



# ENERGY SAVINGS FOR BUSINESS

*Investing to keep businesses competitive*



**ESB Small Producers Energy Efficiency Deployment (SPEED)**

**HVAC Checklist**

March 7, 2022

Version 1.0



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## INTRODUCTION

This document is intended as a guide to support the submission of accurate and complete HVAC project applications. All applicants with HVAC projects should ensure the application meets the SPEED Eligibility Requirements set out in the Participant Terms and Conditions, Contractor Code of Conduct and Eligible Measures List. The applicant must submit the requested documentation and answer the questions contained within this document.

This checklist includes guidance for what needs to be entered in each input field at Step 4 and Step 5 of the Application process. Step 5 specifically describes which documents need to be uploaded and their purpose.

## GUIDANCE ON APPLICATIONS

The following sections provide guidance on HVAC applications, ensuring that they are complete, accurate and comprehensive.

The applicant and/or contractor will also need to provide the following information in Step 4 and Step 5 of the application submission, as further described in the tables below.

## STEP 4 OF PRE-PROJECT APPLICATION

### ADVANCED ROOFTOP UNIT CONTROLS

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
RTU Heating Capacity (BTU/hr)	Enter heating capacity of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Heating Efficiency (%)	Enter heating efficiency of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Cooling Capacity (Tons)	Enter cooling capacity of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Cooling Efficiency (EER)	Enter cooling efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Control System Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Control System Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Control System Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## AIR SOURCE HEAT PUMP OR VARIABLE REFRIGERANT FLOW SYSTEM

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
ASHP or VRF System Capacity (Tons)	Enter the system capacity in Tons. If multiple systems of varying capacity are being installed, then enter the weighted average capacity <sup>1</sup> .	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Please Confirm That Electrical Heat is Being Replaced	Select either 'Yes' or 'No'	<ul style="list-style-type: none"> <li>• Checking if the measure is eligible.</li> </ul>
Cooling System Replaced	Confirm if cooling system is being replaced.	<ul style="list-style-type: none"> <li>• Checking if the measure is eligible.</li> </ul>
ASHP or VRF System Heating Efficiency (HSPF)	Enter heating efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> <li>• Checking if the measure is eligible.</li> </ul>
ASHP or VRF System Cooling Efficiency (SEER)	Enter cooling efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> <li>• Used to check measure eligibility.</li> </ul>
ASHP or VRF System Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
ASHP or VRF System Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
ASHP or VRF System Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

<sup>1</sup> Weighted average capacity: If there are multiple systems with different capacities; C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub> ... C<sub>n</sub> and the quantities of each being installed are Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub> ... Q<sub>n</sub> then the weighted average capacity can be calculated as (C<sub>1</sub>Q<sub>1</sub> + C<sub>2</sub> Q<sub>2</sub> + C<sub>3</sub>Q<sub>3</sub> + .....+ C<sub>n</sub>Q<sub>n</sub>) / (Q<sub>1</sub> + Q<sub>2</sub> + Q<sub>3</sub> + .....+ Q<sub>n</sub>)

Field	What to Enter	How Data or Input Provided is Used
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## BOILERS AND HEATERS/ FURNACES

- Condensing Boiler

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Energy Star ID	Energy Star ID for the measure (available at <a href="https://www.energystar.gov/">https://www.energystar.gov/</a> ).	<ul style="list-style-type: none"> <li>• Review of Measure.</li> </ul>
AHRI Certified Reference Number	Enter AHRI certified reference number (available at ( <a href="https://www.ahridirectory.org/">https://www.ahridirectory.org/</a> )).	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Boiler Input Rate (MBH)	Enter input rate in MBH as indicated on specification sheet and invoice / final quote. If multiple systems of varying input rate are being installed, then enter the weighted average input rate <sup>2</sup> .	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Boiler Efficiency (%)	Enter boiler efficiency as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Boiler System Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one boiler system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Boiler Application	<p>Select from the list the application of the boiler:</p> <ul style="list-style-type: none"> <li>• Space Heating</li> <li>• Water Heating</li> <li>• Process Heating</li> <li>• Combination</li> </ul>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>

<sup>2</sup> Weighted average capacity: If there are multiple systems with different input rates; IR<sub>1</sub>, IR<sub>2</sub>, IR<sub>3</sub> ... IR<sub>n</sub> and the quantities of each being installed are Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub> ... Q<sub>n</sub> then the weighted average input rate can be calculated as (IR<sub>1</sub>Q<sub>1</sub>+IR<sub>2</sub>Q<sub>2</sub> + IR<sub>3</sub>Q<sub>3</sub> + .....+ IR<sub>n</sub>Q<sub>n</sub>)/ (Q<sub>1</sub>+ Q<sub>2</sub> + Q<sub>3</sub> + .....+ Q<sub>n</sub>)

Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

- Condensing Unit Heater
- High-Efficiency Furnace

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Energy Star ID	Energy Star ID for the measure (available at <a href="https://www.energystar.gov/">https://www.energystar.gov/</a> ).	<ul style="list-style-type: none"> <li>• Review of Measure.</li> </ul>
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>



## BOILER AND HEATER CONTROLS

- Modulating Boiler Burner
- Boiler Vent Damper

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Boiler Input Rate (MBH)	Enter input rate in MBH as indicated on specification sheet and invoice / final quote. If multiple systems of varying input rate are being installed, then enter the weighted average input rate <sup>3</sup> .	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Boiler Efficiency (%)	Enter boiler efficiency as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Boiler System Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one boiler system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Boiler Application	Select from the list the application of the boiler. <ul style="list-style-type: none"> <li>• Space Heating</li> <li>• Water Heating</li> <li>• Process Heating</li> <li>• Combination</li> </ul>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

<sup>3</sup> Weighted average capacity: If there are multiple systems with different input rates; IR<sub>1</sub>, IR<sub>2</sub>, IR<sub>3</sub> ... IR<sub>n</sub> and the quantities of each being installed are Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub> ... Q<sub>n</sub> then the weighted average input rate can be calculated as (IR<sub>1</sub>Q<sub>1</sub>+IR<sub>2</sub>Q<sub>2</sub> + IR<sub>3</sub>Q<sub>3</sub> + .....+ IR<sub>n</sub>Q<sub>n</sub>)/ (Q<sub>1</sub>+ Q<sub>2</sub> + Q<sub>3</sub> + .....+ Q<sub>n</sub>)

## CHILLERS

- Air Cooled Chiller

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Chiller Capacity (Tons)	Enter chiller capacity in Tons as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Efficiency (EER)	Enter chiller efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> <li>• Used to check measure eligibility.</li> </ul>
Chiller Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

- Water Cooled, Positive Displacement
- Water Cooled, Centrifugal

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one fixture.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Chiller Capacity (Tons)	Enter chiller capacity in Tons as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Efficiency (kW/Ton)	Enter chiller efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> <li>• Used to check measure eligibility.</li> <li>• Post-project QA/QC.</li> </ul>
Chiller Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Chiller Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## DEMAND CONTROLLED VENTILATION

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Input Rate (MBH)	Enter the heating system input rate for the building the measure is being installed.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Efficiency (%)	Enter the heating system efficiency for the building the measure is being installed.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Area Being Controlled by Sensor (sqft)	Enter the area controlled by one sensor.	<ul style="list-style-type: none"> <li>• Used to check measure eligibility.</li> <li>• Post-project QA/QC.</li> </ul>
Cooling System Capacity (Tons)	Enter the cooling system capacity for the measure is being installed.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Cooling System Efficiency (EER)	Enter the cooling system efficiency for the measure is being installed.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## DESTRATIFICATION FANS

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Input Rate (MBH)	Enter the heating system input rate for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Efficiency (%)	Enter the heating system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Cooling System Capacity (Tons)	Enter the cooling system capacity for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Cooling System Efficiency (EER)	Enter the cooling system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Height of Installation of Destratification Fan (feet)	Enter height of installation of destratification fan.	<ul style="list-style-type: none"> <li>• Used to check measure eligibility.</li> <li>• Post-project QA/QC.</li> </ul>
Diameter of Destratification Fan (inches)	Enter diameter of destratification fan as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Checking if the measure is eligible.</li> <li>• Post-project QA/QC.</li> </ul>
Estimated Coverage Area of Destratification Fan (sqft)	Enter area covered by one destratification fan.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Destratification Fan (CFM)	Enter fan's cubic feet per minute capability.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>

Roof R-Value	Enter roof insulation R-value.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## ENERGY RECOVERY VENTILATOR AND HEAT RECOVER VENTILATOR

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
HRV/ERV (CFM)	Enter CFM of the equipment as indicated on specification sheet. If multiple systems of varying capacity are being installed, then enter the weighted average capacity <sup>4</sup> .	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Percentage Sensible Heat Recovery (%)	Enter sensible effectiveness of equipment as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Heating System Input Rate (MBH)	Enter the heating system input rate for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Efficiency (%)	Enter the heating system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
HRV/ERV Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
HRV/ERV Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
HRV/ERV Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>

<sup>4</sup> Weighted average capacity: If there are multiple systems with different capacities; C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub> ... C<sub>n</sub> and the quantities of each being installed are Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub> ... Q<sub>n</sub> then the weighted average capacity can be calculated as (C<sub>1</sub>Q<sub>1</sub> + C<sub>2</sub> Q<sub>2</sub> + C<sub>3</sub>Q<sub>3</sub> + .....+ C<sub>n</sub>Q<sub>n</sub>)/ (Q<sub>1</sub> + Q<sub>2</sub> + Q<sub>3</sub> + .....+ Q<sub>n</sub>)



Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>



## MAKE-UP AIR UNIT

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Make-up Air Unit Thermal Efficiency (%)	Enter thermal efficiency for the Make-up Air Unit.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Make-up Air Unit CFM	Enter CFM of the equipment as indicated on specification sheet. If multiple systems of varying capacity are being installed, then enter the weighted average capacity <sup>5</sup> .	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Make-up Air Unit Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Make-up Air Unit Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Make-up Air Unit Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

<sup>5</sup> Weighted average capacity: If there are multiple systems with different capacities; C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub> ... C<sub>n</sub> and the quantities of each being installed are Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub> ... Q<sub>n</sub> then the weighted average capacity can be calculated as (C<sub>1</sub>Q<sub>1</sub> + C<sub>2</sub> Q<sub>2</sub> + C<sub>3</sub>Q<sub>3</sub> + .....+ C<sub>n</sub>Q<sub>n</sub>) / (Q<sub>1</sub> + Q<sub>2</sub> + Q<sub>3</sub> + .....+ Q<sub>n</sub>)

## PACKAGED TERMINAL HEAT PUMP

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one pump.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
PTHP Input Rate (MBH)	Enter input rate in MBH as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
PTHP Cooling Capacity (Tons)	Enter cooling capacity in Tons as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
PTHP Heating Efficiency (HSPF)	Enter value as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
PTHP Cooling Efficiency (SEER)	Enter value as indicated on specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## PIPE INSULATION

Field	What to Enter	How Data or Input Provided is Used
Quantity	Quantity of specific measure being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	Upload the specification sheet for the measure.  Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one pipe.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Input Rate (MBH)	Enter the heating system input rate for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Heating System Efficiency (%)	Enter the heating system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
Length of Insulation (feet)	Enter length of insulation as indicated on specification sheet. If multiple pipes of varying lengths are being installed, then enter the average length for all of them.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Pipe Diameter (inches)	Enter diameter of pipe as indicated on specification sheet. If multiple pipes of varying diameter are being installed, then enter the weighted average diameter <sup>6</sup> .	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

<sup>6</sup> Weighted average capacity: If there are multiple pipes with different diameters;  $D_1, D_2, D_3 \dots D_n$  and the quantities of each being installed are  $Q_1, Q_2, Q_3 \dots Q_n$  then the weighted average diameter can be calculated as  $(D_1Q_1 + D_2 Q_2 + D_3Q_3 + \dots + D_nQ_n) / (Q_1 + Q_2 + Q_3 + \dots + Q_n)$

## ROOF-TOP UNITS (RTU)

Field	What to Enter	How Data or Input Provided is Used
Quantity	Quantity of specific measure being installed.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> <li>• Used for estimating energy savings achieved.</li> </ul>
RTU Heating Capacity (BTU/hr)	Enter heating capacity as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Heating Efficiency (%)	Enter heating efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Cooling Capacity (Tons)	Enter cooling capacity as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Cooling Efficiency (EER)	Enter cooling efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
RTU Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> <li>• Post-project QA/QC.</li> </ul>
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>

## STEP 5 OF PRE-PROJECT APPLICATION: ALL HVAC MEASURES

Field	What to Enter	How Data or Input Provided is Used
Cost Quote	Quote or invoice should be itemized to include quantity, brand, model numbers for equipment, applicant name, contractor name, facility address and date (Sample quote provided at Appendix). Costs should be indicated separately for: <ul style="list-style-type: none"> <li>• Equipment and Material</li> <li>• Labour</li> <li>• Design and Others</li> <li>• Taxes</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-reference against provided costs.</li> <li>• Calculate eligible incentive.</li> <li>• Post-project QA/QC.</li> </ul>
Electricity Bill for Facility	Upload the most recent electricity bill available for the facility.	<ul style="list-style-type: none"> <li>• Ascertain rate class.</li> </ul>

## POST-PROJECT APPLICATION

Note that for the post-project application, you will be required to confirm that no changes were made from the pre-project application, unless an Application Change Approval Notice was issued by ERA. In terms of documents required, you will need to provide evidence of the following:

- Invoice for Project Costs
- Proof of Payment for Project Costs
- Post-Project Photo
- Conditions stated in the Notice of Pre-Approval.

Participant may be subject to a QA/QC check and asked for additional documentation to facilitate a site visit.


## APPENDIX

### SAMPLE INVOICE/FINAL QUOTE

Quotes should be itemized to include quantity, brand, model numbers for equipment, applicant name, contractor name, facility address and date. Costs should be indicated separately for:

- Equipment and Material,
- Labour,
- Design and Others, and
- Taxes.

A sample quote is provided below:

	<b>Company Address:</b> XXXX		
	<b>Website:</b> XXXX		
	<b>Phone:</b> XXXX		
<b>PROJECT NAME:</b> XXXX		<b>Project Start Date:</b>	XXXX
		<b>Project Completion Date:</b>	XXXX
<b>Applicant Company:</b> XXXX		<b>Quote #:</b>	XXXX
<b>Applicant Name:</b>	XXXX	<b>Date:</b>	XXXX
<b>Facility Address:</b>	XXXX		
<b>Phone:</b>	XXXX		
<b>Measure #1</b>			
<b>Fixture Description</b>	LITHONIA CPANL 2X4 40/50/60LM 40K M2	<b>DLC</b>	PMS5PPS6
<b>Measure Description</b>	LED 2x4 Recessed Light Fixture - 4,500 – 5,999 Lumen Output	<b>QTY</b>	63
<b>Measure Equipment/Material Costs</b>			\$ 6,538.71
<b>Measure Labour Costs</b>			\$ 13,251.74
<b>Measure Design/Other Costs</b>			\$ -
	<b>Measure Total Costs</b>		\$ 19,790.45
<b>Measure #2</b>			
<b>Motor Description</b>	ILA7080-H Siemens Semiotics 10 hp	<b>QTY</b>	1
<b>Measure Description</b>	Premium efficient motor –ODP-10 hp		
<b>Measure Equipment/Material Costs</b>			\$ 934.10
<b>Measure Labour Costs</b>			\$ 123.11
<b>Measure Design/Other Costs</b>			\$ 50.00
	<b>Measure Total Costs</b>		\$ 1,107.21
<b>Measure #3</b>			
<b>Sensor Description</b>	Occupancy Sensor	<b>QTY</b>	305
<b>Measure Description</b>	Fixture Mounted Sensor		
<b>Measure Equipment/Material Costs</b>			\$ 15,250.00
<b>Measure Labour Costs</b>			\$ -
<b>Measure Design/Other Costs</b>			\$ -
	<b>Measure Total Costs</b>		\$ 15,250.00
<b>Total</b>			
<b>Total Equipment/Material Costs</b>			\$ 22,722.81
<b>Total Labour Costs</b>			\$ 13,374.85
<b>Total Design/Other Costs</b>			\$ 50.00
	<b>Total Project Cost</b>		\$ 36,147.66
	<b>GST</b>		\$ 1,807.38
	<b>Total Cost w/ GST</b>		\$ 37,955.04