

City of Columbia Utilities- FY24 Efficiency Programs Revamp

This is a summary of the revamp of the residential and commercial energy efficiency programs from the City of Columbia Utilities.

Cost-effectiveness was determined based on the Utility Cost Test (UCT), an industry-standard cost-effectiveness evaluation on the impact of the demand side management programs on utility finances. This evaluation includes only utility costs and benefits, as it treats energy efficiency like a utility resource. Costs included in the evaluation are incentives, rebates, and program administration paid by the utility, while benefits are avoided fuel costs and avoided capacity costs to the utility. Programs that score 1.0 or greater with the UCT are financially beneficial to the utility.

SUMMARY OF NEW PROGRAM SUITE

New Programs

- Efficient Electrification Incentive
- Heat Pump Water Heater - Residential
- Smart Thermostat Rebate
- Heat Pump Water Heater - Commercial
- Daylight Harvesting
- Commercial Kitchen Equipment

Revamped Programs

- Home Performance with Energy Star Program
- Attic Plus
- Central AC/Heat Pump Replacement Rebates - Residential/Commercial ≤ 5 tons
- Commercial Lighting
- Drive (Variable Frequency Drives portion only)
- Custom Rebate
- Commercial AC/Heat Pump Rebate ≥ 6 tons
- Solar (Distributed Generation) Rebate

Existing and or budgeted programs not being changed

- Residential EV Charger Rebate
- Income eligible programs
- Efficient Flush
- Efficient Irrigation

Eliminated Programs

- Geothermal Heat Pump Rebate - Residential/Commercial
 - Included with other rebate categories
- Solar Water Heaters
- Motors (motors portion only)

- Residential Programming Details -

Home Performance with Energy Star Program

- Utility Cost Test: 1.01
- Whole house energy efficiency program and requires an energy audit by approved contractor
- Participation in this program is required for Residential Efficiency Loans
- Up to \$1,200 in rebates for attic insulation, duct insulation, air sealing, wall insulation, crawlspace insulation, and windows
- Contractor incentive of \$200 for performing an initial audit
- All homes will receive a Home Energy Score and a CWL Efficiency Score

Attic Plus

- Utility Cost Test: 1.14
- No initial audit is required prior to work being performed
- Up to \$800 in rebates for attic insulation and duct insulation
- All homes will receive a Home Energy Score and a CWL Efficiency Score

Central AC/Heat Pump Replacement Rebates - Residential and Commercial ≤5 tons

- Program will be broken into two sections
 - ≥15.2 SEER2; Utility Cost Test: 1.3
 - ≥18.2 SEER2; Utility Cost Test: 1.11
- Efficiency requirements align with Federal Tax Credit for heat pumps
- Rebates:
 - ≥15.2 SEER2: \$800
 - ≥18.2 SEER2: \$1,200
- Geothermal units (<5 tons) will be included with the ≥18.2 SEER2 rebate

Efficient Electrification Incentive

- Program will be broken into three sections
 - ≥15.2 SEER2 Dual Fuel Heat Pump for new construction
 - Utility Cost Test (cooling only): 1.0
 - ROI (heating only): 3 years
 - ≥15.2 SEER2 Electric Heat Pump for new construction
 - Utility Cost Test: 1.15
 - ≥15.2 SEER2 Dual Fuel Heat Pump for existing construction
 - ROI (heating only): 3 years
- Incentives
 - ≥15.2 SEER2 Dual Fuel Heat Pump for new construction: \$1,400
 - ≥15.2 SEER2 Electric Heat Pump for new construction: \$500
 - ≥15.2 SEER2 Dual Fuel Heat Pump for existing construction: \$1,200
- Efficiency requirements align with Federal Tax Credit for heat pumps

Heat Pump Water Heater Rebate

- Utility Cost Test: 1.25
- Rebates are for new and existing construction
- Heat Pump Water Heater must be Energy Star
- Rebates: \$500

Smart Thermostat Rebate

- Utility Cost Test: 3.57
- Rebates are for new and existing construction
- Smart thermostat must be Energy Star
- Rebates: \$50

Residential EV Charger Rebate (pilot)

- 50% of the project cost up to \$500, whichever is less
- Existing pilot program, no changes being made

Income Eligible Programming

- Income Eligible Weatherization Program Funding
- Income Eligible Thermostat Program (in development)
- Income Eligible Efficiency Kits
- Air Conditioner Exchange Program

- Commercial Programming Details -

Commercial Lighting Rebate

- Utility Cost Test: 4.5
- Rebates:
 - \$0.01 per kWh reduction over 5 yrs (includes exterior lighting)
 - \$300 per kW (excludes exterior lighting)

Drives Replacement Rebate

- Utility Cost Test: 3.4

Variable Frequency Drives Horsepower, upper range	Rebate
3	\$ 400
5	\$ 670
10	\$ 1,330
15	\$ 2,000
20	\$ 2,660
30	\$ 3,990
50	\$ 6,650
99	\$ 13,170
200	\$ 26,600

Custom Rebate

- Utility Cost Test: 2.3
- Rebate:
 - \$500 per kW reduction and \$0.01 per kWh reduction over 5 yrs
- C/I ground source heat pump qualifies here

Commercial AC/Heat Pump Rebate ≥6 tons

- Utility Cost Test: 1.1
- New C/I construction could qualify with approved engineering specifications
 - Evaluated on a case by case basis
- Existing construction (see table below)

		EER											
		10.2	10.4	10.6	10.8	11	11.2	11.4	11.6	11.8	12	12.2	12.4
T O N N A G E	6	-	-	-	-	-	-	\$80	\$170	\$260	\$340	\$430	\$510
	7	-	-	-	-	-	-	\$90	\$190	\$280	\$370	\$460	\$550
	8	-	-	-	-	-	-	\$100	\$200	\$300	\$400	\$500	\$590
	9	-	-	-	-	-	-	\$110	\$220	\$330	\$430	\$540	\$640
	10	-	-	-	-	-	-	\$120	\$230	\$350	\$460	\$570	\$680
	11	-	-	-	-	-	-	\$120	\$250	\$370	\$490	\$610	\$720
	12	-	-	-	-	-	\$130	\$270	\$400	\$530	\$660	\$790	\$910
	13	-	-	-	-	-	\$140	\$290	\$430	\$560	\$700	\$830	\$960
	14	-	-	-	-	-	\$150	\$300	\$450	\$590	\$740	\$870	\$1010
	15	-	-	-	-	-	\$160	\$320	\$470	\$620	\$770	\$920	\$1060
	16	-	-	-	-	-	\$170	\$330	\$500	\$650	\$810	\$960	\$1110
	17	-	-	-	-	-	\$170	\$350	\$520	\$690	\$850	\$1000	\$1160
	18	-	-	-	-	-	\$180	\$360	\$540	\$720	\$880	\$1050	\$1210
19	-	-	-	-	-	\$190	\$380	\$570	\$750	\$920	\$1090	\$1260	
20	\$240	\$470	\$700	\$910	\$1130	\$1340	\$1540	\$1730	\$1930	\$2110	\$2300	\$2470	

Heat Pump Water Heater Rebate

- Utility Cost Test: 12.9 to 19 depending on unit size
- Rebates from \$300-\$7,000 per unit
- Rebates are for new and existing construction
- Heat Pump Water Heater must be Energy Star

Daylight Harvesting Rebate

- Dimming or switching off lighting when sufficient ambient light is present
- Utility Cost Test: 1.3
- Rebates up to 50% of project cost or \$500 per dimmed kW
- Rebates are for new and existing construction

Commercial Kitchen Equipment Rebate

- Utility Cost Test: 1.0 to 6.0 depending on equipment type
- Proposed rebates range from \$100 - \$1,500 per unit (see Appendix A)
- Equipment must be Energy Star rated

- Water Efficiency Programming Details -

Efficient Flush Program (residential and commercial)

- Installation of WaterSense toilets
- No changes to this program
- Residential rebates up to \$75 per toilet or 50% of costs, whichever is less
- Commercial rebates up to \$100 per toilet or 50% of costs, whichever is less
- Income eligible rebates up to \$200 per toilet or 100% of costs, whichever is less

Efficient Irrigation Program (residential and commercial)

- Installation of WaterSense smart irrigation controllers, rain sensors, and/or high efficiency sprinkler heads
- No changes to this program
- Rebates:
 - Smart irrigation controllers: \$25 per zone or 75% of the total cost of the installation whichever is less with a \$150 rebate maximum
 - Rain Sensors: up to 50% of the cost with a maximum of \$50
 - High efficiency sprinkler heads: \$5 per sprinkler head (minimum of six)

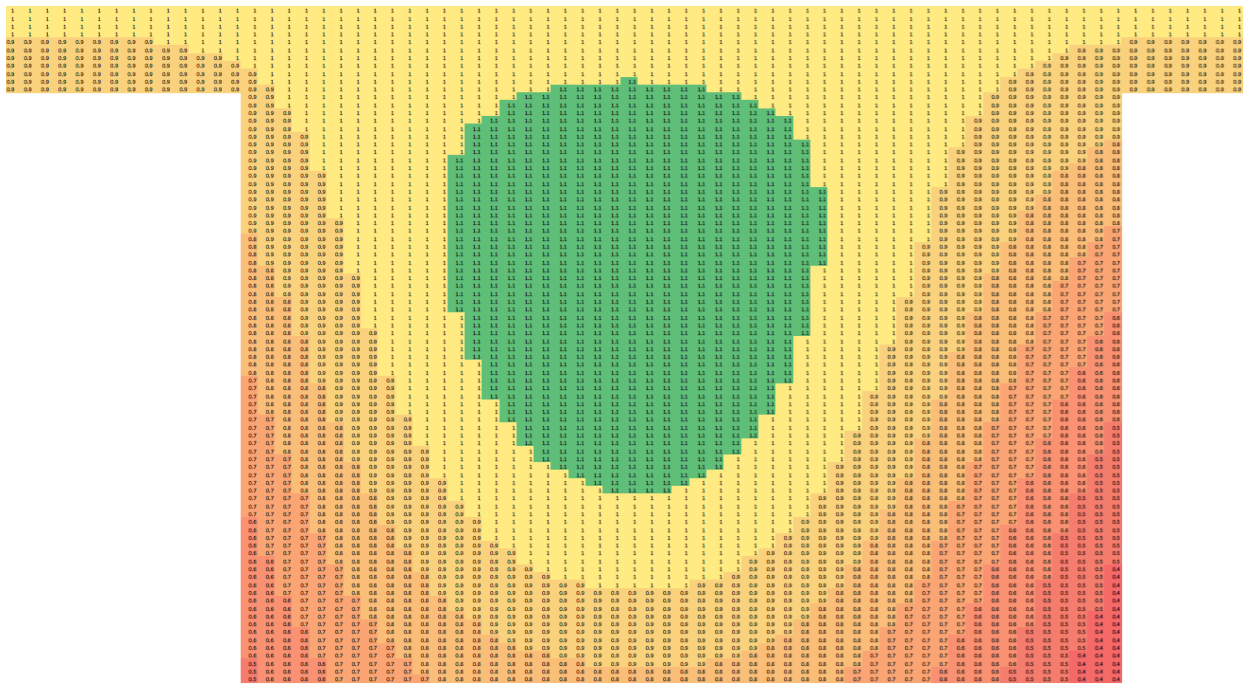
- Solar (Distributed Generation) Programming Details -

Revision of the solar rebates to simplify and expedite solar interconnections

- Baseline rebate of \$500 per kW
- Solar rebate capped at \$50,000
- Maximum rebate: \$550 per kW
- Minimum rebate: \$200 per kW
- Shading analysis may be required if warranted based on staff determination

Rebate: Baseline Rebate x Rebate Factor from chart below

Columns: Azimuth 0 - 355; Rows: Tilt 0-85



Appendix A. Commercial Kitchen Equipment Rebate List

Equipment	Type	CWL rebate
Dishwasher (Low Temperature)	Under Counter	\$100
	Stationary Single Tank Door	\$500
	Single Tank Conveyor	\$1,100
	Multi Tank Conveyor	\$1,000
Dishwasher (High Temperature)	Under Counter	\$300
	Stationary Single Tank Door	\$500
	Single Tank Conveyor	\$1,000
	Multi Tank Conveyor	\$1,000
	Pot, Pan, and Utensil	\$300
Freezer	Solid Door, vertical, 17 CF	\$150
	Transparent Door, vertical, 35 CF	\$800
	Solid Door, horizontal, 20 CF	\$350
	Transparent Door, horizontal, 20 CF	\$150
Fryer (electric)	Standard	\$200
	Large vat	\$200
Griddle	Single-sided	\$200
	Double-sided	\$500
Hot food holding	Holding cabinet	\$75
Ice Machine (batch)	Ice Making Head	\$100
	Remote Condensing Unit	\$150
	Self Contained Unit	\$100
Ice Machine (continuous)	Ice Making Head	\$150
	Remote Condensing Unit	\$150
	Self Contained Unit	\$100

Equipment	Type	CWL rebate
Oven - Convection (electric)	Full size	\$150
	Half size	\$75
Oven - combination	Electric	\$350
Fridge - vertical	Solid door (15 CF)	\$100
	Transparent door (35 CF)	\$150
Fridge - horizontal	Solid door (20 CF)	\$100
	Transparent door (20 CF)	\$50
Steam Cooker	Electric cooker, 3 pan	\$1,000
	Electric cooker, 4 pan	\$1,100
	Electric cooker, 5 pan	\$1,200
	Electric cooker, 6 pan	\$1,300
	Electric cooker, 10 pan	\$1,500