

EndUseOptions

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	

EnergySourceOptions

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	
ON_SITE_RENEWABLES	On-site renewables	Used primarily in AnnualResult
OTHER	Other	

Output2019ASHRAE901

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				
performance_cost_index	Performance cost index for the project	Numeric				
baseline_building_unregulated_energy_cost	baseline building unregulated energy cost.	Numeric				The units are the local monetary units such as dollars.
baseline_building_regulated_energy_cost	baseline building regulated energy cost.	Numeric				The units are the local monetary units such as dollars.
baseline_building_performance_energy_cost	baseline building performance energy cost.	Numeric				The units are the local monetary units such as dollars.
total_area_weighted_building_performance_factor	Total area weighted building performance factor	Numeric				
performance_cost_index_target	Performance cost index target for the project	Numeric				

Name	Description	Data Type	Units	Range	Req	Notes
<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.
<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.
<code>percent_renewable_energy_savings</code>	Percent renewable energy savings	Numeric				

OutputInstance2019ASHRAE901

Name	Description	Data Type	Units	Range	Req	Notes
<code>id</code>	Scope-unique reference identifier for instances of this data group.	ID			✓	
<code>reporting_name</code>	Descriptive name used in RCT reports if id is not already a descriptive name	String				
<code>notes</code>	Supplementary information to provide context to the model reviewer	String				
<code>unmet_load_hours</code>	Unmet load hours for heating and cooling	Numeric	hr			This would be the coincident unmet load hours so if the same hour is during heating and during cooling it would only count as one hour.
<code>unmet_load_hours_heating</code>	Unmet load hours for heating	Numeric	hr			
<code>unmet_occupied_load_hours_heating</code>	Unmet load hours for heating when the zone is occupied	Numeric	hr			
<code>unmet_load_hours_cooling</code>	Unmet load hours for cooling	Numeric	hr			
<code>unmet_occupied_load_hours_cooling</code>	Unmet load hours for cooling when the zone is occupied	Numeric	hr			
<code>annual_source_results</code>	Annual results by source	[[SourceResult]]				Contains a list of results by energy source.
<code>building_peak_cooling_load</code>	Building peak cooling load	Numeric	W			

Name	Description	Data Type	Units	Range	Req	Notes
<code>annual_end_use_results</code>	Annual end use results	<code>[{EndUseResult}]</code>				Contains a list of results by end use and energy source.

SourceResult

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>energy_source</code>	End use type	<code><EnergySourceOptions></code>				
<code>annual_consumption</code>	Annual energy consumption	<code>Numeric</code>	J			For energy_source ON_SITE_RENEWABLES this value is negative.
<code>annual_demand</code>	Annual site demand	<code>Numeric</code>	J			This corresponds to the coincident demand for end-use results.
<code>annual_cost</code>	Annual cost	<code>Numeric</code>				The units are the local monetary units such as dollars. For energy_source ON_SITE_RENEWABLES this value is negative.

EndUseResult

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>type</code>	End use type	<code><EndUseOptions></code>				
<code>energy_source</code>	End source	<code><EnergySourceOptions></code>				
<code>annual_site_energy_use</code>	Annual site energy use	<code>Numeric</code>	J			
<code>annual_site_coincident_demand</code>	Annual site coincident demand	<code>Numeric</code>	J			

Name	Description	Data Type	Units	Range	Req	Notes
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				