

COUNCIL ACTION FORM

SUBJECT: UPDATES TO SMART ENERGY REBATE PROGRAM

BACKGROUND:

The City’s Smart Energy program is an energy efficiency program, designed to reduce electric demand and consumption, keep electric rates low, and reduce greenhouse gas emissions. Programs like Smart Energy should be periodically adjusted as the available technology and markets for energy efficient technology change. City staff has reviewed the current incentives and has developed proposed changes. The proposed changes and justifications are below:

Increase Occupancy Sensor rebate amount and add Daylight Sensors to \$10-\$20/controller – Currently, occupancy sensors are rebated at \$5 per controller. Staff would like to increase this rebate to \$10 for fixture- or switch-mounted controllers and \$20 for remote-mounted controllers and extend the rebate to daylight controllers. These technologies are effective ways to reduce peak summer electricity consumption. A similar rebate is currently offered by Alliant Energy.

Increase minimum efficiency for Air Conditioner rebate to 16 SEER – Currently, air conditioners of 15+ SEER (efficiency rating) are eligible for the rebate program. Staff proposes to increase the minimum SEER rating to 16. Based on data collected with rebate applications submitted last year, over twice as many 16 SEER air conditioners were submitted compared to 15 SEER units, with similar average costs. Cedar Falls Utilities has recently increased their minimum SEER rating to 16, as well.

Create a rebate for Electric Vehicle Charging Equipment – Electric Vehicles (EVs) are increasing in popularity. As of November of 2019, there were 363 plug-in vehicles registered in Ames (169 battery electric vehicles and 194 plug-in hybrid vehicles). Many of neighboring utilities offer EV and EV charger rebates in amounts ranging from \$250-1000 (see Table 1).

Table 1: Electric Vehicle and Charger rebate offered by other Iowa utilities.

UTILITY	CHARGER REBATES AND KEY REQUIREMENTS	
Alliant	\$250, non-networked	\$500, networked
Consumers	\$500, residential	\$1000 commercial (+\$250/car)
Cedar Falls Utilities	\$600, ChargePoint	
Ames (Proposed)	\$100, residential	\$500, commercial

The charging of EVs puts a new and different kind of load on our electric system. EVs can represent an expensive and complicated load to our system because they require a high wattage over short periods of time, and because the overwhelming trend of EV drivers is to plug in their car as soon as they return from work, which coincides with our system peak and the times of the day that we are least capable of supplying more electricity.

However, with programmable chargers, it is easy to adjust EV charging to off-peak hours, which *improves* the usage and efficiency of our electric system. For this reason, it is beneficial for the Ames Electric to support customers in their purchase of chargers that are specifically capable of programming off-peak charging.

Create rebates for Thermal Solar Water Heaters and Air Sourced Heat Pump Water Heaters – Electric Services currently provides rebates for Photovoltaic panels and air-sourced heat pumps, but neither program covers those technologies for water heating. Staff proposes introducing two new water heater rebate programs: Thermal Solar Water Heaters and Air-Source Heat Pump Water Heaters. Both technologies reduce greenhouse gas emissions associated with water heating compared to natural gas or electric resistance water heating. Consumer’s Energy, Midland Power Cooperative, and Cedar Falls Utilities offer rebates on air source heat pumps, while utilities in Waverly and Brooklyn, Iowa rebate solar water heaters.

Create a rebate for Drain Water Heat Recovery System – Complementing the proposed new water heater rebate programs, a drain water heat recovery rebate is proposed to further increase the efficiency of water heating. Consumer’s Energy and Midland Power Cooperative offer \$450 and \$300 rebates for these systems.

Retire the LED Rebate Program – Staff proposes retiring the LED Lighting rebate program, effective July 1, 2020 because the incremental cost of LEDs has decreased significantly since the technology first became available, and the savings in energy consumption and maintenance result in quick savings without a rebate.

COMPARISON TO NEIGHBORING UTILITIES:

The proposed additions to the Smart Energy rebate program are summarized in Table 2 below. The proposed amounts are generally within the range of rebates offered by neighboring utilities.

Table 2 Costs of equipment and rebate amounts.

REBATE	PROPOSED AMOUNT	EQUIPMENT COSTS	NEIGHBORING UTILITIES
Occupancy and Daylight Sensors	\$10/\$20	\$20-\$50/\$50-\$100	\$10/\$20
EV Chargers	\$100/\$500	\$500/\$3000-\$10,000	\$250-\$600
Thermal Solar	\$10/sq ft	~\$200/sq ft	\$30/sq ft

Water Heater			
Air Source Heat Pump Water Heater	\$400	\$600 (incremental)	\$375-\$650
Drain Water Heat Recovery	\$100/\$200	\$1000	\$300-\$450

On April 27, 2020, the Electric Utility Operations Review and Advisory Board (EUORAB) discussed the proposed changes to the Smart Energy Rebates Program and recommended that the City Council proceed with adopting them.

ALTERNATIVES:

1. Approve modifications to Smart Energy Rebate Program as proposed by City Staff and recommended by EUORAB.
2. Approve selected modifications to Smart Energy Rebate Program.
3. Do not approve modifications to Smart Energy Rebate Program.

CITY MANAGER'S RECOMMENDED ACTION:

The proposed changes to existing rebate programs and the creation of new rebate programs are expected to improve the effectiveness of the demand side management program and increase the energy efficiency of the Ames community.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the adjustments to existing programs and creation of new rebate programs.