pursuant to this agreement and expressly disclaim any such representation, warranty or liability, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, and noninfringement. Nothing in this agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any third party. Neither the MPSC, Sponsor, nor CLEAResult shall be responsible for costs or corrections of conditions already existing in the facilities inspected which fail to comply with applicable laws and regulations.

**7. INDEMNIFICATION; LIMIT ON LIABILITY.** Customer agrees to indemnify, defend and hold harmless the MPSC, Sponsor and CLEAResult against all loss, damages, costs, including attorney fees and liability arising from any claims related to any products installed or services performed during the installation or maintenance of EEM. Neither the MPSC, Sponsor, CLEAResult, nor customer shall be liable to each other for any incidental, special, indirect or consequential damages related to this agreement. Customer releases Sponsor from any and all claims it may have related to the EEM, the Program and/or this Agreement.

**8. MISCELLANEOUS.** This Agreement shall be governed by and construed under the laws of the State of Michigan, without regard to conflict of law rules. The parties agree that all actions, disputes, claims and controversies arising out of or relating to this Agreement or the work performed hereunder will be subject to binding arbitration administered in the county where the Customer is located by the American Arbitration Association under its Commercial Arbitration Rules and judgment on the award may be entered in any court having jurisdiction. Customer shall not assign, delegate or subcontract this Agreement or its duties thereunder, in whole or in part, voluntarily or involuntarily (including a transfer to a receiver or bankruptcy estate) without the prior written permission of CLEAResult. CLEAResult may assign its rights and delegate its duties under this Agreement to any third party at any time without Customer's consent. If any provision of this Agreement is invalid or unenforceable in any jurisdiction, the other provisions in this Agreement shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to effectuate the purpose and intent of this Agreement. The invalidity or unenforceability of any provision of this Agreement in any jurisdiction shall not affect the validity or enforceability of any such provision in any other jurisdiction. The failure of either Party to enforce strict performance by the other of any provision of this Agreement, or to exercise any right available to the Party under this Agreement, shall not be construed as a waiver of such Party's right to enforce strict performance in the same or any other instance. Sections 1 and 4 through 7 shall survive the term of this Agreement.

# Program Measures Requirements

## Table of Contents

1.0 Heating & Ventilation .....	7
1.1 HIGH-EFFICIENCY HVAC BOILER.....	7
1.2 HIGH-EFFICIENCY HVAC STEAM OR PROCESS BOILER.....	7
1.3 HIGH-EFFICIENCY FURNACE / RTU .....	7
1.4 INFRARED HEATERS .....	7
1.5 POOL HEATERS - HIGH-EFFICIENCY .....	8
2.0 Boiler Controls & Efficiency Improvement .....	8
2.1 MODULATING BOILER CONTROL .....	8
2.2 BOILER WATER RESET CONTROL .....	8
2.3 OXYGEN TRIM CONTROL .....	9
2.4 LINKAGELESS BOILER CONTROLS.....	9
2.5 OPTIMIZED BOILER PLANT SEQUENCING.....	9
2.6 BOILER STACK ECONOMIZERS .....	9
2.7 AUTOMATIC STEAM BOILER BLOWDOWN .....	10
2.8 VARIABLE FREQUENCY DRIVES (VFD) ON SECONDARY CHW PUMPS.....	10
2.9 PROCESS VENTILATION REDUCTION .....	10
3.0 Energy & Heat Recovery .....	11
3.1 TOTAL ENERGY RECOVERY VENTILATION (ERV).....	11
3.2 AIR COMPRESSOR HEAT RECOVERY .....	11
4.0 Air Distribution Systems.....	12
4.1 CONSTANT AIR VOLUME (CAV) AHU TO VARIABLE AIR VOLUME (VAV) AHU .....	12
4.2 DESTRATIFICATION FAN .....	12
5.0 Steam Trap Repair .....	12
5.1 STEAM TRAP REPAIR OR REPLACEMENT.....	12
6.0 Domestic Water.....	13
6.1 INDIRECT WATER HEATER .....	13
6.2 TANKLESS & HIGH-EFFICIENCY WATER HEATER.....	13
6.3 LOW-FLOW FAUCET AERATOR .....	13
7.0 HVAC Controls.....	14

7.1 DEMAND CONTROL VENTILATION (DCV) .....	14
7.2 DEMAND CONTROL VENTILATION AND HVAC OCCUPANCY SENSORS .....	14
7.3 ENHANCED VENTILATION CONTROL.....	14
7.4 HOTEL GUEST ROOM OCCUPANCY SENSOR .....	14
7.5 SETBACK / SETUP CONTROLS.....	15
7.6 HVAC OCCUPANCY SENSORS .....	15
7.7 OPTIMAL START/STOP ON AHU .....	15
7.8 COMMERCIAL SMART THERMOSTAT .....	15
8.0 Building Envelope & Insulation.....	16
8.1 TRUCK LOADING DOCK DOOR INFILTRATION SEAL .....	16
8.2 AUTOMATIC HIGH-SPEED DOORS.....	16
8.3 FLAT ROOF INSULATION .....	16
8.4 WALL & CEILING INSULATION .....	17
8.5 GENERAL REQUIREMENTS PIPE INSULATION .....	17
8.6 SPACE HEATING PIPE INSULATION .....	17
8.7 DOMESTIC HOT WATER PIPE INSULATION.....	17
8.8 PROCESS BOILER INSULATION.....	18
8.9 DUCT SEALING.....	18
8.10 HVAC DUCTWORK .....	18
8.11 WINDOWS.....	18
9.0 Commercial Kitchen & Refrigeration Equipment .....	19
9.1 ENERGY STAR® COMMERCIAL KITCHEN COOKING EQUIPMENT .....	19
9.2 PRE-RINSE SPRAYER .....	19
9.3 COMMERCIAL REFRIGERATION HEAT RECOVERY .....	19
9.4 FLEXIBLE BATCH BROILER.....	20
9.5 ENERGY STAR® DISHWASHER .....	20
9.6 ENERGY STAR® CLOTHES WASHER.....	20
10.0 Agriculture.....	21
10.1 GRAIN DRYERS .....	21
10.2 ENERGY STAR® DAIRY WATER HEATERS.....	21
10.3 GREENHOUSE HEAT CURTAIN .....	21
10.4 GREENHOUSE INFRARED FILM.....	21
10.5 GREENHOUSE HYDRONIC HEATING.....	22
10.6 GREENHOUSE ENVIRONMENTAL CONTROLS .....	22

11.0 Tune-ups.....22

11.1 TUNE-UPS .....22

12.0 Snow & Ice Melt Controls .....22

12.1 ADVANCED SNOW MELT CONTROLS .....22

2024 Custom Project Specification .....23

# 2024 Natural Gas Measure Specifications

---

# 1.0 Heating & Ventilation

## 1.1 HIGH-EFFICIENCY HVAC BOILER

Measure Description	Size (MBH)	Baseline Efficiency	High Efficiency	Unit
High-Efficiency HVAC Boiler ≥88% Efficiency	Small <300	84% AFUE	88% AFUE	MBH input
	Medium 300–2,500	84% Et	88% Et	MBH input
	Large >2,500	82% Ec	88% Ec	MBH input
High-Efficiency HVAC Boiler ≥90% Efficiency	Small <300	84% AFUE	90% AFUE	MBH input
	Medium 300–2,500	80% Et	90% Et	MBH input
	Large >2,500	82% Ec	90% Ec	MBH input
HVAC Steam Boiler	≤300	82% AFUE	82.5% AFUE	MBH input
	>300	79% Et	82% Et	MBH input
	Natural draft >300	77% Et	82% Et	MBH input

### Description

This incentive is available for hydronic boilers used for space heating.

### Eligibility

- Available for boiler replacement or as part of new construction.
- The ratings will be defined per ANSI Standard Z21.13 and use supply and return water temperatures.
- Existing (baseline) boiler must have an efficiency equal to or below what is specified "baseline efficiency" value in table above.
- New boiler must have an efficiency equal to or above what is specified "high efficiency" value in table above.
- Condensing boilers must have sufficient supply of water and water must be below 140°F to condense the flue gases.
- A pre-approval is required for all applications with cumulative boiler capacities >3,000 MBH.
- Equipment purchased for backup or redundancy does not qualify.

### Additional Documentation Required

- Technical specs of new boiler.
- Technical specs of existing boiler. Model number can be provided if technical specs cannot be obtained but existing equipment efficiency must be able to be confirmed.

## 1.2 HIGH-EFFICIENCY HVAC STEAM OR PROCESS BOILER

Measure Description	Unit
Process Steam Boiler	MBH
Process Hydronic Boiler	MBH

### Description

This incentive is available for high-efficiency process boilers.

### Eligibility

- Available for replacement of a boiler with an existing (baseline) efficiency of 80% or below or as part of new construction.
- New steam and hydronic boilers must meet a minimum combustion efficiency of 82.7% and 84.3%, respectively.
- Condensing boilers must have sufficient supply of water and water must be below 140°F to condense the flue gases.
- Direct contact water heaters are not eligible.
- Boilers used for space heating, domestic hot water, and pool or spa use are not eligible.
- Redundant or backup boilers do not qualify.

### Additional Documentation Required

- A flue gas analysis measured under full-load conditions is required to document combustion efficiency after installation is complete.

## 1.3 HIGH-EFFICIENCY FURNACE / RTU

Measure Description	Unit
High-Efficiency Furnace ≥92% Efficiency	MBH
High-Efficiency Furnace ≥95% Efficiency	MBH
HVAC Condensing Roof Top Unit (RTU)	MBH

### Description

This incentive is available for replacement of standard efficiency furnaces/RTU with high-efficiency furnace/RTU.

### Eligibility

- Available for equipment replacement or new construction.
- High-efficiency furnace/RTU must replace an 81% AFUE (or lower) furnace.
- High-efficiency furnace/RTU must be at or above the AFUE efficiency described in the table above.
- Incentive is available only for equipment used in space heating conditions.
- Equipment purchased for backup or redundancy does not qualify.

## 1.4 INFRARED HEATERS

Measure Description	Unit
Infrared Heaters	MBH input

### Description

Only building space heating applications are eligible.

### Eligibility

- Available for replacement of standard efficiency gas unit heater (80%) or new construction projects.
- High-intensity and low-intensity heaters are eligible.
- End-of-life replacement of an existing infrared heater does not qualify.
- Space setpoint temperature of the proposed infrared heating system must be reduced by at least 10°F below the existing or designed unit heater setpoint temperatures.

### Additional Documentation Required

- Applications must include written confirmation of existing and proposed setpoint temperatures showing at least a 10°F reduction.



### Measure Selection Criteria

- Direct-fired infrared heaters should be applied for as custom projects, not under this measure. They are not available for new construction.

## 1.5 POOL HEATERS—HIGH-EFFICIENCY

Measure Description	Unit
High-Efficiency Pool Heaters	MBH input

### Description

This measure is for high-efficiency gas pool heaters.

### Eligibility

- Available for equipment replacement or new construction.

- Heater must meet a minimum combustion efficiency of 84%.
- Heater must be gas-fired and rated between 500 MBH and 2,000 MBH.
- Must have an on/off switch and have no pilot light.
- Heater cannot be used as a back-up for solar water heating.
- Redundant or backup boilers do not qualify.

## 2.0 Boiler Controls & Efficiency Improvement

### 2.1 MODULATING BOILER CONTROL

Measure Description	Unit
Modulating Boiler Control	Process MBH Input
	HVAC MBH Input

### Description

The incentive is available for the additional of modulating (turndown) controls on boilers must be able to be controlled to a minimum turn down ratio of 5 to 1.

- Incentive is based on boiler input capacity.
- Available for retrofit, boiler replacement, or as part of new construction.
- Process boiler must run year round. HVAC boilers will run only during the heating season.
- University and hospital boilers are considered process boilers even if they provide space heating (per MEMD white paper).
- Boilers primarily used for domestic hot water or pool or spa use are not eligible.
- Existing boilers must be on/off with no modulation.
- Redundant boilers do not qualify.

### 2.2 BOILER WATER RESET CONTROL

Measure Description	Unit
Boiler Water Reset Control	MBH Input
RCx Boiler Reset Control	MBH Input

### Description

- This incentive is available for adding a supply temperature setpoint reset to enable the boiler supply temperature setpoint to decrease by at least 20°F based on heating demand (e.g., zone demand or outside air (OA) temperature).
- RCx option: Allows incentive for existing boilers with reset capabilities but where it is not currently being used effectively. All below criteria apply unless otherwise specified.

### Eligibility

- Boilers must be natural gas.
- New construction applications do NOT qualify.
- Existing boiler supply temperature setpoint must be fixed.
- Existing boiler supply temperature control must NOT have reset capabilities (except for RCx option).
- Redundant boilers do not qualify.
- RCx option: Incentive only available every 15 years.

### Additional Documentation Required

- Boiler input capacity (e.g., nameplate picture)
- HVAC control documentation (e.g., BAS graphic screenshot, control programming, sequence of operation, functional testing documentation) showing:
- Existing control is a fixed boiler setpoint. If RCx option, can instead provide documentation indicating reset control is not working as described above (e.g., setpoint might be resetting but supply temperature is not controlled to it).
- After implementation: Boiler setpoint is reset based on heating demand or OA temperature. Must indicate at reduced heating demand (e.g., higher OA temperature) the setpoint decreases by ≥20°F and include the independent variable (e.g., zone demand, OA temperature). For example, if the existing control was a fixed setpoint of 180°F the minimum reset temperature must be ≤160°F).



## 2.3 OXYGEN TRIM CONTROL

Measure Description		Unit
Oxygen Trim Control	Process (Linkageless Controls)	MBH input
	HVAC (Linkageless Controls)	MBH input
	Process (Linkageless Controls)	MBH input
	HVAC (Linkageless Controls)	MBH input

### Description

This incentive is available for installed oxygen trim controls (sometimes called oxygen burner controls) that measure oxygen levels and adjust air intake levels accordingly.

### Eligibility

- Available for retrofit, equipment replacement, and as part of new construction.
- University and hospital boilers are considered process boilers even if they provide space heating.
- Boilers primarily used for domestic hot water; other space conditioning, pool or spa use are not eligible.
- It is recommended to collect boiler loading data documenting year-round operation and typical part loading throughout the year for university and hospital boilers.
- Oxygen controls required by EPA guidelines do not qualify.
- Redundant boilers do not qualify.
- Incentive is based on boiler input capacity.

### Additional Documentation Required

- One year of loading data for boilers installed in university and hospital applications to prove year-round operation.

## 2.4 LINKAGELESS BOILER CONTROLS

Measure Description		Unit
Linkageless Boiler Controls	Process	MBH Input
	HVAC	MBH Input

### Description

This incentive is available for replacing boiler linkage controls with linkageless controls. Incentive is based on boiler input capacity.

### Eligibility

- Incentive is available for new construction (NC) for process boilers, but not available for NC on HVAC boilers. Also available to retrofit to existing boiler that has linkages.
- Process boiler must operate year round.
- University and hospital boilers are considered process boilers even if they provide space heating.
- Boilers primarily used for domestic hot water; other space conditioning, pool or spa use are not eligible.
- It is recommended to collect boiler loading data documenting year-round operation, and typical part loading throughout the year, for university and hospital boilers.
- Redundant boilers do not qualify.

### Additional Documentation Required

- One year of loading data for boilers installed in university and hospital applications to prove year-round operation.

## 2.5 OPTIMIZED BOILER PLANT SEQUENCING

Measure Description		Unit
Optimized Boiler Plant Sequencing	Process	MBH Input
	HVAC	MBH Input

- This incentive is available for installing sequence controls on existing boilers as well as new boilers with built-in controls.
- The nominal unit rating (MBH) for the lead boiler and all additional lag/redundant boilers in the boiler plant must be submitted with the application.
- Only available for hydronic heating systems with at least two boilers currently isolated from each other, operating in parallel piping systems with each other.
- All boilers shall be monitored and controlled, at a minimum, as follows:
  - Sequenced and staged, both enabled and disabled.
  - In a manner to optimize their operation as recommended by the boiler manufacturer.
  - Within fifteen minutes of disabling a boiler, the boiler's hydronic flow must be stopped, either by automatically disabling the boiler's corresponding circulating pump, or through automatically shutting of an isolation valve.
- Incentive is based on boiler input capacity.

## 2.6 BOILER STACK ECONOMIZERS

Measure Description		Stack Temp Decrease	Unit
Boiler Stack Economizer – HVAC Boilers		80°F	MBH Input
		120°F	MBH Input
		200°F	MBH Input
Boiler Stack Economizer – Process Boilers		80°F	MBH Input
		120°F	MBH Input
		200°F	MBH Input

### Description

This incentive is available for adding a stack economizer to the exhaust flue stack of existing or new boilers to recover waste heat, which will be used to preheat the boiler's feed water system.

### Eligibility

- Available for retrofit and new construction.
- Traditional (non-condensing) and condensing stack economizers qualify.
- University and hospital boilers are considered process boilers even if they provide space heating (per MEMD white paper).
- Stack economizers on domestic hot water boilers or pool heaters are not eligible.
- Redundant boilers do not qualify.

### Additional Documentation Required

- Pre- and post-construction boiler combustion analysis must be submitted to confirm the achieved exhaust flue temperature decrease.

## 2.7 AUTOMATIC STEAM BOILER BLOWDOWN

Measure Description	Unit
Automatic Steam Boiler Blowdown	Annual Gallons Reduced

### Description

This incentive is available for conversion of manual boiler blowdown to automatic blowdown controls.

### Eligibility

- Available for retrofit or new construction.
- Boiler must be a steam boiler.
- Boiler must be a process boiler.
- Must result in low blowdown without raising the impurity levels in the natural gas steam boiler to levels that will cause scaling.
- Changing flow rate without a capital expenditure does not qualify (i.e., system modifications, changes in chemical treatment production, and blowdown reductions from improved condensate recovery).

### Additional Documentation Required

- Written or electronic logs of make-up water for a month prior to install and a month following install.

## 2.8 VARIABLE FREQUENCY DRIVES (VFD) ON SECONDARY CHW PUMPS

Measure Description	Unit
VFD on Secondary CHW Pump	CHW Pump HP

### Description

This incentive is available for installed new VFDs on existing HVAC pumps; replacement of existing VFDs do not qualify.

### Eligibility

- Not available for new construction if pump is 10HP or more (as required by code).
- VFD speed must be automatically controlled by differential pressure, flow, temperature or other variable signal.
- The installation of a VFD must accompany the permanent removal or disabling of any throttling devices such as inlet vanes, bypass dampers, bypass valves or throttling valves.
- Redundant or backup units do not qualify.

## 2.9 PROCESS VENTILATION REDUCTION

Measure Description	Unit
Process Ventilation Reduction	CFM reduced

### Description

This incentive is available for reducing outdoor ventilation air in manufacturing space on heating and cooling energy.

### Eligibility

- Not available for new construction.
- Significant changes of operations use (i.e., factory to warehouse) do not qualify.
- Decreases in ventilation rates must be authored by a professional engineer licensed in the state of Michigan or a certified industrial hygienist.
- Facility must be heated during winter months.
- Space heating equipment must use natural gas.

### Additional Documentation Required

- Operational performance verification (complete pre- and post-construction volume flow rate testing) by certified Testing, Adjusting and Balance (TAB) Agents is required. TAB Agents shall be independent professional services provider certified by either the Associated Air Balance Council or the National Environmental Balancing Bureau.
- 12 months of utility bills to demonstrate seasonal space heating during the heating season.

## 3.0 Energy & Heat Recovery

### 3.1 TOTAL ENERGY RECOVERY VENTILATION (ERV)

Measure Description		Unit
Total ERV – Enthalpy Wheel	Add-on	Ventilation CFM
	Built-in	Ventilation CFM
Sensible (Flat Plate) ERV	Add-on	Ventilation CFM
	Built-in	Ventilation CFM

#### Description

This incentive is available for installation of a heat exchanger to recover waste energy from exhaust air streams to outside makeup air streams before these air streams are mechanically conditioned.

#### Eligibility

- Available for retrofit, replacement, or new construction (if not required by code).
- Built-in applies to equipment with heat recovery already included.
- The area served must be a conditioned space.
- The system should be equipped with an air stream bypass to operate in economizer mode when applicable.
- Space heating equipment must be use natural gas.

#### Measure Selection Criteria

- This measure cannot be combined with other heat recovery measures including stack economizer.
- This measure cannot be taken with high-efficiency furnaces and boiler measures described in section 1.3.

### 3.2 AIR COMPRESSOR HEAT RECOVERY

Measure Description	Unit
Air Compressor Exhaust Heat Recovery	HP

#### Description

This incentive is available for the recovery of air compressor system waste heat in order to decrease natural gas consumption.

#### Eligibility

- Available for retrofit, as part of compressor replacement, or as part of new construction.
- Waste heat recovery system must be controlled by a thermostat, building automation or management system, or manually adjusted dampers.
- Waste heat from the compressed air system must currently be in unconditioned area and/or rejected to an area where it is not used, typically outside.
- Backup or redundant compressor does not qualify.
- Space heating equipment must use natural gas.

#### Measure Selection Criteria

- This measure cannot be combined with other heat recovery measures including stack economizer.

## 4.0 Air Distribution Systems

### 4.1 CONSTANT AIR VOLUME (CAV) AHU TO VARIABLE AIR VOLUME (VAV) AHU

Measure Description	Unit
CAV to VAV	Square Feet of Affected Area

#### Description

This incentive is available for converting existing built-up constant air volume (CAV) handling systems without reheat and no economizers into variable air volume (VAV) air handling systems with economizers.

#### Eligibility

- New construction applications do NOT qualify.
- The area served by the air system must be conditioned space (both heated and air conditioned).
- Space must be heated with natural gas.
- At a minimum, requires VFDs on AHU supply and return fans, and an economizer to be added.
- The incentive cannot be combined with the incentive for VFD on HVAC fans, airside economizer or enthalpy economizer.
- Existing single-zone air handling equipment does not qualify (i.e., classroom unit ventilators or fan coil units).

### 4.2 DESTRATIFICATION FAN

Measure Description	Unit
Destratification Fan	Square Feet of Affected Area

#### Description

This incentive is available for installing a destratification fan in high bay applications to reduce the temperature gradient from thermostat to ceiling.

#### Eligibility

- New construction applications qualify.
- Building must be heated in winter.
- Space must be heated with natural gas.
- The ceiling height must be  $\geq 20$  ft.
- The building must be single story.

#### Additional Documentation Required

- Documentation of destratification fan(s) diameter
- Unit = affected area (sq. ft.) =  $6.25 \times \pi \times (\text{diameter})^2$  per fan.  
Example for a floor area with five 20' diameter fans the affected area =  $6.25 \times \pi \times 20^2 = 7,854$  sq. ft. per fan \* 5 fans = 39,270 sq. ft.

## 5.0 Steam Trap Repair

### 5.1 STEAM TRAP REPAIR OR REPLACEMENT

Measure Description	Unit
Steam Trap Repair	Traps Repaired

#### Description

This incentive is available for the repair or replacement of traps that have malfunctioned and are leaking steam.

#### Eligibility

- Available for retrofit only. Not available for corrections made during initial commissioning and testing.
- Traps must be malfunctioning and repaired in order to be counted in incentive.
- Only steam traps that have failed open qualify.
- Traps that have failed closed or are plugged do not qualify.
- Incentive for individual steam traps is only available every 24 months.
- Replacement with an orifice trap is not eligible.

#### Additional Documentation Required

- A spreadsheet with repair/replacement results must be submitted and include the following:
  - Number of steam traps surveyed.
  - Location of each trap.
  - Number of steam traps repaired.
  - Repair date.
  - ID tag number for each.
  - Repair technician name.

## 6.0 Domestic Water

### 6.1 INDIRECT WATER HEATER

Measure Description		Unit
Indirect Water Heater	≥84% Efficiency	MBH Input
	≥90% Efficiency	MBH Input

#### Description

- This incentive is available for the replacement of an existing domestic water heating boiler system.
- Incentive is based on boiler input capacity.

#### Eligibility

- Incentive is based on the efficiency of the boiler that is indirectly feeding the hot water loop (not the water heater's efficiency).
- Water heater gas train must be disconnected or isolated from the system.
- New boiler must have a minimum thermal efficiency of 84% and be greater than 300 MBH.
- Boilers used for space heating only do not qualify. Boiler must in part be used for process heating.
- Redundant or space water heaters do not qualify.

### 6.2 TANKLESS & HIGH-EFFICIENCY WATER HEATER

Measure Description		Unit
ENERGY STAR High Draw Water Heater (<55 gal)	Medium Draw	Unit
	High Draw	Unit
ENERGY STAR Instantaneous Water Heater		Unit

#### Description

This incentive is available for a high-efficiency (condensing) hot water heaters or instantaneous hot water heater.

#### Eligibility

- Available for retrofit onto existing or new construction.
- Water heater must be >75 MBH (75,000 BTU/hr).
- Water heater must be ENERGY STAR rated.
- Must replace a standard efficiency hot water heater (TE or UEF ≥0.80).
- Replacement equipment must have an improved thermal efficiency.
- High-efficiency water heater: TE ≥94.
- Instantaneous water heater: TE ≥0.87.
- Water heater must use natural gas.
- Redundant or back-up units do not qualify.

### 6.3 LOW-FLOW FAUCET AERATOR

Measure Description		Unit
Low-Flow Faucet Aerator – Public Restroom	0.5 gpm	Unit
Low-Flow Faucet Aerator – Private Restroom	1.0 gpm	Unit
	0.5 gpm	Unit
Low-Flow Faucet Aerator – Private Dormitory	1.5 gpm	Unit
Low-Flow Faucet Aerator – Private Dormitory	1.0 gpm	Unit
Low-Flow Faucet Aerator – Public Dormitory	0.5 gpm	Unit
Laminar Flow Restrictors	≤ 2.0 gpm	Unit

#### Description

This incentive is available for installation of low-flow aerators or laminar flow restrictors where neither exist in commercial restrooms.

#### Eligibility

- Laminar flow restrictors and low-flow faucet aerators installed in private restrooms are available for retrofit or new construction
- Water heating equipment must use natural gas.

## 7.0 HVAC Controls

### 7.1 DEMAND CONTROL VENTILATION (DCV)

Measure Description	Unit
Demand Control Ventilation	Square Feet

#### Description

This incentive is available for installing CO<sub>2</sub> sensor controls to reduce the minimum percentage of outside air required when occupancy is lower than design.

#### Eligibility

- Space must be heated with natural gas.
- Existing HVAC system must have:
  - Fully functioning air side economizers or economizers must be fixed as part of this measure.
  - Min outside air damper position setpoint  $\geq 10\%$  of supply air when occupied and meet the current ASHRAE 62 standard or applicable local building codes.
- CO<sub>2</sub> sensor must control the minimum outside air percent.
- New construction does qualify if not required by code.

#### Measure Selection Criteria

- Cannot be combined with the incentive for economizer.

#### Additional Documentation Required

- Floor plans and controlled area identified.
- HVAC documentation (e.g., BAS graphic screenshot, control programming, sequence of operations, functional testing documentation).
- Existing equipment: minimum outside air setpoint  $\geq 10\%$ .
- After implementation: minimum outside air setpoint at corresponding CO<sub>2</sub> level(s) & functioning economizer. Minimum outside air setpoint must less than in existing case.

### 7.2 DEMAND CONTROL VENTILATION AND HVAC OCCUPANCY SENSORS

Measure Description	Unit
DCV and HVAC OCC	Square Feet

#### Description

This incentive is available for installing both demand control ventilation and occupancy sensors for HVAC where neither exists.

#### Eligibility

- Must meet the individual requirement of each individual measure (DCV and HVAC Occupancy Sensors) to qualify.
- New construction applications do qualify if not required by code.
- Cannot instead take DCV and HVAC occupancy sensors separately.

### 7.3 ENHANCED VENTILATION CONTROL

Measure Description	Unit
Enhanced Ventilation Control	Ton

#### Description

A control system that combines an advanced digital economizer controller, supply fan VFD, and demand-controlled ventilation system on a single-zone packaged rooftop unit.

#### Eligibility

The existing system must be a single-zone constant volume system without VFD, and cannot have demand control ventilation or economizer controls. Space heating equipment must use natural gas.

- New construction applications do qualify.
- Must include the following tied into the new controller:
  - Functional economizer controls.
  - Demand control ventilation (DCV) control to reduce the amount of ventilation air during periods of reduced occupancy, typically achieved through a carbon dioxide (CO<sub>2</sub>) sensor.
  - Variable frequency drives (VFD) on the supply fan to reduce the supply fan speed during periods of reduced occupancy.

#### Measure Selection Criteria

- Cannot be combined with the following measures: DCV, CAV to VAV AHU, VFD on HVAC fans, or airside economizer.

### 7.4 HOTEL GUEST ROOM OCCUPANCY SENSOR

Measure Description	Unit
Hotel Guest Room Occupancy Sensor	Guest Room

#### Description

This incentive is available for installing occupancy sensors in guest rooms that revert to unoccupied setpoints when the room is unoccupied.

#### Eligibility

- Room must be mechanically cooled.
- Room heating equipment must use natural gas.
- Space temperature setpoints must be controlled by automatic occupancy detectors.
- Minimum setback/setup (i.e., unoccupied) space temperature of 8°F in both heating and cooling mode.
- New construction applications qualify.
- The following do NOT qualify:
  - Replacement or upgrades to existing occupancy-based controls.
  - Sensors controlled by a front desk system.

## 7.5 SETBACK / SETUP CONTROLS

Measure Description	Unit
Setback/Setup Controls	Square Feet
School – Setback	Square Feet

### Description

This incentive is available for spaces with no existing setback/setup controls (including programmable thermostats).

### Eligibility

- Must achieve full setback through time scheduling and/or occupancy.

## 7.6 HVAC OCCUPANCY SENSORS

Measure Description	Unit
HVAC Occupancy Sensors	Square Feet

### Description

This incentive is available for customers who are adding occupancy sensors to automatically set the associated zone equipment to unoccupied temperature setpoints and reduce the flow rate to the zone when the space is not occupied.

### Eligibility

- Space must be mechanically cooled and heated with natural gas.
- Spaces already controlled by outside air demand control ventilation systems are not eligible.
- The occupancy sensors must reduce the minimum airflow from  $\geq 30\%$  to  $\leq 15\%$  of design flow and widen the space temperature setpoints when space is unoccupied.
- Minimum setback/setup (i.e., unoccupied) space temperature of 5°F in both heating and cooling mode.
- New construction applications do qualify.
- Cannot be combined with the incentive for setback/setup control, or energy management system.

### Additional Documentation Required

- Floor plans and controlled area identified.
- HVAC documentation (e.g., BAS graphic screenshot, control programming, sequence of operations, functional testing documentation).
- Existing zone equipment: airflow setpoints, occupancy space temperature setpoints, and unoccupied space temperature setpoints.
- Documentation showing proposed occupancy control: reduces airflow setpoint and resorts to unoccupied setpoints when indicated by occupancy sensor.

## 7.7 OPTIMAL START/STOP ON AHU

Measure Description	Unit
Optimal Start/Stop on AHU	Square Feet

### Description

- This incentive is available for HVAC optimal start/stop controls.
- Optimal start uses an adaptive control algorithm that calculates startup time based on outdoor temperatures to determine the length of time required to bring each zone from current unoccupied temperature to within 2°F of the occupied setpoint temperature in the shortest period of time right before occupied mode. Optimal start/stop controls also shut down the HVAC prior to unoccupied hours while still achieving occupant comfortable.

### Eligibility

- Available for retrofit to existing. Not available to new construction.
- Optimal start/stop controls must be automated to start point conditions.
- Optimal start/stop must use historical performance of how quickly the zone has been able to warm up or cool down to determine when the system needs to start up in the morning.
- Must be programmed by a licensed HVAC professional or controls engineer.
- Redundant or back-up units do not qualify.
- Space heating equipment must use natural gas.
- Building must be heated during the winter.

### Additional Documentation Required

- Floor plans with controlled area highlighted.
- Sequence of operation.

## 7.8 COMMERCIAL SMART THERMOSTAT

Measure Description	Unit
Commercial Smart Thermostat	Square Feet

### Description

This incentive is available only to public assembly, restaurants, small retail, small office, and house of worship building types.

### Eligibility

- New thermostat must have web-enabled scheduling capabilities.
- Must replace a non-programmable thermostat.
- Not eligible for new construction.
- Thermostat must have a continuous connection to the internet and be accessible and programmable through a standard web browser and/or smartphone app for remote monitoring and scheduling.



## 8.0 Building Envelope & Insulation

### 8.1 TRUCK LOADING DOCK DOOR INFILTRATION SEAL

Measure Description		Unit
Truck Loading Dock Door Infiltration Seal	No Existing Seals	Door
	Severely Degraded Existing Seals	Door
Ramp Pit Air Seal	Existing Ramp Without Brush Barrier	Ramp
	Existing Ramp With Brush Barrier	Ramp

#### Description

- This incentive is available for loading dock seals that stop unconditioned air from leaking into a building when trucks are loading and being unloaded.
- There are two common dock door styles.
- Drive up dock typically have a 4–6" gap between the truck and dock.
- Docks with built-in ramps elevate to the level of the semi-trailer floor. The pits below these ramps (floor level) typically remain open, creating infiltration. This is addition to the infiltration of the drive up docks (around the side and top).

#### Eligibility

- Available for retrofit to existing or new construction.
- Seals must effectively close all gaps between the building and semi trailer.
- Dock door seals must cover the "hinge gap" that occurs with outwardly swinging trailer doors.
- Ramp seals must maintain an effective seal both when ramp is in use or out of use.
- Brush or whisker-type seals not used in conjunction with air seals do not qualify for incentives.
- Building must be heated during the winter.
- Space heating equipment must use natural gas.

### 8.2 AUTOMATIC HIGH-SPEED DOORS

Measure Description	Unit
Automatic High-Speed Doors	Square Feet of Door

#### Description

This incentive is available for installing high-speed doors that save energy by reducing the amount of time a door that separates a conditioned space to an exterior space is open.

#### Eligibility

- Available for equipment upgrade (replacement) or new construction.
- Available for both commercial and industrial customers.
- Interior space must be heated during the winter season.
- Replacement of existing high-speed doors does not qualify.

#### Measure Selection Criteria

- This incentive may be taken in conjunction with electric savings.

### 8.3 FLAT ROOF INSULATION

Measure Description	Unit	
Flat Roof Insulation	R10 to R18	Square Feet
	R12 to R18	Square Feet
	R14 to R18	Square Feet
	R16 to R18	Square Feet
	R18 to R20	Square Feet
	R20 to R22	Square Feet
	R22 to R24	Square Feet

#### Description

This incentive is available for additional insulation on improving insulation on existing small commercial building types.

#### Eligibility

- This measure is not available for new construction.
- Total roof area should be less than 50,000 square feet.
- Roof insulation must be installed in a space that requires natural gas-fired space heating.
- All materials must be new and meet applicable state and local codes, and must be installed in accordance with the manufacturer's requirements.
- "Insulation Entirely Above Deck" and "Metal Building" as defined by ASHRAE 90.1 2013 roof insulation when they are installed between the conditioned and unconditioned areas qualify.
- Insulation levels that either starts less than the existing or excess the final R-value would qualify for a given line. For example:
  - R-9 to R-18 would qualify for R-10 to R-18 incentive.
  - R-10 to R-19 would qualify for the R-10 to R-18 incentive.
  - R-11 to R-19 would not qualify for the R-10 to R-18 incentive (but would qualify for R-12 to R-18).
  - R-10 to R-17 would not qualify for R-10 to R-18 (or any other incentive and therefore would not be eligible for an incentive).
- Space heating equipment must use natural gas.
- Building must be heated during the winter.

#### Additional Documentation Required

- The following documents must be submitted with the application.
- Scaled floor plan of total roof area (square feet) being insulated.
- Roof construction detail (sketch) showing a section cut of the existing and proposed roof.
- Specification of the proposed roof insulation.

#### Measure Selection Criteria

- Larger commercial and industrial customer should apply in the custom section of this application.

## 8.4 WALL & CEILING INSULATION

Measure Description	Unit
Wall Insulation	Square Feet
Ceiling Insulation	Square Feet

### Description

This incentive is available for new insulation on existing, uninsulated walls and roofs/ceiling.

### Eligibility

- Available for retrofit only. Not available for new construction.
- Proposed wall insulation R-value must meet or exceed R-12.
- Space heating equipment must use natural gas.

### Ceiling Insulation

- The starting attic insulation levels must be R-14. The final must exceed R-42.
- "Attic and Other" (as defined by ASHRAE 90.1 2013) roof insulation when they are installed between the conditioned and unconditioned areas qualify.
- Insulation installed above dropped commercial ceilings does not qualify.

### Additional Documentation Required

- Scaled floor plan of total roof area (square feet) being insulated.
- Roof construction detail (sketch) showing a section cut of the existing and proposed roof.

## 8.5 GENERAL REQUIREMENTS PIPE INSULATION

The following requirements apply to all pipe insulation measures:

- Not available for new construction.
- These incentives are available for retrofit projects using gas as the primary fuel source.
- If a dual-fuel system is used, or if natural gas is the back-up or redundant fuel, the project does not qualify.
- A minimum of R-4 (approximately 1 inch) of pipe insulation must be added to existing bare metal pipe system. Partially (more than R-0) insulated piping are not eligible.
- Minimum of 10 linear feet; maximum of 500 linear feet.
- Insulation used for pipes should be high-density fiberglass insulation, or closed-cell elastomeric foam insulation, shaped for pipes.
- Insulation installed in non-conditioned spaces are not eligibility.
- Conditioned spaces must be heated during the winter and must be natural gas.
- Domestic hot water and/or space heat must be generated by a natural gas-fired equipment (boiler or hot water heater).
- New or recently repaired piping does not qualify.

### Measure Selection Criteria

- The bare pipe size must be ½ inch to 2½ inch nominal pipe diameter. For piping of 3 inch or more nominal pipe diameter apply in the custom section at the bottom of this application.

## 8.6 SPACE HEATING PIPE INSULATION

Measure Description	Unit	
HVAC Space Heating Pipe Insulation	Hydronic	Linear Feet
	Steam	Linear Feet

### Description

This incentive is available for existing hydronic heating piping systems operating at a minimum design supply water temperature of 180°F or steam heating piping systems with no existing insulation.

### Eligibility

- All projects must meet the general requirements outlined above.
- Space heating equipment must use natural gas.

### Measure Selection Criteria

- Insulation on process boiler is not eligible. Apply in custom section at the bottom of this application.

## 8.7 DOMESTIC HOT WATER PIPE INSULATION

Measure Description	Unit	
Natural Gas Domestic Hot Water Pipe Insulation	Unconditioned Space (140°F)	Linear Feet
	Conditioned Space (140°F)	Linear Feet
	Unconditioned Space (120°F)	Linear Feet
	Conditioned Space (120°F)	Linear Feet

### Description

This incentive is available for existing domestic hot water (DHW) supply systems operating at a minimum of 120°F hot water supply temperature with no existing insulation.

### Eligibility

- All projects must meet the general requirements outlined above.
- Water heating equipment must use natural gas.

### Measure Selection Criteria

- This measure assumes bare metal pipe. Insulation of PEX piping for DHW should be applied for under the custom project section at the bottom of this application.

## 8.8 PROCESS BOILER INSULATION

Measure Description	Unit
Hydronic Valve	Valve
Steam Valve	Valve
Hydronic Strainer	Valve
Strainer/Steam Trap	Valve

### Description

This incentive is available for existing saturated steam piping systems operating at a minimum of 5 psi system pressure with no existing insulation.

### Eligibility

- All projects must meet the general requirements outlined above.
- Condensate piping extending to a drain does not qualify.
- Insulation for junctures must be removable, high-density fiberglass engineered covers or modular insulation kits.

## 8.9 DUCT SEALING

Measure Description	Unit
Duct Sealing 15% Leakage Base	Ton
Duct Sealing 20% Leakage Base	Ton
Duct Sealing 25% Leakage Base	Ton
Duct Sealing 30% Leakage Base	Ton

### Description

- This incentive is available on existing buildings more than 18 years old that have developed leaky duct over time.
- Supply and return ducts to be considered in the total leakage reduction and is assumed to be sealed to 8% leakage in post case.
- Leakage reduction is defined as the reduction in cfm (at operating static pressure) divided by total cfm (at operating static pressure) prior to duct sealing.

### Eligibility

- Only leakage to unconditioned space qualifies.
- Available for retrofit/repair on existing building. Not available for new construction.
- Work must be performed by a commercial HVAC professional (per invoice).
- This measure is available for small commercial building type only. Large commercial, light industrial, and heavy industrial should be applied in the custom section at the bottom of this application.
- Redundant or back-up units do not qualify.
- Space heating equipment must use natural gas.
- Building must be heated during the winter.

### Additional Documentation Required

- Pre and post duct leakage testing is required.
- Copy of air balance report (showing leakage % or cfm) at operating pressure before and after duct sealing.

## 8.10 HVAC DUCTWORK

Measure Description	Location	Unit
Insulating HVAC Supply Ductwork	Unconditioned Space	Square Feet
	Exterior Space	Square Feet
Insulating HVAC Return Ductwork	Unconditioned Space	Square Feet
	Exterior Space	Square Feet

### Description

This incentive is available for installing duct insulation onto ducts in unconditioned and exterior spaces.

### Eligibility

- Available for retrofit to existing building. Not available for new construction.
- Existing duct must be uninsulated.
- Minimum of R-6.7 applied to insulated ductwork ( $U = 0.15 \text{ BTU-ft}^2/\text{in-hr-}^\circ\text{F}$ ).
- Heating must occur at the VAV box and use gas-fired equipment. Resistive heating at the VAV box does not qualify.
- Building must be heated during the winter.

## 8.11 WINDOWS

Measure Description		SHGC	U-Value	Unit
Original Single Pane Window	Window With Original Storm Window	$\geq 0.58$	$\geq 0.76$	square feet (window surface area)
	With Low U Storm	$\geq 0.27$	$\geq 0.21$	square feet (window surface area)

### Description

This incentive is available for replacing single pane windows with double pane windows.

### Eligibility

- Available for retrofit to existing building. Not available for new construction.
- Existing windows must be single pane. Replacement of windows with broken vapor seals do not qualify.
- Replacement windows must meet or exceed the minimum optical (SHGC) and thermal (U-value) properties above for the respective measures to be eligible.
- Space heating equipment must use natural gas.
- Building must be heated during the winter.

## 9.0 Commercial Kitchen & Refrigeration Equipment

### 9.1 ENERGY STAR® COMMERCIAL KITCHEN COOKING EQUIPMENT

Measure Description		Unit
ENERGY STAR Fryer		Unit
ENERGY STAR Large Vat Fryer		Unit
ENERGY STAR Steam Cooker	5 pan	Unit
	6 pan	
ENERGY STAR Combination Oven		Unit
ENERGY STAR Convection Oven		Unit
ENERGY STAR Rack Oven	Single	Unit
	Double	
ENERGY STAR Griddle		Unit
High-Efficiency Pasta Cooker		Unit

#### Description

This incentive is available for ENERGY STAR rated commercial kitchen equipment.

#### Eligibility

- Available for new construction.
- Must be ENERGY STAR rated.
- Replacing electric equipment is not eligible (fuel switching).
- Used or rebuilt equipment is not eligible.

#### Appliance Specific Eligibility

##### Large vat fryers

- Must be 18" x 14" or greater and have a shortening capacity greater than 50 pounds.

##### Steam cooker

- Must be 5 or 6 pan. Other sizes do not qualify.
- Must have a cooking energy efficiency  $\geq 38\%$ .

##### Combination oven

- Must have a cooking energy efficiency  $\geq 40\%$ .

##### Convection oven

- Must have a cooking energy efficiency  $\geq 44\%$ .

##### Rack oven

- Must have a cooking energy efficiency  $\geq 50\%$ .

##### Griddle

- Cooking energy efficiency must be  $\leq 0.65$  for existing equipment and  $\geq 0.70$  for the new equipment.

##### Pasta cooker

- Pasta cookers should operate between 3 and 16 hours per day. Installations with lower operating times are ineligible and those with higher operating times should be custom projects.
- Note: There is no ENERGY STAR rating for this kitchen appliance. ENERGY STAR rated is not a criterion for eligibility.

### 9.2 PRE-RINSE SPRAYER

Measure Description	Replacing	Proposed	Unit
Pre-Rinse Sprayers	1.6 gpm	0.68	Unit

#### Description

This incentive is available for retrofit on existing sprayers to reduce flow rates to DOE Federal Energy Conservation Standards.

#### Eligibility

- Available for retrofit only. New construction is not eligible.
- Only available on class 1 sprayers (sprayer force  $\leq 5.0$  ozf).

### 9.3 COMMERCIAL REFRIGERATION HEAT RECOVERY

Measure Description	Unit	
Refrigeration Waste Heat Recovery	HVAC	Ton
	Domestic Water Heater	Ton

#### Description

This incentive is available for the installation of waste heat recovery equipment from condensers on commercial refrigeration system to either space heating or DHW.

#### Eligibility

- Available for retrofit or new construction.
- Condenser used to reject refrigeration system heat must be located in an area where the heat is not used (typically outside) or other purposes i.e.,  $>95\%$  wasted.
- Must include new heat exchanger installed in HVAC supply duct or cold water supply to domestic hot water system.
- Recovery heat exchanger must be designed for a minimum of 70% recoverable refrigeration load (heat recovery BTUh divided by condenser capacity BTUh must be  $\geq 70\%$ ).
- Space heating or domestic hot water equipment must use natural gas.
- Pre-heat tanks on domestic water systems is expected (for DWH measure).
- Building must be heated during the winter (for HVAC measure).

#### Additional Documentation Required

- Explanation of how waste heat is diverted during non-heating system for HVAC measure.

#### Measure Selection Criteria

- These measures cannot be taken together even if waste heat to recovered to heat hot water and space heat.
- Apply for waste heat recovery from compressor/rack in the custom section at the bottom of this application.
- Also apply for condenser as part of HVAC equipment or process chiller in custom section at the bottom of this application.
- Apply for heat recovery from industrial refrigeration in custom section at the bottom of this application.

## 9.4 FLEXIBLE BATCH BROILER

Measure Description	Unit
Flexible Batch Broiler With Catalyst	Unit
Flexible Batch Broiler	Unit

### Description

This incentive is available for flexible batch broiler.

### Eligibility

- Available for replacement of a conveyer broiler or new construction.
- Rather than running continuously, the appliance uses a thermostatic control to reduce energy use during non-cooking periods.
- Batch broiler must be an enclosed cooking chamber.
- A catalyst that breaks down grease that is present in the exhaust is required.
- Replacing electric equipment is not eligible (fuel switching).

## 9.5 ENERGY STAR® DISHWASHER

Measure Description	Unit
ENERGY STAR Dishwasher w/ Gas Booster	Door Type
	Unit
	Multi-Tank Conveyor
	Unit
	Single Tank Conveyor
	Unit
	Under Counter
	Unit

### Description

This incentive is available for the purchase of a new or replacement ENERGY STAR rated, high-temperature, gas dishwasher.

### Eligibility

- Available for placement of gas dishwasher that is not ENERGY STAR rated and new construction.
- Replacing electric equipment is not eligible (fuel switching).
- Must reach temperatures of 180°F to qualify as high temperature.
- Must be an ENERGY STAR rated commercial dishwasher.
- Must use natural gas for both primary heating and boost heating.

### Measure Selection Criteria

- Dishwasher with only gas as primary heat or gas booster may be eligible but should be applied for under the custom section of this application.
- Dishwasher with low temp designation may be eligible but should be applied for under the custom section of this application.

## 9.6 ENERGY STAR® CLOTHES WASHER

Measure Description	Unit
ENERGY STAR Clothes Washer	With Gas Water Heater and Electric Dryer
	Unit
	With Electric Water Heater and Gas Dryer
	Unit
	With Gas Water Heater and Gas Dryer
	Unit

### Description

- This incentive is available for ENERGY STAR washers. ENERGY STAR washers reduce the moisture content of clothes going into the dryer and uses less hot water.
- The savings is indirect as a reduction NG consumption of hot water heater usage and gas dryer. Please select the measure line that best applies to your facility.

### Eligibility

- Available for replacement new construction.
- Commercial washer must be ENERGY STAR rated to be eligible for this incentive.
- Dryer and hot water heater do not need to ENERGY STAR rated.
- Washer must be new. Used equipment does not qualify.
- Redundant or back-up washers are not eligible.
- Facility must do 4 loads or more a day and washer must be used year round.
- Washer capacity of ≥3.5 cubic feet.

### Additional Documentation Required

- Spec sheet or picture of nameplate of hot water heater.
- Spec sheet or picture of nameplate of dryer.
- Written statement indicating loads per day or loads per year.

## 10.0 Agriculture

### 10.1 GRAIN DRYERS

Measure Description	Unit
Higher Efficiency Grain Dryer	Bushels/year
Grain Dryer Heat Recovery	Bushels/year

#### Description

This incentive is available for new high-efficiency grain dryers have large drying capacities, which can process loads faster and at a greater efficiency.

#### Eligibility (Grain Dryer)

- Available for new construction.
- Existing grain dryer must be at least 20 years old and not utilize heat recovery.
- New dryer must be natural gas heated, permanently installed, and have a minimum grain dryer efficiency of 1,590 BTU/pound-water.

#### Eligibility (Heat Recovery)

- Not available on new construction.
- This measure is available for retrofitting heat recovery equipment onto existing grain dryers used for drying corn. The retrofitted unit must recirculate at least 30% of the drying air.
- The existing grain dryer must be in good working order with at least 10 years of useful life left.

#### Additional Documentation Required

- Annual productions documentation (bushels/year)

### 10.2 ENERGY STAR® DAIRY WATER HEATERS

Measure Description	Unit
ENERGY STAR Dairy Water Heaters	Unit

#### Description

This incentive is available for the replacement of a storage type gas water heater with an ENERGY STAR rated dairy water heater.

#### Eligibility

- Available for replacement or new construction.
- Must be ENERGY STAR rated.
- Must have a thermostat adjustable up to 180°F.
- Water heater capacity must be >75,000 BTU/hr.
- Must replace gas storage water heater (fuel switching).
- Must replace water heater with efficiency less than 85%.
- Redundant or back-up units do not qualify.

### 10.3 GREENHOUSE HEAT CURTAIN

Measure Description	Unit
Greenhouse Heat Curtain	Square Feet (of affected area)

#### Description

- This incentive is available for new or replacement heat curtains.
- Thermal curtains are mounted inside the greenhouse and are deployed during night-time hours.

#### Eligibility

- Available for retrofit where no curtain existed or as part of new construction.
- Must be designed by the manufacturer to be a heat curtain.
- Must have a natural gas savings rate ≥40% as shown on invoice.
- Effective life warranty of at least 5 years.
- Greenhouse must be heated during winter season.
- Heating equipment must be natural gas.
- Heat curtains must be controlled with a timer or thermostat.

### 10.4 GREENHOUSE INFRARED FILM

Measure Description	Unit
Greenhouse Infrared Film – Single-Layer Baseline	Square Feet (of affected area)
Greenhouse Infrared Film – Double-Layer Baseline	Square Feet (of affected area)

#### Description

- This incentive is available for installation of polyethylene film with IR additive.
- IR poly film adds extra protection against heat loss over Traditional poly.

#### Eligibility

- Available for the replacement of poly film (non-IR), IR poly film that is 5 years or older, and new construction.
- Infrared coating must be applied to film at the factory; coating applied on site to existing film does not qualify.
- Space heating equipment must use natural gas.
- Greenhouse must be heated during the winter.

#### Additional Documentation Required

- A written documentation indicating the existing film is standard poly film (non-IR) or indicates the age of the existing IR poly film. Documentation could also include old invoice, spec sheets (of the existing film), etc. If written documentation cannot be provided, a written statement will suffice.



## 10.5 GREENHOUSE HYDRONIC HEATING

Measure Description	Unit	
Greenhouse Under-Floor/ Under-Bench Hydronic Heating	w/o Thermal Curtain	Square Feet (of bench area served)
	with Thermal Curtain	Square Feet (of bench area served)

### Description

This incentive is available for installing under-floor (within concrete or direct contact) or under-bench hydronic heating loop for agricultural greenhouses.

### Eligibility

- Available retrofit of existing HAVC or new construction.
- Existing heating system must be unit heaters with forced air (fan) circulation.
- Existing heating system must be decommissioned or sequenced to provide backup heat.
- The forced air heating system may be retained for secondary, supplemental heating or for backup; however, it may not be utilized as the primary heating means.
- The temperature sensor(s) serving the under-floor or under-bench hydronic heating system must be located within the growing media.
- Space heating equipment must use natural gas.
- Building must be heated during the winter.

### Additional Documentation Required

- Statement indicating that Traditional space heating has been decommissioned or made secondary to hydronic floor heating and evidence of how it is sequenced.

## 10.6 GREENHOUSE ENVIRONMENTAL CONTROLS

Measure Description	Unit
Greenhouse Environmental Controls	Square Feet

### Description

This incentive is available for the installation of an automated environmental controls system to a greenhouse space with no existing scheduled temperature setback controls.

### Eligibility

- Available for retrofit to existing system or as part of new construction project.
- Proposed system must control temperature set points with at least hourly control configuration.
- Building controls must be programmed with scheduled setback or automatic setback.

## 11.0 Tune-ups

### 11.1 TUNE-UPS



The Boiler and Furnace Tune-up Application is available here. Please review and adhere to tune-up requirements and program Terms and Conditions.

## 12.0 Snow & Ice Melt Controls

### 12.1 ADVANCED SNOW MELT CONTROLS

Measure Description	Unit
Optimized Snow and Ice Melt Controls – Without Idle Mode	Square Feet of Heated Pavement
Optimized Snow and Ice Melt Controls – Without Idle Mode	Square Feet of Heated Pavement

### Description

This incentive is available for controls that stop the recirculation of fluid through the snow melt piping system when there is no snow or ice on the ground.

### Eligibility

- Available for replacement and new construction.
- The proposed controller must be programmed to turn off completely, not idle, when precipitation is not present. BAS system must gather weather forecast information and engage the snow/ice melt system to maintain an idle mode slab temperature of approximately 32°F for approximately 8 hours before the predicted precipitation event hours.
- Installing a surface temperature setpoint control and/or moisture control to turn off snow melt system is not eligible.
- A slab moisture sensor is required to enable slab temperature to rise to 40°F during a moisture event.



- All custom projects must be facility improvements that result in a permanent reduction in natural gas energy usage due to an increase in a systems efficiency. Projects that result in reduction of energy consumption without an improvement in system efficiency are not eligible for a custom incentive. However, projects involving automated control technology may be eligible for incentives. All equipment purchased for custom projects must be new. Projects that entail measures covered by the prescriptive incentive program are not eligible for custom incentives.
- The annual gas savings must be calculated for all custom projects using industry accepted engineering algorithms and/or simulation models. Calculations must be completed for both the existing and

proposed equipment/systems based on the current operation of the facility. If the equipment has reached the end of its useful life, the existing system must be substituted with equipment that would meet the applicable federal and local energy codes when calculating the annual energy savings.

- All calculations, metered data, equations, and assumptions must be submitted with the application along with their sources if applicable.

## 2024 Custom Project Specification

Measure Description	Unit
Custom – Natural Gas	Therm Saved

- All custom projects must be facility improvements that result in a permanent reduction in natural gas energy usage due to an increase in a system's efficiency. Projects that result in reduction of energy consumption without an improvement in system efficiency are not eligible for a custom incentive. However, projects involving automated control technology may be eligible for incentives. All equipment purchased for custom projects must be new. Projects that entail measures covered by the prescriptive incentive program are not eligible for custom incentives.
- The annual gas savings must be calculated for all custom projects using industry accepted engineering algorithms and/or simulation models. Calculations must be completed for both the existing and proposed equipment/systems based on the current operation of the facility. If the equipment has reached the end of its useful life, the existing system must be substituted with equipment that would meet the applicable federal and local energy codes when calculating the annual energy savings.
- All calculations, metered data, equations, and assumptions must be submitted with the application along with their sources if applicable. SEMCO Energy Waste Reduction Program is solely responsible for the final determination of the annual energy savings to be used in calculating the incentive amount. Preliminary and post inspections are required to verify equipment and operation conditions. SEMCO Energy Waste Reduction Program reserves the right to require specific measurements and verification measures, including monitoring both before and after the completion of the project. The incentive payment will be based on the result of the above-mentioned activities.

- Project payback is equal to the ratio of the project cost divided by the annual energy bill savings. To qualify for a custom project, the project payback must be at least one year and no more than eight years. A pre-application is required for all custom projects while the existing equipment is still in operation in order to allow SEMCO Energy Waste Reduction Program the opportunity to verify the existing equipment.
- The following types of projects do not qualify for energy efficiency incentives:
  - On-site electricity generation.
  - Renewable energy.
  - Changes in operational and or/maintenance practices, or simple control modification that do not involve capital cost.