



ENERGY SAVINGS FOR BUSINESS

Investing to keep businesses competitive

An Overview of Process Heating, Compressed Air, and Building Envelope Measures



About ERA

MANDATE

Reduce GHG emissions and grow Alberta's economy by accelerating the development and adoption of innovative technology solutions.

VISION

Alberta has competitive industries that deliver sustainable environmental outcomes, attract investment, and are building a diversified, lower carbon economy.

STRATEGIC PRIORITIES

- 1 ACCELERATE TECHNOLOGY
- 2 DRIVE COMMERCIALIZATION
- 3 MAXIMIZE IMPACT













Measure Categories

Compressed air

Solar PV

Lighting systems and controls

Motors and drives

Combined heat and power (CHP)

Refrigeration

Geothermal

HVAC

Water Heating

Process Heating

Building Envelope and Windows

COMING SOON

Food service

Pump Jack Controllers







- If a pre-project application is submitted, but is not approved, it does not hold a place in the line for the incentive reservation
- The incentive is only reserved after the pre-project application is approved
- It is important to submit good-quality applications with complete documentation or the review cannot occur comprehensively; this delays the review and approval process



Eligible Measures Types

Process Heating

Compressed Air

Building Envelope







- Steam Traps
 - Replace failed, leaky or plugged traps
- Economizer
 - Condensing
 - Non-condensing
- Insulation
 - Pipes and Fittings
- The incentive value is based on per trap, per MBH or per ft





Eligibility: Process Heating

- ☐ Steam traps must be in service
- ☐ Economizer must be used for preheating feedwater. Process and space heating boilers are both eligible.
 - ☐ Condensing Economizers are capped at \$30,000
 - Non-Condensing Economizers are capped at \$20,000
 - ☐ Replacing existing economizers are not eligible
- ☐ Insulation available for both pipes and fittings
 - ☐ Must be high-density fiberglass or closed-cell elastomeric foam
 - ☐ Minimum R-value of 4





- ☐ Must submit specification sheets for all new equipment
- ☐ Must provide the following details of the boiler system the new measures will be installed:
 - Boiler capacity
 - Operating hours
 - Efficiency
- ☐ If installing steam traps, please provide:
 - ☐ The type
 - ☐ The diameter
 - ☐ If the steam is saturated or superheated

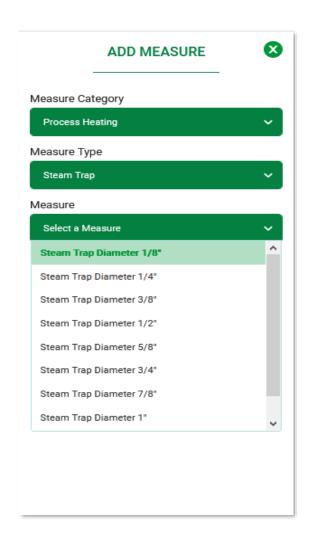




Application: Process Heating

STEP 1

Select the type of heating measure to be added to the application.



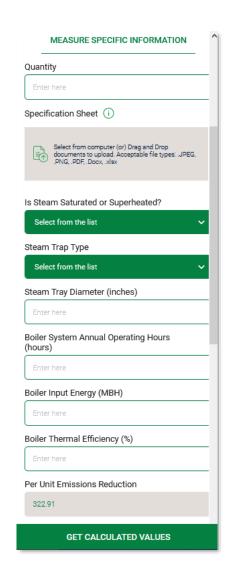




Application: Process Heating

STEP 2

Provide the required measure specific required information.









Compressed Air

- VFD-Integrated Compressor
- Zero-Loss/No-Loss Condensate Drains
- Engineered Nozzles
- Air Receivers
- Air Dryers (Cyclic or thermal mass refrigerated dryer, dessicant dryer)
- Low Pressure Drop Filter





- VFD-Integrated Compressor
 - ☐ Must replace a fixed speed unit
 - Compressor should not be a backup
- ☐ Zero-Loss Condensate Drain
 - ☐ Must replace a timer-controlled drain on tank or piping
 - Not eligible for replacing existing no loss drains
- ☐ Compressed Air Storage
 - Must result in an increase of primary storage

- Engineered Nozzle
 - Must be installed on an open pipe or replace a non-commercial nozzle
- ☐ Air Dryers
 - Refrigerated dryers must replace noncycling dryers
 - Dessicant dryers must have dew point controls to optimize the regeneration cycles
- ☐ Low Pressure Drop Filter
 - ☐ Rated Pressure drop must not exceed 1psig
 - ☐ Must replace an old coalescing filter



Requirements: Compressed Air

- Must submit specification sheets for all new equipment
- Must provide the following details:
 - ☐ The compressed air operating pressure
 - ☐ The type and number of air compressor(s) currently in operation, their HP, the CFM, and the number of air compressor(s) on standby
 - ☐ The compressor's approximate average percent loading
 - ☐ The type of equipment being replaced
 - ☐ The nameplate information

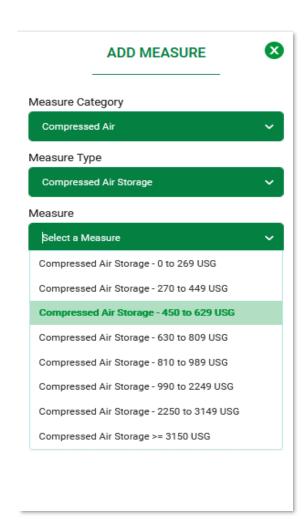




Application: Compressed Air

STEP 1

Select the type of Compressed Air measure to be added to the application.



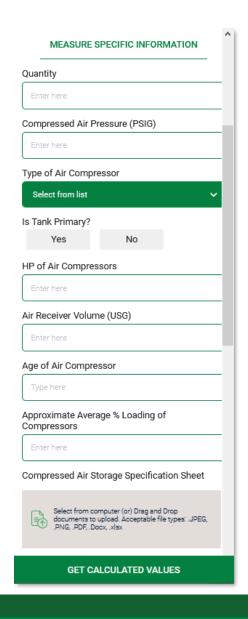




Application: Compressed Air

STEP 2

Provide the required measure specific required information.









- Air Curtains
 - Shipping/receiving doors dock-in
 - Pedestrian
- Door Dock Seal
 - Compression Type
 - Shelter type
- Insulation
 - Ceiling
 - Wall
- High Efficiency Windows







- Air Curtains
 - Must be installed on single/double shipping/receiving doors
 - Must be tested by ANSI/AMCA 220-05 or similar
 - ☐ Not eligible where other infiltrationcombatting mechanisms are present
- Door Dock Seal
 - Must replace deteriorated seals or addition of new seals on existing shipping/receiving doors

- □ Ceiling Insulation
 - Minimum incremental increase in insulation of R-20
 - Minimum combined insulation greater than R-40
- Wall Insulation
 - ☐ Minimum incremental increase in insulation of R-7
 - Minimum combined insulation greater than R-27
- ☐ High-Efficiency Windows
 - U-Value thermal resistance to be less than 0.30





Requirements: Building Envelope Must submit specification sheets for all new equipment

- Air Curtains and Door Dock applications must provide:The height of the doorway that will be covered
 - ☐ The width of the doorway that will be covered
- ☐ High Efficiency Window applications must provide:
 - ☐ The area of new windows (in sq.ft)
 - ☐ The U-Value of New Windows
- Wall and ceiling insulation applications must provide:
 - ☐ Area covered by insulation (sq.ft)
 - ☐ R-Value of new insulation
 - ☐ R-Value of existing insulation



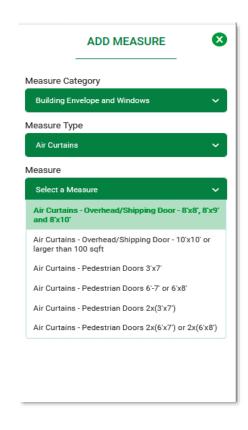




Application: Building Envelope

STEP 1

Select the type of heating measure to be added to the application.



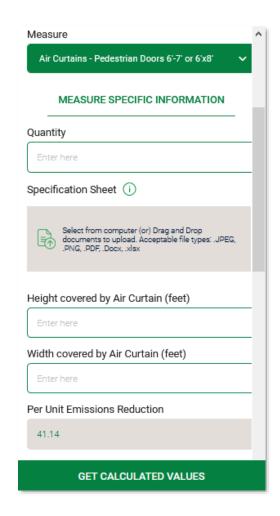




Application: Building Envelope

STEP 2

Provide the required measure specific required information.









Application: Emissions and Costs

STEP 3

The emissions reduction estimates are automatically calculated. Review all costs to ensure they have been accurately recorded. They will be compared to the cost quote(s) uploaded in the application. The incentive is capped to 50% of the total cost.

NOTE: Installation costs should be included in the labour costs. All other costs should be included in the design costs.

Per Unit Emissions Reduction	
0.193	
Total Emissions Reduction	
Equipment & Material Costs (i)	
Enter here	
Labour Cost (i)	
Enter here	
Design Cost (i)	
Enter here	

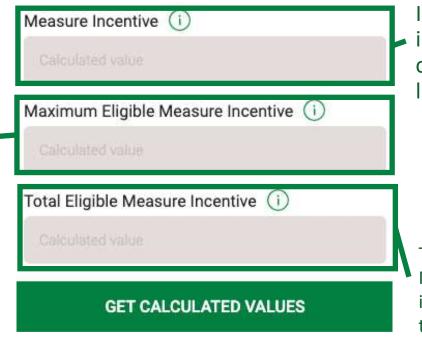


Application: Calculated Incentives

STEP 4

Review the calculated values.

Maximum Eligible
Measure Incentive
is the calculated
incentive cap
relative to the total
eligible project
cost.



Measure Incentive is the incentive based on the measures list.

The Total Eligible Measure Incentive is the lower of the two above values.







Example of Project Incentive Calculation

A company is looking to carry out projects in two different facilities:

- Facility A: Economizer installation
- Facility B: VFD Integrated Compressor installation

Pe	r Unit Emissions Reduction
24	2.641085082
To	tal Emissions Reduction
Eq	uipment & Material Costs (i)
E	inter hom
La	bour Cost (i)
E	inter here
De	sign Cost (i)
1	inter here
То	tal Cost



Example of Project Incentive Calculation: Facility A Project

Total Cost of Economizer (equipment + labour) = \$21,500 Economizer capacity = 4,000 MBH

Potential Measure Incentive 4,000 x \$3/MBH =\$12,000 Maximum Eligible
Measure Incentive
\$21,500 x 50%
= \$10,750

Total Eligible Measure Incentive = \$10,750



Example of Project Incentive Calculation: Facility B Project

Total Cost of VFD Integrated Compressor (equipment + labour) = \$61,200 Compressor Rating = 50hp

Potential Measure Incentive

1 x \$7,500 = \$7,500

Maximum Eligible Measure Incentive

\$61,200 x 50% = \$30,600

Total Eligible Measure Incentive = \$7,500







	Facility A Project (Economizer)	Facility B Project (VFD Compressor)
Total Costs (Equipment, Labour and Design)	\$21,500	\$61,200
Potential Measure Incentive	\$12,000	\$7,500
Maximum Eligible Measure Incentive	\$10,750	\$30,600
Eligible Measure Incentive	\$10,750	\$7,500







Support Team

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By chat on the ERA website and program portal