

EndUseType

Enumerator	Description	Notes
INTERIOR_LIGHTING	Interior lighting	
EXTERIOR_LIGHTING	Exterior lighting	
SPACE_HEATING	Space heating	
HEAT_PUMP_SUPPLEMENTAL_HEATING	Heat pump supplemental heating	
SPACE_COOLING	Space cooling	
PUMPS	Pumps	
HEAT_REJECTION	Heat rejection	
FANS_INTERIOR_VENTILATION	Fans - interior ventilation	
FANS_PARKING_GARAGE	Fans - parking garage	
HUMIDIFICATION	Humidification	
HEAT_RECOVERY	Heat recovery	
SERVICE_WATER_HEATING	Service water heating	
MOTORS	Motors	
TRANSFORMERS	Transformers	
OFFICE_EQUIPMENT	Office equipment	
COMPUTERS_SERVERS	Computers and servers	
COMMERCIAL_COOKING	Commercial cooking	
MISC_EQUIPMENT	Misc equipment	
INDUSTRIAL_PROCESS	Industrial process	
REFRIGERATION_EQUIPMENT	Refrigeration equipment	
ELEVATORS_ESCALATORS	Elevators and escalators	
OTHER	Other	

EnergySourceOutputType

Enumerator	Description	Notes
ELECTRICITY	Electricity	
NATURAL_GAS	Natural gas	
PROPANE	Propane	
FUEL_OIL	Fuel oil	
STEAM	Steam	
PURCHASED_HOT_WATER	Purchased hot water	
PURCHASED_CHILLED_WATER	Purchased chilled water	
OTHER	Other	

Output2019ASHRAE901

Name	Description	Data Type	Units	Range	Req	Notes
<code>id</code>	Scope-unique reference identifier for instances of this data group.	<code>ID</code>			✓	
<code>reporting_name</code>	Descriptive name used in RCT reports if id is not already a descriptive name	<code>String</code>				
<code>notes</code>	Supplementary information to provide context to the model reviewer	<code>String</code>				
<code>output_instance</code>	References output that correspond to specific simulation model.	<code>{OutputInstance}</code>				A separate file is expected for each simulation model including outputs that correspond with building rotations.
<code>performance_cost_index</code>	Performance cost index for the project	<code>Numeric</code>				This output is appropriate for the overall project not specific instance of a model.
<code>baseline_building_unregulated_energy_cost</code>	baseline building unregulated energy cost.	<code>Numeric</code>				The units are the local monetary units such as dollars. This output is appropriate for the overall project not specific instance of a model.
<code>baseline_building_regulated_energy_cost</code>	baseline building regulated energy cost.	<code>Numeric</code>				The units are the local monetary units such as dollars. This output is appropriate for the overall project not specific instance of a model.
<code>baseline_building_performance_energy_cost</code>	baseline building performance energy cost.	<code>Numeric</code>				The units are the local monetary units such as dollars. This output is appropriate for the overall project not specific instance of a model.

Name	Description	Data Type	Units	Range	Req	Notes
<code>total_area_weighted_building_performance_factor</code>	Total area weighted building performance factor	Numeric				This output is appropriate for the overall project not specific instance of a model.
<code>performance_cost_index_target</code>	Performance cost index target for the project	Numeric				This output is appropriate for the overall project not specific instance of a model.
<code>total_proposed_building_energy_cost_including_renewable_energy</code>	Total proposed building energy cost including renewable energy.	Numeric				The units are the local monetary units such as dollars. This output is appropriate for the overall project not specific instance of a model.
<code>total_proposed_building_energy_cost_excluding_renewable_energy</code>	Total proposed building energy cost excluding renewable energy.	Numeric				The units are the local monetary units such as dollars. This output is appropriate for the overall project not specific instance of a model.
<code>percent_renewable_energy_savings</code>	Percent renewable energy savings	Numeric				This output is appropriate for the overall project not specific instance of a model.

OutputInstance

Name	Description	Data Type	Units	Range	Req	Notes
id	Scope-unique reference identifier for instances of this data group.	ID			✓	
reporting_name	Descriptive name used in RCT reports if id is not already a descriptive name	String				
notes	Supplementary information to provide context to the model reviewer	String				
ruleset_model_type	Describes the current model instance for rulesets with multiple simulation models	<RulesetModelType2019ASHRAE901>				
rotation_angle	Rotation angle of the building model.	Numeric		≥0, <360		Usually 0, 90, 180, or 270.
unmet_load_hours_heating	Unmet load hours for heating	Numeric	hr		✓	
unmet_load_hours_cooling	Unmet load hours for cooling	Numeric	hr		✓	
annual_electric_consumption	Total annual electric consumption	Numeric	J		✓	
annual_gas_consumption	Total annual natural gas consumption	Numeric	J		✓	
annual_other_fuel_consumption	Total annual fuel consumption not including natural gas	Numeric	J		✓	
annual_renewable_energy_production	Total annual renewable energy produced	Numeric	J		✓	
annual_electric_cost	Annual electric cost	Numeric			✓	The units are the local monetary units such as dollars.
annual_gas_cost	Annual natural gas cost	Numeric			✓	The units are the local monetary units such as dollars.
annual_other_fuel_cost	Annual cost of fuels not including natural gas	Numeric			✓	The units are the local monetary units such as dollars.
annual_renewable_energy_cost	Annual renewable energy cost	Numeric			✓	Often shown in negative dollars. The units are the local monetary units such as dollars.
building_peak_cooling_load	Building peak cooling load	Numeric	W		✓	
annual_end_use_results	Annual end use results	[{EndUseResult}]				Contains a list of surfaces that define the zone.

EndUseResult

Name	Description	Data Type	Units	Range	Req	Notes
id	Scope-unique reference identifier for instances of this data group.	ID			✓	
reporting_name	Descriptive name used in RCT reports if id is not already a descriptive name	String				
notes	Supplementary information to provide context to the model reviewer	String				
type	End use type	<EndUseType>				
energy_source	End use type	<EnergySourceOutputType>				
annual_site_energy_use	Annual site energy use	Numeric	J		✓	
annual_site_coincident_demand	Annual site coincident demand	Numeric	J		✓	
annual_site_non_coincident_demand	Annual site non-coincident demand	Numeric	J		✓	
is_regulated	Indicates whether the end use consumption is from regulated equipment	Boolean				