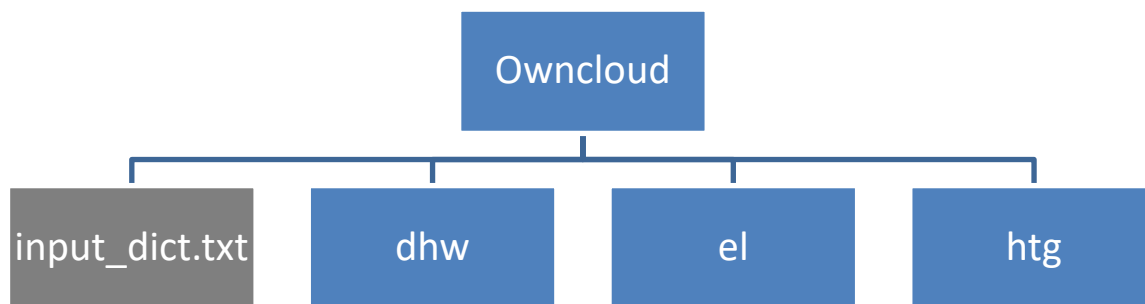


Introduction

This file lists the data structure of the simulation results folder, and the content of the different results files. You can [jump to the specific sections by clicking on the folders and files within the folder tree figures](#). (Only works in the word version)

The results are structured as follows:

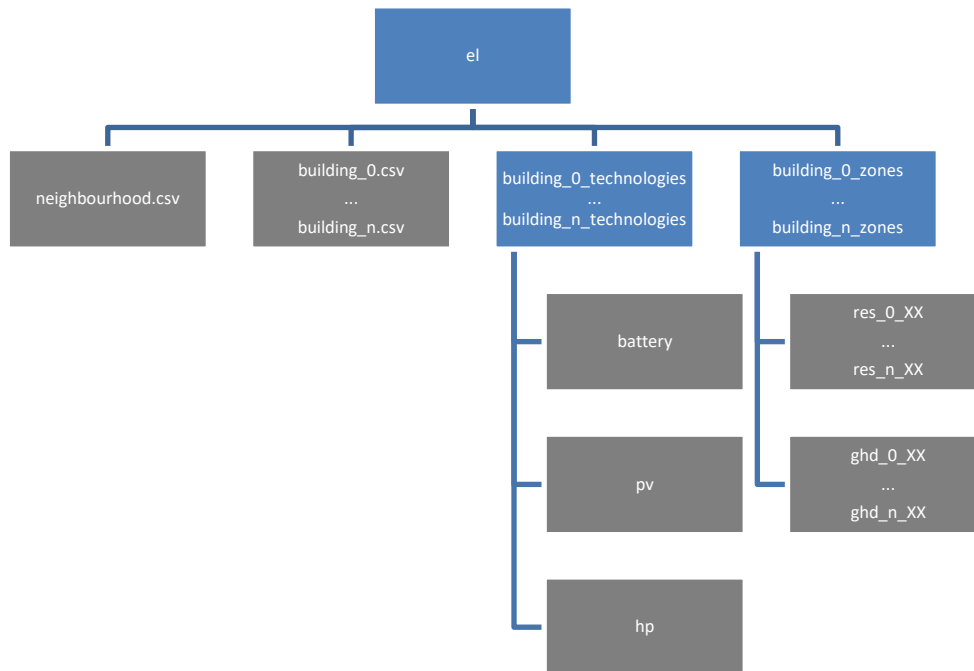


[input_dict.txt] The configuration file

This file contains the initial configuration json dictionary as it was created using the synpro-lastprofile.de GUI or that was sent via the REST api.

[el] For electrical profiles the substructure is as followed:

[building_i_technologies] The electric building level folder



[neighbourhood.csv] The electric neighborhood file

This file represents a timeseries for an annual simulation with a separate column for each building containing the electrical consumption in kW together with a column containing the total consumption of all buildings in kW.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[building_i.csv] The electric building file

Depending on how many buildings were requested several files starting from 0 to n are provided. Each file represents a timeseries for an annual simulation with a separate column for each zone containing the electrical consumption in kW together with a column containing the total consumption of all zones within the building in kW.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[building_i_technologies] The electric building level folder

For each building a separated folder is created containing the various electrical devices which are used on a building level. This includes a rooftop PV plant, a heat pump, or a stationary battery system.

[pv.csv] The PV file

This file only consists of a single column for the pv power.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[battery.csv] The battery file

This file contains all information on a building level battery system. The battery power exchange is in the column 'power_applied', 'power_requested' is the theoretical power requested from the controller. Positive values signal a charging process negative values a discharging process. Additional information on the battery status is available in self-explaining columns.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[heatpump.csv] The heatpump file

Coming soon

[building_i_zones] The electric ghd and residential zones

For each building a separated folder is created containing the various electrical demands of each GHD and residential zone.

[res_i_XX] The electric residential file

Depending on how many residential zones in a building were requested several files starting from 0 to n are provided.

The filenames contain the following information:

res_1_fam_3

res signals it is a residential zone

1 is the counter of all residential zones within the building starting with 0.

fam contains the socioeconomic factory of the simulated zones.

3 is the number of people living within the zone.

The following socioeconomic factors are possible:

Factor	Explanation	Size
all	a mixture of all socioeconomic factors	1-4
nn	one or two unemployed occupants - rest (in the case of 3 or 4 persons) is not specified	1-4
vv	one or two full working occupants - rest (in the case of 3 or 4 persons) is not specified	1-4
vt	one full working occupant and one part working occupant - rest (in the case of 3 or 4 persons) is not specified - In case of 1 person it is a part-time worker	1-4
vn	one full working occupant and one unemployed occupant - rest (in the case of 3 or 4 persons) is not specified	1-4

efh	Average single family home	1-4
dhorn	Average semi-detached house or terrace house	1-4
mfhkl	Average small apartment building up to 10 dwelling units	1-4
mfhgr	Average big apartment building from 11 dwelling units upwards	1-4
u30	age of all person is under 30 (30 included)	1-2
z3065	age of all person is between 30 and 65 (included borders)	1-3
o65	age of all person is higher 65 (65 included)	1
fam	Family simulation: 2 adults; rest children	1-4
aer	Single mother/father simulation: 1 adult (20 or older); rest children (18 or younger)	2-4

Each file represents a timeseries for an annual simulation with a separate column for the electric consumption of different activities conducted by the residents, together with a column containing the total consumption of all subzones within the building in kW. The possible activities are the following derived from the [HETUS Study](#):

Activity	Connected devices	Activity	Connected devices
cleaning_dry	Vacuumcleaner	listening_to_music	Hifi
using_tv	Television	circulation_pump_htg	Circulationpump
laundry	Washing machine, dryer	cooking	Cooking devices
using_light	Light	freezer	Freezer
dish_washing	Dish washer	refrigerator	Refrigerator
ironing	Iron	router	Router
using_pc	Computer	other	Other

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[ghd_i_XX] The electric GHD file

Depending on how many GHD zones in a building were requested several files starting from 0 to n are provided.

The filenames contain the following information:

ghd_1_sia_verwaltung OR **ghd_1_tek_education_05**

ghd signals it is a zone from the category “Gewerbe, Handel, Dienstleistungen” (Commercial, Trade, Services).

1 is the counter of all ghd zones within the building starting with 0.

sia/tek contains the information via the [SIA norm](#) or the [tek2go study](#) was used as a source.

verwaltung/education_05 contains the actual zone name, where SIA names are in German and are unique and tek2go names are in English and can have various layouts based on the number at the end.

The following zones are possible:

sia	English translation	tek	Number range
_verwaltung	Administration	_office	1-23

_verkauf	Retail	_retail	1-11
_restaurant	Restaurant		
_versammlungslokal	Meeting places	_meeting_places	1-15
_spital	Hospital		
_industrie	Industry		
_lager	Storage		
_sportbauten	Sports building		
_hallenbad	Indoor swimming pool		
_schule	School	_school	1-15
		_education	5-19
		_hotel	1-8

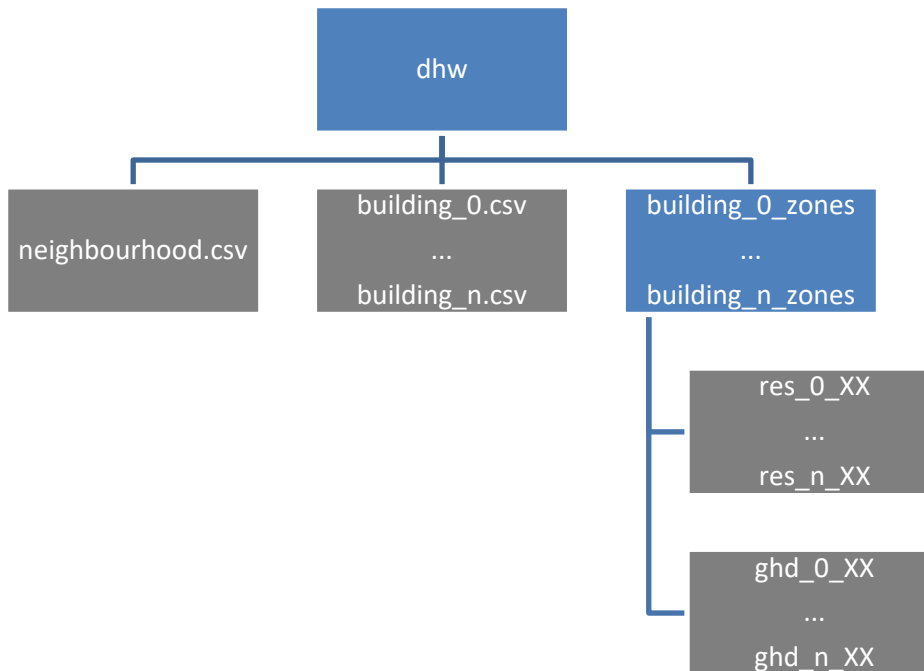
Each file represents a timeseries for an annual simulation with a separate column for lighting “light”, electric equipment “equip” and ventilation “vent” for each GHD subzone containing the electrical consumption in kW together with a column containing the total consumption of all subzones within the zone in kW. The GHD Subzones are as follows:

GHD subzone	German translation	GHD subzone	German translation
hotelroom	Hotelzimmer	wardroom	Stationszimmer
lobby	Hotelzimmer	treatmentroom	Behandlungsraum
groupoffice	Einzel-, Gruppenbüro	heavyworkhall	Produktion (grobe Arbeit)
largeoffice	Großraumbüro	normalworkhall	Produktion (feine Arbeit)
meetingroom	Sitzungszimmer	lab	Laborraum
counterhall	Schalterhalle, Empfang	storagehall	Lagerhalle
classroom	Schulzimmer	gym	Turnhalle
staffroom	Lehrerzimmer	fitnessroom	Fitnessraum
library	Bibliothek	swimmingpool	Schwimmhalle
lecturehall	Hörsaal	corridor	Verkehrsfläche
specialroom	Schulfachraum (Spezialraum)	corridor24h	Verkehrsfläche 24 h
grocerystore	Lebensmittelverkauf	staircase	Treppenhaus
specializedstore	Fachgeschäft	ancillaryroom	Nebenraum
hardwarestore	Verkauf Möbel, Bau, Garten	kitchen	Küche, Teeküche
restaurant	Restaurant	bathroom	WC, Bad, Dusche
canteen	Selbstbedienungsrestaurant	wc	WC
kitchenrestaurant	Küche zu Restaurant	dressingroom	Garderobe, Dusche
kitchenselfservice	Küche zu Selbstbedienungsrest.	parking	Parkhaus
eventroom	Vorstellungsraum	washingroom	Wasch- und Trockenraum
hallmulti	Mehrzweckhalle	refrigerationroom	Kühlraum
hallexhibit	Ausstellungshalle	serverroom	Serverraum
hospitalroom	Bettzimmer		

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[dhw] For domestic hot water profiles the substructure is as followed:



[neighbourhood.csv] The domestic hot water neighborhood file

This file represents a timeseries for an annual simulation with a separate column for each building containing the domestic hot water consumption in kW together with a column containing the total consumption of all buildings in kW.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[building_i.csv] The domestic hot water building file

Depending on how many buildings were requested several files starting from 0 to n are provided. Each file represents a timeseries for an annual simulation with a separate column for each zone containing the domestic hot water consumption in kW together with a column containing the total consumption of all zones within the building in kW.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[building_i_zones] The domestic hot water ghd and residential zones

For each building a separated folder is created containing the various domestic hot water demands of each GHD and residential zone.

[res_i_XX] The domestic hot water residential file

Depending on how many residential zones in a building were requested several files starting from 0 to n are provided.

The filenames contain the following information:

res_1_fam_3

res signals it is a residential zone

1 is the counter of all residential zones within the building starting with 0.

fam contains the socioeconomic factory of the simulated zones.

3 is the number of people living within the zone.

The following socioeconomic factors are possible:

Factor	Explanation	Size
all	a mixture of all socioeconomic factors	1-4
nn	one or two unemployed occupants - rest (in the case of 3 or 4 persons) is not specified	1-4
vv	one or two full working occupants - rest (in the case of 3 or 4 persons) is not specified	1-4
vt	one full working occupant and one part working occupant - rest (in the case of 3 or 4 persons) is not specified - In case of 1 person it is a part-time worker	1-4
vn	one full working occupant and one unemployed occupant - rest (in the case of 3 or 4 persons) is not specified	1-4
efh	Average single family home	1-4
dhorn	Average semi-detached house or terrace house	1-4
mfhkl	Average small apartment building up to 10 dwelling units	1-4
mfhgr	Average big apartment building from 11 dwelling units upwards	1-4
u30	age of all person is under 30 (30 included)	1-2
z3065	age of all person is between 30 and 65 (included borders)	1-3
o65	age of all person is higher 65 (65 included)	1
fam	Family simulation: 2 adults; rest children	1-4
aer	Single mother/father simulation: 1 adult (20 or older); rest children (18 or younger)	2-4

Each file represents a timeseries for an annual simulation with a separate column for dhw tap water consumption and dhw circulation and transportation losses in kW together with a column containing the total consumption.

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

[ghd_i_XX] The domestic hot water GHD file

Depending on how many GHD zones in a building were requested several files starting from 0 to n are provided.

The filenames contain the following information:

ghd_1_sia_verwaltung OR **ghd_1_tek_education_05**

ghd signals it is a zone from the category “Gewerbe, Handel, Dienstleistungen” (Commercial, Trade, Services).

1 is the counter of all ghd zones within the building starting with 0.

sia/tek contains the information via the [SIA norm](#) or the [tek2go study](#) was used as a source.

verwaltung/education_05 contains the actual zone name, where SIA names are in German and are unique and tek2go names are in English and can have various layouts based on the number at the end.

The following zones are possible:

sia	English translation	tek	Number range
_verwaltung	Administration	_office	1-23
_verkauf	Retail	_retail	1-11
_restaurant	Restaurant		
_versammlungslokal	Meeting places	_meeting_places	1-15
_spital	Hospital		
_industrie	Industry		
_lager	Storage		
_sportbauten	Sports building		
_hallenbad	Indoor swimming pool		
_schule	School	_school	1-15
		_education	5-19
		_hotel	1-8

Each file represents a timeseries for an annual simulation with a separate column for each GHD subzone containing the thermal domestic hot water consumption in kW together with a column containing the total consumption of all subzones within the building in kW. The GHD Subzones are as follows:

GHD subzone	German translation	GHD subzone	German translation
hotelroom	Hotelzimmer	wardroom	Stationszimmer
lobby	Hotelzimmer	treatmentroom	Behandlungsraum
groupoffice	Einzel-, Gruppenbüro	heavyworkhall	Produktion (grobe Arbeit)
largeoffice	Großraumbüro	normalworkhall	Produktion (feine Arbeit)
meetingroom	Sitzungszimmer	lab	Laborraum
counterhall	Schalterhalle, Empfang	storagehall	Lagerhalle
classroom	Schulzimmer	gym	Turnhalle
staffroom	Lehrerzimmer	fitnessroom	Fitnessraum
library	Bibliothek	swimmingpool	Schwimmhalle
lecturehall	Hörsaal	corridor	Verkehrsfläche
specialroom	Schulfachraum (Spezialraum)	corridor24h	Verkehrsfläche 24 h

grocerystore	Lebensmittelverkauf	staircase	Treppenhaus
specializedstore	Fachgeschäft	ancillaryroom	Nebenraum
hardwarestore	Verkauf Möbel, Bau, Garten	kitchen	Küche, Teeküche
restaurant	Restaurant	bathroom	WC, Bad, Dusche
canteen	Selbstbedienungsrestaurant	wc	WC
kitchenrestaurant	Küche zu Restaurant	dressingroom	Garderobe, Dusche
kitchenselfservice	Küche zu Selbstbedienungsrest.	parking	Parkhaus
eventroom	Vorstellungsraum	washingroom	Wasch- und Trockenraum
hallmulti	Mehrzweckhalle	refrigerationroom	Kühlraum
hallexhibit	Ausstellungshalle	serverroom	Serverraum
hospitalroom	Bettzimmer		

To read in the file from Python use:

```
df = pd.read_csv('/path/to/file.csv', comment='#', sep=';')
df.index = pd.to_datetime(df['unixtimestamp'], unit='s', utc=True)
```

If questions occur, contact synpro@ise.fraunhofer.de