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`				
`output_instance`	References output that correspond to specific simulation model.	`{OutputInstance}`				A seperate file is expected for each simulation model including outputs that correspond with building rotations.
`performance_cost_index`	Performance cost index for the project	`Numeric`				This output is appropriate for the overall project not specific instance of a model.
`baseline_building_unregulated_energy_cost`	baseline building unregulated energy cost.	`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.

Name	Description	Data Type	Units	Range	Req	Notes
`baseline_building_regulated_energy_cost`	baseline building regulated energy cost.	`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.
`baseline_building_performance_energy_cost`	baseline building performance energy cost.	`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.
`total_area_weighted_building_performance_factor`	Total area weighted building performance factor	`Numeric`				This output is appropriate for the overall project not specific instance of a model.
`performance_cost_index_target`	Performance cost index target for the project	`Numeric`				This output is appropriate for the overall project not specific instance of a model.
`total_proposed_building_energy_cost_including_renewable_energy`	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.
`total_proposed_building_energy_cost_excluding_renewable_energy`	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.
`percent_renewable_energy_savings`	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`			✓	

Name	Description	Data Type	Units	Range	Req	Notes
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	<RulesetModelOptions2019ASHRAE901>				
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_occupied_load_hours_heating	Unmet load hours for heating when the zone is occupied	Numeric	hr		✓	
unmet_load_hours_cooling	Unmet load hours for cooling	Numeric	hr		✓	
unmet_occupied_load_hours_cooling	Unmet load hours for cooling when the zone is occupied	Numeric	hr		✓	
annual_source_results	Annual results by source	[{SourceResult}]				Contains a list of results by energy source.
building_peak_cooling_load	Building peak cooling load	Numeric	W		✓	
annual_end_use_results	Annual end use results	[{EndUseResult}]				Contains a list of results by end use and energy source.

SourceResult

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				
energy_source	End use type	<EnergySourceOptions>			✓	
annual_consumption	Annual energy consumption	Numeric	J		✓	For energy_source ON_SITE_RENEWABLES this value is negative.
annual_demand	Annual site demand	Numeric	J		✓	This corresponds to the coincident demand for end-use results.

Name	Description	Data Type	Units	Range	Req	Notes
annual_cost	Annual cost	Numeric			✓	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
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	<EndUseOptions>			✓	
energy_source	End source	<EnergySourceOptions>			✓	
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				