Measure Name	Measure Value	% Energy Savings	% GHG Savings	% Peak Savings	npv_total_per_m_sq	bc_step_code_tedi_kwh_per_m_sq	Envelope ($/m2)	Heating & Cooling ($/m2)	Lighting ($/m2)	SHW ($/m2)	Ventilation & Ductwork ($/m2)	Total ($/m2)
:shw_scale	0.25	8.60	9.20	1.40	903.21	38.62	0.00	0.00	0.00	1.40	0.00	1.40
:electrical_loads_scale	0.5	6.90	5.90	17.80	871.84	44.35	0.00	-0.40	0.00	0.00	7.70	7.30
:infiltration_scale	0.5	5.60	6.00	-0.90	906.45	31.20	0.00	2.00	0.00	0.00	0.10	2.10
:shw_scale	0.5	5.50	5.90	1.40	906.32	38.44	0.00	0.00	0.00	1.40	0.00	1.40
:lights_scale	0.50	5.10	4.50	13.80	883.49	42.10	0.00	-0.30	0.00	0.00	5.90	5.50
:dcv_type	CO2_based_DCV	4.50	4.80	-0.10	912.26	33.13	0.00	0.00	0.00	0.00	-3.80	-3.80
:shw_scale	0.75	2.20	2.30	0.20	909.66	38.27	0.00	0.00	0.00	1.40	0.00	1.40
:fixed_wind_solar_trans	0.2	1.90	1.50	18.50	859.12	40.91	-1.10	0.30	0.00	0.00	43.20	42.40
:nv_type	add_nv	1.60	1.60	-1.30	907.24	37.64	0.00	0.00	0.00	0.00	1.70	1.70
:daylighting_type	add_daylighting_controls	1.40	1.30	4.20	910.51	38.30	0.00	0.00	-6.30	0.00	4.00	-2.20
:fixed_wind_solar_trans	0.3	1.30	1.00	14.90	877.88	40.08	-2.40	0.10	0.00	0.00	29.40	27.20
:dcv_type	Occupancy_based_DCV	1.20	1.20	0.00	914.17	36.76	0.00	0.00	0.00	0.00	-2.10	-2.10
:fixed_wind_solar_trans	0.4	1.00	0.70	10.60	889.67	39.77	-1.30	0.00	0.00	0.00	18.30	17.00
:boiler_eff	Viessmann Vitocrossal 300 CT3-17 96.2% Efficient Condensing Gas Boiler	0.60	0.70	0.00	912.65	38.06	0.00	0.00	0.00	0.00	0.00	0.00
:fixed_wind_solar_trans	0.5	0.60	0.50	4.50	901.45	38.76	-1.30	0.00	0.00	0.00	9.80	8.60
:chiller_type	VSD	0.60	0.50	5.00	938.24	38.06	0.00	-26.70	0.00	0.00	0.00	-26.70
:shw_eff	Natural Gas Power Vent with Electric Ignition	0.40	0.40	0.00	912.92	38.06	0.00	0.00	0.00	0.00	0.00	0.00
:erv_package	Rotary-Existing	-0.20	-0.20	-0.30	913.50	38.33	0.00	0.00	0.00	0.00	0.00	0.00
:erv_package	Rotary-All	-0.20	-0.20	-0.30	913.50	38.33	0.00	0.00	0.00	0.00	0.00	0.00
:ext_roof_cond	0.121	-0.40	-0.40	0.00	908.64	38.52	4.40	0.00	0.00	0.00	0.80	5.10
:ext_wall_cond	0.183	-0.50	-0.60	0.00	911.06	38.70	2.90	-0.20	0.00	0.00	0.00	2.60
:erv_package	Plate-All	-0.50	-0.50	0.20	913.76	38.62	0.00	0.00	0.00	0.00	0.00	0.00
:erv_package	Plate-Existing	-0.50	-0.50	0.20	913.76	38.62	0.00	0.00	0.00	0.00	0.00	0.00
:ground_floor_cond	0.758	-0.70	-0.70	-1.00	901.22	39.03	10.40	0.00	0.00	0.00	2.00	12.30
:fixed_window_cond	1.6	-0.90	-1.00	0.10	901.11	39.31	12.70	-0.30	0.00	0.00	0.20	12.60
:ext_roof_cond	0.138	-1.00	-1.10	-0.40	904.01	39.19	9.80	-0.10	0.00	0.00	0.70	10.40
:ext_roof_cond	0.142	-1.10	-1.20	-0.40	903.28	39.34	10.60	-0.10	0.00	0.00	0.70	11.20
:ext_wall_cond	0.21	-1.30	-1.40	-0.10	907.55	39.68	6.30	-0.30	0.00	0.00	0.80	6.80
:ext_roof_cond	0.162	-1.90	-2.00	-0.30	897.83	40.17	17.20	-0.40	0.00	0.00	0.60	17.50
:ext_wall_cond	0.247	-2.30	-2.50	0.10	904.66	40.94	10.10	-0.40	0.00	0.00	0.90	10.60
:ext_roof_cond	0.183	-2.60	-2.80	-0.40	897.45	40.95	18.70	-0.60	0.00	0.00	0.50	18.70
:ext_roof_cond	0.193	-3.00	-3.10	-0.40	893.75	41.34	22.60	-0.60	0.00	0.00	0.70	22.70
:ext_wall_cond	0.278	-3.30	-3.30	0.20	904.34	42.10	11.50	-0.50	0.00	0.00	0.90	11.80
:ext_roof_cond	0.227	-7.60	-8.20	-0.50	891.46	44.04	26.20	1.20	0.00	0.00	0.40	27.90
:ext_wall_cond	0.314	-8.00	-8.60	0.20	901.94	44.92	15.20	1.30	0.00	0.00	0.80	17.30
:fixed_window_cond	2.2	-8.60	-9.20	1.00	872.95	45.88	43.80	1.20	0.00	0.00	0.70	45.60
:fixed_window_cond	2.4	-10.00	-10.80	1.40	867.42	47.47	50.00	1.00	0.00	0.00	1.20	52.20
:ecm_system_name	HS09_CCASHP_Baseboard	0.00	0.00	0.00	944.11	26.63	0.00	0.00	0.00	0.00	0.00	0.00
:ecm_system_name	HS08_CCASHP_VRF	0.00	0.00	0.00	849.51	31.61	0.00	0.00	0.00	0.00	0.00	0.00
:ecm_system_name	HS12_ASHP_Baseboard	0.00	0.00	0.00	927.82	26.28	0.00	0.00	0.00	0.00	0.00	0.00
:ecm_system_name	HS14_CGSHP_FanCoils	0.00	0.00	0.00	866.54	29.10	0.00	0.00	0.00	0.00	0.00	0.00
:ecm_system_name	HS13_ASHP_VRF	0.00	0.00	0.00	844.76	31.61	0.00	0.00	0.00	0.00	0.00	0.00
:ecm_system_name	HS11_ASHP_PTHP	0.00	0.00	0.00	793.93	31.60	0.00	0.00	0.00	0.00	0.00	0.00

Sensitivity of :airloop_economizer_type by EUI

Sensitivity of :airloop_economizer_type by Costing

Sensitivity of :shw_eff by EUI

Sensitivity of :shw_eff by Costing

Sensitivity of :ext_roof_cond by EUI

Sensitivity of :ext_roof_cond by Costing

Sensitivity of :erv_package by EUI

Sensitivity of :erv_package by Costing

Sensitivity of :ext_wall_cond by EUI

Sensitivity of :ext_wall_cond by Costing

Sensitivity of :dcv_type by EUI

Sensitivity of :dcv_type by Costing

Sensitivity of :electrical_loads_scale by EUI

Sensitivity of :electrical_loads_scale by Costing

Sensitivity of :fixed_wind_solar_trans by EUI

Sensitivity of :fixed_wind_solar_trans by Costing

Legend:
- cost_equipment_heating_and_cooling_total_cost_per_m_sq
- cost_equipment_lighting_total_cost_per_m_sq
- cost_equipment_shw_total_cost_per_m_sq
- cost_equipment_ventilation_total_cost_per_m_sq
- cost_equipment_thermal_bridging_total_cost_per_m_sq
- cost_equipment_envelope_total_cost_per_m_sq

$/M2

:fixed_wind_solar_trans	0.2	0.3	0.4	0.5	0.6	NECB_Default
envelope	373.499	374.775	373.675	373.675	372.424	372.424
ventilation	140.396	154.129	165.27	175.741	183.559	183.559
shw	3.459	3.459	3.459	3.459	3.459	3.459
lighting	82.704	82.704	82.704	82.704	82.704	82.704
heating_and_cooling	50.967	51.104	51.241	51.241	51.241	51.241

:chiller_type

- NECB_Default
- VSD

y-axis: cost_equipment_total_cost_per_m_sq
x-axis: baseline_energy_percent_better

Sensitivity of :chiller_type by EUI

Legend:
- energy_eui_cooling_gj_per_m_sq
- energy_eui_heating_gj_per_m_sq
- energy_eui_fans_gj_per_m_sq
- energy_eui_heat_recovery_gj_per_m_sq
- energy_eui_interior_lighting_gj_per_m_sq
- energy_eui_interior_equipment_gj_per_m_sq
- energy_eui_water_systems_gj_per_m_sq
- energy_eui_pumps_gj_per_m_sq

GJ/M2

:chiller_type	NECB_Default	VSD
	0.011	
	0.057	
	0.1	0.1
	0.07	0.07
	0.001	0.001
	0.05	0.05
	0.146	0.146
	0.015	0.012

Sensitivity of :chiller_type by Costing

Sensitivity of :daylighting_type by EUI

Sensitivity of :daylighting_type by Costing

Sensitivity of :ecm_system_name by EUI

Sensitivity of :ecm_system_name by Costing

Sensitivity of :lights_scale by EUI

Sensitivity of :lights_scale by Costing

Legend:
- cost_equipment_heating_and_cooling_total_cost_per_m_sq
- cost_equipment_lighting_total_cost_per_m_sq
- cost_equipment_shw_total_cost_per_m_sq
- cost_equipment_ventilation_total_cost_per_m_sq
- cost_equipment_thermal_bridging_total_cost_per_m_sq
- cost_equipment_envelope_total_cost_per_m_sq

y-axis: $/M2

Bar at 0.5:
- 372.424
- 177.703
- 3.459
- 82.704
- 51.564

Bar at 1.0:
- 372.424
- 183.559
- 3.459
- 82.704
- 51.241

x-axis: :lights_scale

:boiler_eff

- Viessmann Vitocrossal 300 CT3-17 96.2% Efficient Condensing Gas Boiler
- NECB_Default

y-axis: cost_equipment_total_cost_per_m_sq

x-axis: baseline_energy_percent_better

Sensitivity of :boiler_eff by EUI

Legend:
- energy_eui_cooling_gj_per_m_sq
- energy_eui_heating_gj_per_m_sq
- energy_eui_fans_gj_per_m_sq
- energy_eui_heat_recovery_gj_per_m_sq
- energy_eui_interior_lighting_gj_per_m_sq
- energy_eui_interior_equipment_gj_per_m_sq
- energy_eui_water_systems_gj_per_m_sq
- energy_eui_pumps_gj_per_m_sq

y-axis: GJ/M2

NECB_Default:
- 0.011
- 0.057
- 0.1
- 0.07
- 0.001
- 0.05
- 0.146
- 0.015

Viessmann Vitocrossal 300 CT3-17 96.2% Efficient Condensing Gas Boiler:
- 0.1
- 0.07
- 0.001
- 0.05
- 0.143
- 0.015

x-axis: :boiler_eff

Sensitivity of :boiler_eff by Costing

Sensitivity of :adv_dx_units by EUI

Sensitivity of :adv_dx_units by Costing

Sensitivity of :ground_floor_cond by EUI

Sensitivity of :ground_floor_cond by Costing

Sensitivity of :nv_type by EUI

Sensitivity of :nv_type by Costing

Sensitivity of :fixed_window_cond by EUI

Sensitivity of :fixed_window_cond by Costing

Sensitivity of :infiltration_scale by EUI

Sensitivity of :infiltration_scale by Costing

Sensitivity of :shw_scale by EUI

Sensitivity of :shw_scale by Costing