RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE: JUNE 10, 2024**

SUBJECT: RESIDENTIAL AIR CONDITIONING/HEAT PUMP REBATE PROGRAM ENHANCEMENT FOR HEAT PUMP INCENTIVES OF $750 PER TON, ANNUAL PROGRAM TOTAL OF $375,000

ISSUES:

Consider approving a program enhancement to the current residential Air Conditioning/Heat Pump Rebate Program by creating a dedicated rebate program for Heat Pumps and increasing the heat pump incentive to $750 per ton, with a total annual heat pump rebate program limit of $375,000.

RECOMMENDATION:

That the Board of Public Utilities recommend that the City Council approve a program enhancement to the current residential Air Conditioning/Heat Pump Rebate Program by creating a dedicated rebate program for Heat Pumps and increasing the heat pump incentive to $750 per ton, with a total annual heat pump rebate program limit of $375,000.

LEGISLATIVE HISTORY:

Assembly Bill (AB) 1890 (Brulte, 1996) requires that 2.85% of electric revenue be utilized to fund public benefits programming and must be used in at least one of four areas: demand side management (energy efficiency), renewable energy, low-income assistance, or research, development, and demonstration.

Senate Bill (SB) 1037 (Kehoe, 2005) sets ambitious energy conservation policies and goals requiring publicly owned utilities (POU' s) to report annually kilowatt hour (kWh) savings to the California Energy Commission (CEC) and to its customers.

SB 350 (De Leon, 2015) establishes annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by January 1, 2030. The bill requires local POU' s to establish annual targets for energy efficiency savings and demand reduction consistent with this goal.

BACKGROUND:

Air Conditioning/Heat Pump Program

Riverside Public Utilities (RPU) is required by state law to establish energy efficiency goals and

administer energy efficiency programs funded through the state-mandated Public Benefits Charge. On December 7,1999, the City Council approved the dual Air Conditioning/Heat Pump Rebate Program, offering electric customers an incentive to replace older, inefficient central electric air conditioners or heat pumps with a new high-efficiency unit. On July 1, 2010, the Air Conditioning/ Heat Pump Rebate Program guidelines were revised and changed from a 10% of project cost rebate to a flat rebate, which was based on the tonnage and the unit's Seasonal Energy Efficiency Ratio (SEER) rating. The U.S. Department of Energy sets SEER; the higher the SEER rating, the more energy-efficient the unit.

Incentive levels have changed since 2010 due to market needs and program requirements. The chart below shows RPU's current air conditioning/heat pump incentives offered to residential customers.

EQUIPMENT	SEER	INCENTIVE
Packaged A/C	15.2 SEER to 15.9 SEER	$150 per ton
Packaged A/C	16 SEER or greater	$250 per ton
Heat Pump	15.2 SEER to 15.9 SEER	$150 per ton
Heat Pump	16 SEER or greater	$250 per ton

Participation Rates

An average of 300 customers per year participate in the current Air Conditioning/Heat Pump Program, with annual approximate rebate incentives of $300,000. The Program provides energy efficiency savings, with RPU claiming on average 127,000 kWh per year, which is enough to power over 132 single-family homes.

Historically, both programs have been combined in the same budget and separated only by SEER ratings. The table below outlines the current dual Air Conditioning/Heat Pump program participants since 2014/15. Due to how this data has been collected, these numbers cannot be bifurcated by unit type.

RESIDENTIAL PARTICPATION FOR AIR CONDITIONING/HEAT PUMP PROGRAM			
FISCAL YEAR	**PARTICIPANTS**	**REBATE VALUE**	**KWH SAVINGS**
FY 14/15	201	$135,525.00	84,418.50
FY 15/16	203	$188,337.50	87,755.78
FY 16/17	281	$269,874.77	118,020.00
FY 17/18	330	$320,761.70	137,625.00
FY 18/19	328	$324,024.75	136,073.00
FY 19/20	357	$337,025.00	141,890.75
FY 20/21	417	$381,325.00	160,274.51
FY 21/22	372	$371,525.00	149,200.03
FY 22/23	314	$307,412.50	124,075.59
FY 23/24 *(Jul. 2023-Dec. 2023)*	138	$130,437.50	53,327.05
TOTALS	2,941	$2,766,248.72	1,192,660.21

DISCUSSION:

The California Energy Commission (CEC) has proposed guidelines to begin in 2026 that require new residential construction and replacement of HVAC units to be converted to heat pumps. Electric dual-speed and variable-speed heat pumps can heat and cool more efficiently than standard gas/electric packaged units. Heat pumps also decrease greenhouse gas emissions because they heat and cool with electricity rather than natural gas.

Modern heat pumps can reduce electricity use for heating by approximately 65% compared to electric resistance heating such as furnaces and baseboard heaters. High-efficiency heat pumps can also dehumidify more effectively than standard central air conditioners, resulting in less energy usage and better cooling in the summer months.

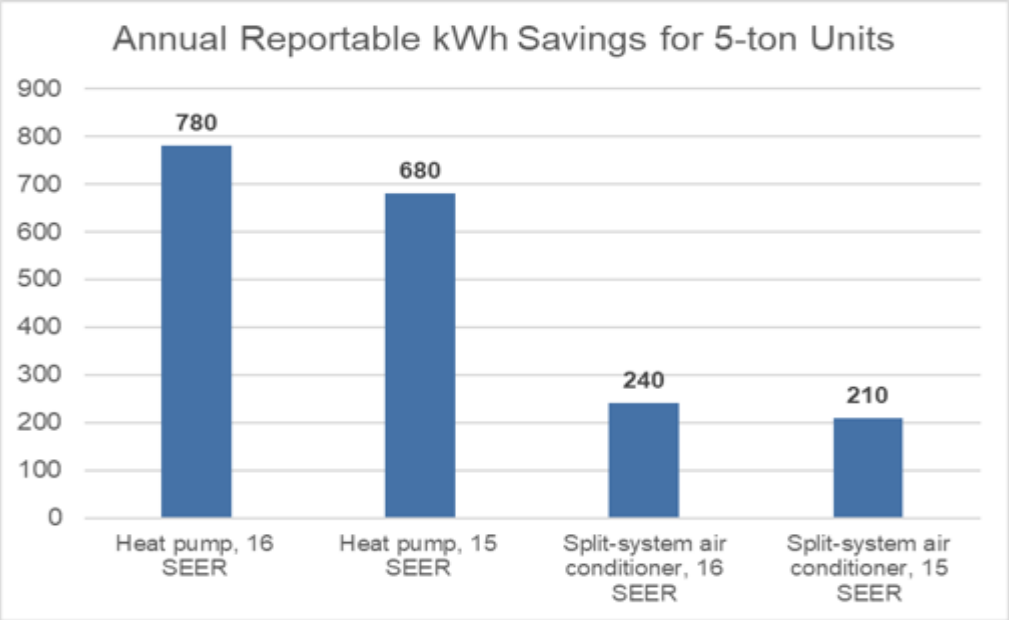
Air Conditioning Rebate Program

The air-conditioning program rebate will remain unchanged and continue to be applied, considering SEER rating and unit size parameters; details are shown in the table below. While not as efficient as heat pump technology, upgrading an older or non-function air-conditioning unit to a more efficient air-conditioning unit remains beneficial for RPU customers. There are no changes proposed to the Air Conditioning rebates offered to RPU customers.

EQUIPMENT	SEER Rating	INCENTIVE
Packaged A/C	15.2 SEER to 15.9 SEER	$150 per ton
Packaged A/C	16 SEER or greater	$250 per ton

Heat Pump Technology

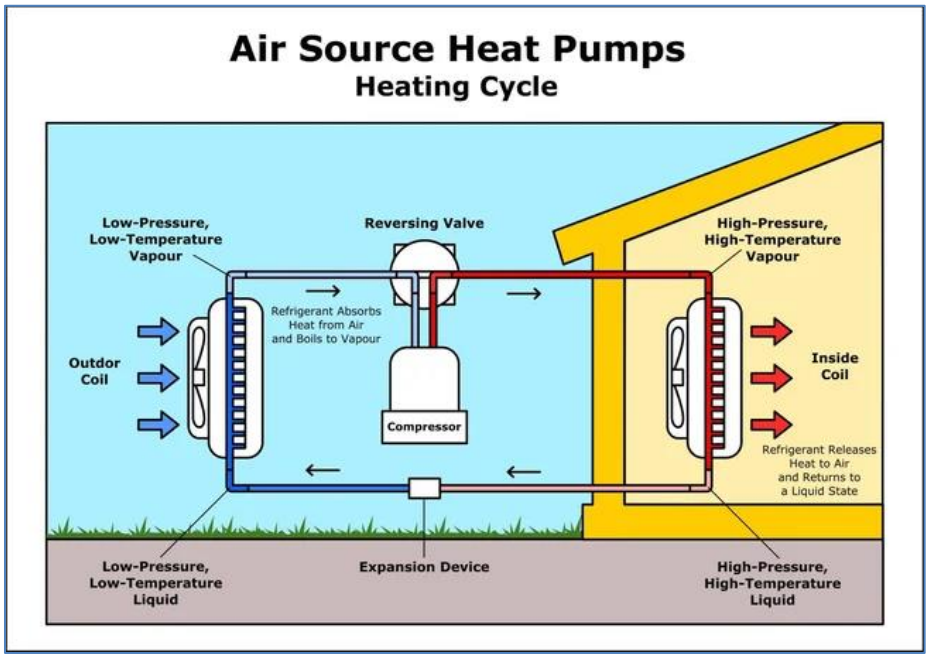
Heat pump technology provides significantly better kWh savings than traditional air conditioning. The table below shows the greater annual kWh savings for heat pumps compared to traditional air conditioning units. For example, 5-ton heat pumps rated at 16 SEER save 780 kWh annually, while a 5-ton split-system air conditioner rated at 16 SEER saves only 240 kWh annually.



The table below outlines lifetime kWh savings of a 5-ton heat pump unit by SEER rating:

Measure Name	Annual kWh	Measure Life	Lifetime kWh Savings for 5-ton units
Heat pump, 16 SEER	156	15 years	11,700
Heat pump, 15 SEER	136	15 years	10,200

Heat pumps use electricity and a heat exchanger to transfer heating or cooling from one location to another, providing homes with adjusted temperatures as appropriate. They offer an energy-efficient alternative to furnaces and air conditioners and are well-suited for the local climate. The diagram below shows an example of how a heat pump functions.



Heat Pump Rebate Program

Currently, heat pump HVAC units are incentivized at the same levels as standard high-efficiency gas/electric HVAC units, which is between $150 and $250 per ton, depending on the SEER rating. As the cost of a heat pump is typically much higher than that of a traditional air conditioner, it is necessary to increase the incentive to realize greater adoption of heat pump technology. The following table compares municipal utilities across the area offering heat pump rebate programs; the table below outlines what other providers currently offer.

Agency	Rebate
Anaheim Public Utilities	$400 per ton
Azusa	up to $2,000
Banning	$600 per ton
Burbank	up to $3,000
Imperial Irrigation District	$400 per ton
Los Angeles Department of Water and Power	up to $1,200
Sacramento Municipal Utilities District	up to $3,500

Staff are proposing to increase the RPU rebate for qualifying heat pumps from $150 and $250 per ton to $750 per ton. Enhancing the current incentive level for heat pump units is expected to

attract more customers to install them. The proposed rebate will be a competitive alternative to traditional HVAC. The incentive is designed to offset the increased cost of this technology for RPU customers who install a heat pump and contribute to decreasing the City's carbon footprint. Program participation and incentive amounts will be reviewed annually and modified as necessary.

STRATEGIC PLAN ALIGNMENT:

The Heat Pump Program aligns with Strategic Priority 4, Environmental Stewardship. Program deliverables will assist the City in providing proactive and equitable climate solutions based in science to ensure clean air and a vibrant natural world.

The project aligns with EACH of the five cross-cutting threads as follows:

1. **Community Trust** – This program supports RPU's customers by increasing the number of energy efficient heat pumps installed, which will in turn benefit the local community by decreasing energy use and increasing sustainability.
2. **Equity** – The Heat Pump Program is available to all RPU electric customers in the service territory.
3. **Fiscal Responsibility** – The cost of the program, coupled with the achieved energy savings reflects a fiscally prudent approach to meeting energy efficiency goals.
4. **Innovation** – Modern heat pump technology is very efficient, and the program will support customers to benefit from current heating and cooling technology in homes.
5. **Sustainability & Resiliency** – The Heat Pump Program encourages a reduction in energy required for cooling and heating and will help to reduce greenhouse gas emissions compared with other options.

FISCAL IMPACT:

The total annual fiscal impact is estimated at $375,000. Following City Council consideration of the biennial budget on June 25, 2024, sufficient funds for Fiscal Year 2024/25 will be available in Public Utilities Unprogrammed Funds Account No. 6020100-453001, which will be transferred to the Public Utilities Residential Heat Pump Account No. 6020100-456108. Funding of $375,000 for the residential Air Conditioning Rebate Program will not be impacted by the approval of this dedicated rebate program for Heat Pumps.

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Attachment: Presentation