ENERGY WISE

for your Business

Many HVAC-related factors could be significant with respect to indoor air quality; currently with an acute awareness around COVID-19.

HEALTHY BUILDINGS

The Pacific Northwest National Laboratory estimates that 90% of the installed rooftop units (RTU) are constant volume systems with single speed supply fans.[1] These constant volume RTUs are a prime opportunity for applying HVAC controls for energy efficiency and healthy buildings. Indoor air quality is the primary focus of Healthy Buildings for occupant health, safety, and comfort.

With current concerns around indoor air quality in relation to spread of infection aerosols, HVAC controls offer a risk mitigation solution. Many HVAC-related factors could be significant with respect to indoor air quality; currently with an acute awareness around COVID-19 but also relevant for seasonal cold and flu, and other airborne diseases such as tuberculosis and measles.[2]

Indoor Air Quality Assessment – NEW Rebate

Payment of the rebate will only be made after the building has been assessed and a report has been completed. Report should include findings from the IAQ Test, documentation of HVAC system equipment, recommendations, and impacts to energy use.

Private business facilities:

Tier 1: under 50 kW peak, $500 up to 100% of cost

Tier 2: over 50-150 kW peak, $1,000 up to 100% of cost

Tier 3: over 150 kW peak, $1,500 up to 75% of cost

Public Facilities:

100% of cost up to $1,500.

State, county, and municipal, but excludes federal facilities.

Examples: public schools (K-12), police and fire departments, public libraries, community centers, city hall

Advanced Rooftop Controller (ARC) – NEW Rebate

Advanced rooftop controllers convert constant volume RTUs to variable speed systems that can optimize HVAC performance for varying loads.[3] An advanced rooftop controller offers an integrated ventilation strategy to optimize energy use in conditioned spaces while minimizing spread of aerosols exposure. ARC packages demand-controlled ventilation, supply-fan speed control, and rooftop unit economizer control.

Rebate: $50/RTU ton

ARC rebates cannot be combined with DCV or supply-fan VSD rebates. New or replacement RTUs with an economizer can be combined with the ARC rebate.

[1] https://www.pnnl.gov/main/publications/external/technical_reports/pnnl-22656.pdf

[2] https://images.magnetmail.net/images/clients/ASHRAE//attach/AJ_Newsletter/Light_September_2020.pdf

ENERGY WISE MN

Demand control ventilation (DCV) – NEW Rebate

Demand-controlled ventilation modulates the percentage of outside air that is delivered to a space and its occupants by controlling the position of the outside air damper. The outside air damper is set to the minimum position required for the space and is opened further when carbon-dioxide concentration in the conditioned space increases, which indicates an increase in occupancy.

Rebate: $10/ton

Supply-fan variable speed drive (VSD)

Th supply-fan VSD is used to reduce the speed of the supply fan when full design airflow is not required. When the unit is only providing ventilation air (i.e., not heating or cooling), the airflow is reduced substantially, but not below the required minimum ventilation rate. The flow for heating and cooling can also be reduced a small amount in most cases of first stage modes.[4]

Rebate: $30/HP

Economizer

The rooftop unit economizer opens and closes to provide energy-free outside air when outdoor air conditions permit. This saves energy by minimizing the energy required to unnecessarily heat/cool and humidify/dehumidify outside air.

Rebate: $10/ton

Economizer must be carbon-dioxide and enthalpy controlled.

Ultraviolet Germicidal Irradiation (UVGI) – NEW

Ultraviolet lighting using the application of short wavelength "C" is effective for germicidal irradiation to inactive microorganisms and pathogens on surfaces and in the air. The typical application ties into HVAC system focusing on duct work and coils to provide high mitigation rates for a low investment. This technology is proven against many pathogens including bacteriophages and viruses (such as COVID-19 and flu) and is common practice in hospital and clinic settings. Turing the UVGI system off before maintenance or inspection is recommended to prevent exposure to eyes and skin.

Rebate: $0.10/installed watt

[3] https://www.pnnl.gov/main/publications/external/technical_reports/pnnl-22656.pdf

[4] https://www.focusonenergy.com/sites/default/files/2019_TRM_Final_Update_0.pdf

HEATING AND COOLING

2023 Reference and Conversion Sheet

Notice: On January 1, 2023 the Department of Energy (DoE) began using a new testing procedure to rate the efficiency of air conditioners and air source heat pumps. These changes require new metrics (SEER2/EER2/HSPF2) that were derived from the DoE's new test procedure (M1) rather than the historical metrics (SEER/EER/HSPF) from the old test procedure (M).

The simple conversion table below will help you to identify air conditioning (AC) and air source heat pump (ASHP) equipment that qualifies for ENERGYWISE rebates in 2023 using the following steps.

Step 1: Determine what ratings system was used for the equipment model that you plan to purchase.

Step 2: Confirm that the efficiency ratings of the new equipment exceeds the requirements for the rebate measure you are applying for using the table below to convert between the old and new efficiency ratings when needed.

SEER	DUCTED SEER2	DUCTLESS SEER2
14.0	13.4	14.0
14.5	13.8	14.5
15.0	14.3	15.0
15.5	14.8	15.5
16.0	15.2	16.0
17.0	16.2	17.0
17.5	16.7	17.5
18.0	17.2	18.0
19.0	18.1	19.0
20.0	19.0	20.0

EER	DUCTED EER2	DUCTLESS EER2
10.2	9.8	10.2
11.0	10.5	11.0
11.5	11.0	11.5
11.7	11.2	11.7
12.0	11.5	12.0
12.2	11.5	12.2
12.5	12.0	12.5
13.0	12.5	13.0

HSPF	DUCTED SPLIT HSPF2	DUCTED PACKAGE HSPF2	DUCTLESS HSPF2
8.0	6.8	6.7	7.7
8.2	7.0	6.9	7.9
8.8	7.5	7.4	8.4
9.0	7.7	7.6	8.6
9.5	8.1	8.0	9.1
10.0	8.5	8.4	9.5
11.0	9.4	9.2	10.4

NOTE: The cross references for efficiency in the above tables should be noted as approximate.

Important:

- Check with cooperative for qualifying rebate amounts.
- Product(s) must be installed within the cooperative's service territory.
- ASHP and CAC installations require the QI form provided by a QI contractor. Incomplete forms will not be processed.
- Include a copy of the original dated sales receipt(s).
- Submit completed rebate form and a copy of the original sales receipt within 90 days of purchase date to:

Member Signature _____ Date _____

HEALTHY BUILDINGS:

Rebate Application

Business Member information:

Business Name _____

Installation Address _____

City _____ State _____ ZIP _____

Contact Name _____ Account # _____

Email _____ Phone _____

Rebate Recipient Information:

To release the rebate incentive check to an alternate party other than the cooperative business member, the member must specify an alternative mailing address and authorize with a signature below.

Please Send Rebate to (check one):

☐ Business Member ☐ Alternative Recipient

Recipient Name _____

Mailing Address _____

City _____ State _____ ZIP _____

Contact Name _____

General Program Rules:

1. Installation must be complete before application is submitted and funds are issued.
2. Members and vendors must submit itemized equipment invoices, rebate application, and manufacturer equipment specifications. To ensure that the equipment installed meets the cooperative's performance standards, these invoices must itemize labor charges, quantity and price of the equipment installed, as well as information regarding the manufacturer and model numbers for all equipment included in the rebate.
3. The cooperative reserves the right to conduct random inspections of installations.
4. Rebates must be applied for within 12 months of invoice date.
5. Project must comply with all program specific rules and qualifications.
6. The member is responsible for checking with the cooperative to determine funding availability and to verify program parameters.

Warranty Information:

Rebate qualifications do not imply any representation or warranty of such equipment, design or installation by the cooperative. The cooperative shall not be responsible or liable for any personal injury or property damage caused by this equipment. The cooperative does not guarantee that a specific level of energy or cost savings will result from the implementation of energy conservation measures or the use of products funded under this program. In no event shall the cooperative be liable for any incidental or consequential damages.

Application Check List:

☐ Rebate application with signature ☐ Itemized project invoices (labor & materials) ☐ IAQ Report (if applicable)

The undersigned does hereby certify that the undersigned is solely responsible for the accuracy of the information contained in this application. All rules of the program have been followed and the installation is complete. The undersigned acknowledges that nothing contained in the application imposes any liability on the cooperative for the work performed and information presented by the member, member's engineer, contractor, or vendor. The undersigned also authorized payment of incentive directly to the specified rebate recipient.

Rebate applications due no later than the third Thursday in November.

Member Signature:

Member Signature _____ Date _____

HEALTHY BUILDINGS:

Rebate Application

Indoor Air Quality Assessment

Report Requirements

- Indoor air quality test results
- Documentation (inventory) of HVAC system equipment with visual inspection notes
- Define and describe existing operating conditions
- Recommended changes to existing operating conditions
- Calculated impacts to energy usage (both energy savings and increased usage) for each recommendation

Reimbursement and Fee Information

Private business facilities:

Tier 1, under 50kW annual peak:	100% of cost up to $500
Tier 2, 50-150 kW annual peak:	100% of cost up to $1,000
Tier 3, over 150 kW annual peak:	100% of cost up to $1,500
State, county, and local government public facilities:	100% of cost up to $1,500

Examples: Public schools (K-12), Police and fire departments, Public libraries, Community centers, City hall, etc.

Advanced Rooftop Controller (ARC) – NEW Rebate

Cooling design	**(°F)**
ARC controller	**(°F)**
Heating design	**(°F)**
ARC controlled	**(°F)**

Unit size	**(tons)**
RTU efficiency rating	**(EER)**
Fan motor	**(HP)**

Demand control ventilation (DCV) – NEW Rebate

Size (tons)
CFM

Supply-fan variable speed drive (VSD)

Manufacturer	Model	HP	Quantity

HEALTHY BUILDINGS:

Rebate Application

Economizer

Manufacturer	Ton	Quantity	Enthalpy*	CO2**	Air Volumn Type	Rebate

*Must be Enthalpy Controlled to qualify for Economizer rebate.
**CO2 controls optional

Ultraviolet Germicidal Irradiation (UVGI) – NEW

Total installed watts	