Overview of the results of the household CHR20 one at work, one work home, 3 children 0

Calculation Time
Freitag, 1. Januar 2016 - Sonntag, 1. Januar 2017

Energy Intensity: Random

Seed 5679

LoadProfileGenerator 5.8.0.16019

by Noah Pflugradt

http://www.loadprofilegenerator.de

Rendering date:16.12.2016 09:14:48

Table of Contents

Totals

Totals for each Loadtype

Load Type	Value	Unit
Cold Water	57766.13	L
Electricity	5538.27	kWh
Warm Water	117052.50	L

Totals for each Loadtype per Day

Load Type	Value	Unit
Cold Water	157.83	L
Electricity	15.13	kWh
Warm Water	319.82	L

Minimum and Maximum for each Loadtype

Household	Minimum	Maximum	Unit
Cold Water	0.00	17.38	L/Min
Electricity	0.00	12051.49	Watt
Warm Water	0.00	15.00	L/Min

Totals for each Loadtype per Person

Load Type	Value	Unit
Cold Water	11553.23	L
Electricity	1107.65	kWh

Warm Water	23410.50	L

Totals for each Loadtype per Person per Day

Load Type	Value	Unit
Cold Water	31.57	L
Electricity	3.03	kWh
Warm Water	63.96	L

Persons

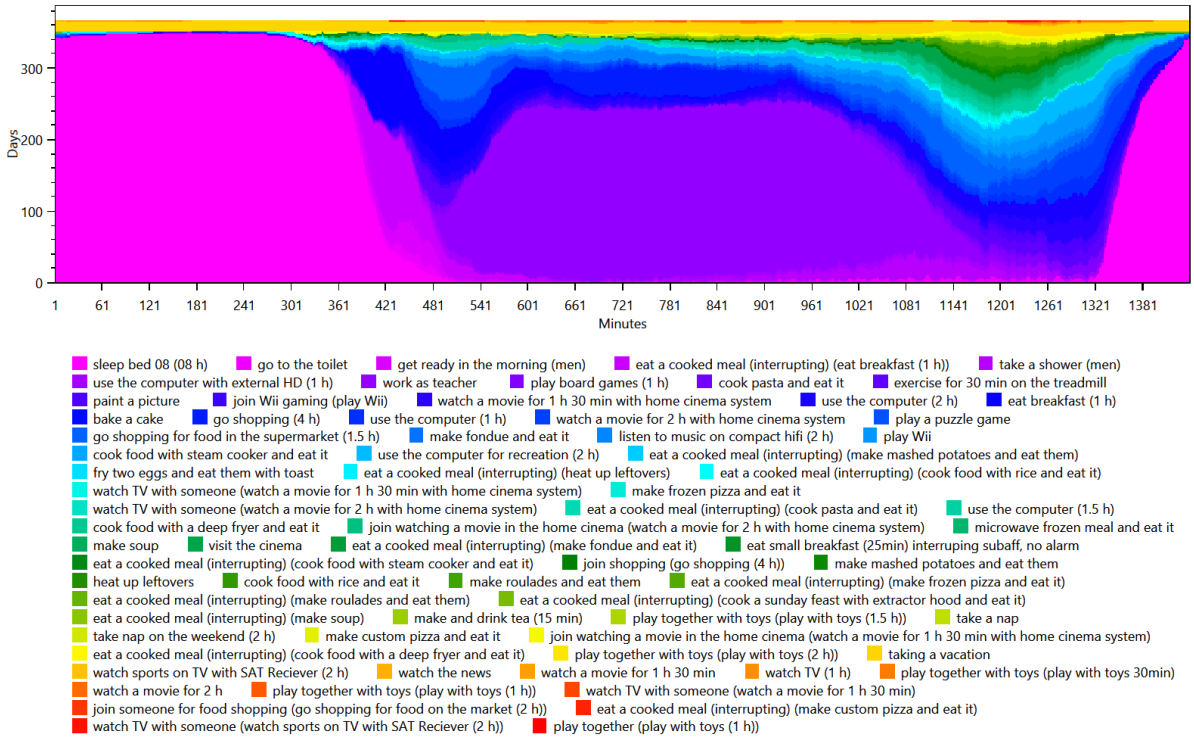
- HH0
    - CHR20 Arthur (45/Male)(45/Male)
    - CHR20 Cassie (40/Female)(40/Female)
    - CHR20 Garreth (8/Male)(8/Male)
    - CHR20 George (12/Male)(12/Male)
    - CHR20 Gregor (4/Male)(4/Male)

Activity Frequency Charts

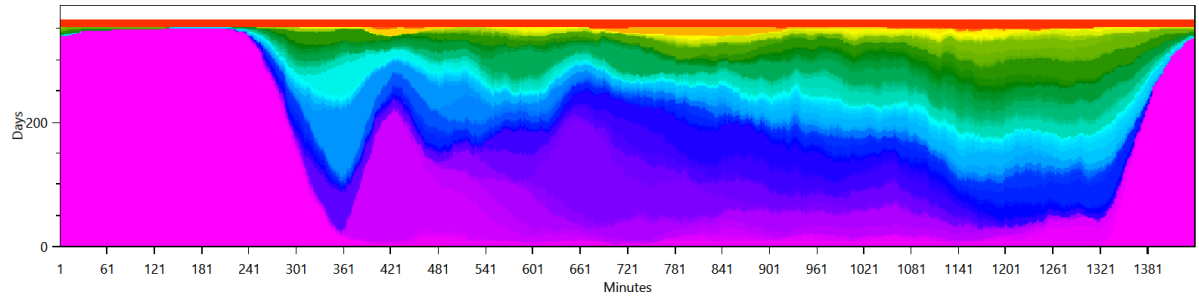
This is made from the files starting with: ActivityFrequenciesPerMinute

These charts show an ordered distribution of times of the activities of each person.This helps with judging quickly if a person is sleeping correctly and if they are going to work regularly.

HH0 - CHR20 Arthur (45 Male)

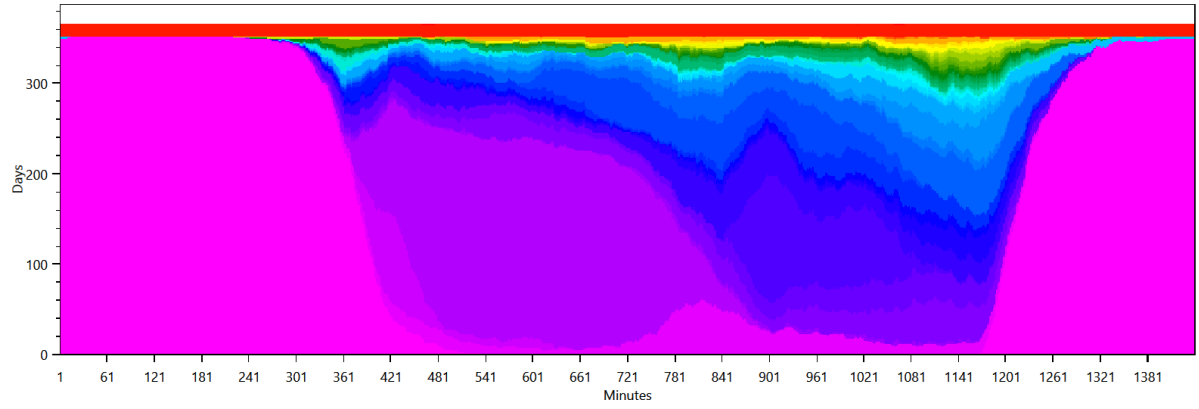


HH0 - CHR20 Cassie (40 Female)



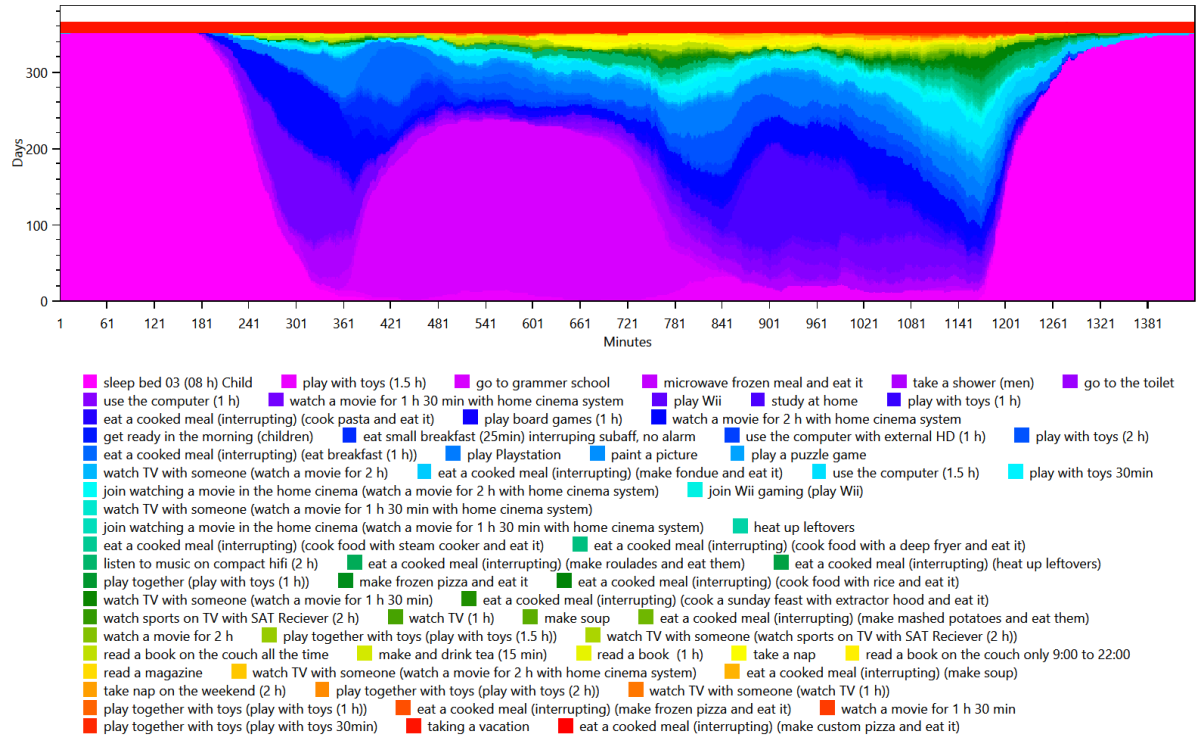
sleep bed 02 (06 h) play Wii play board games (1 h) eat breakfast (1 h) go shopping for food on the market (2 h)
work at the home office with scanning (1 h) go to the toilet do laundry at 30°C (by variable) take a nap work at the home office with sending a fax (1 h)
take a shower with hair washing (women) (5 min hair drying) run the dryer with wet laundry (by variable) work at the home office with laser color printing (1 h)
use the computer with external HD (1 h) go shopping (4 h) microwave frozen meal and eat it play a puzzle game
join watching a movie in the home cinema (watch a movie for 1 h 30 min with home cinema system) play Playstation paint a picture
watch TV with someone (watch a movie for 2 h with home cinema system) get ready in the morning (women) do paperwork in the home office
listen to music on compact hifi (2 h) run the dishwasher (triggered) take a shower without hair washing (women) use the computer (1 h) clean the bath
use the computer (1.5 h) watch a movie for 2 h watch a movie for 1 h 30 min fry two eggs and eat them with toast
join watching a movie in the home cinema (watch a movie for 2 h with home cinema system) take a shower with hair washing (women) (20 min hair drying)
do laundry at 60°C (by variable) vacuum the household use the computer for recreation (2 h) watch the news watch TV (1 h)
make mashed potatoes and eat them watch a movie for 1 h 30 min with home cinema system make fondue and eat it work at the home office (1 h)
cook food with steam cooker and eat it watch a movie for 2 h with home cinema system cook food with rice and eat it bake a cake
cook food with a deep fryer and eat it cook pasta and eat it make roulades and eat them use the computer (2 h) heat up leftovers
cook a sunday feast with extractor hood and eat it make custom pizza and eat it watch sports on TV with SAT Reciever (2 h) visit the cinema
make frozen pizza and eat it watch TV with someone (watch a movie for 1 h 30 min with home cinema system) make and drink tea (15 min)
read a newspaper for 30min read a book on the couch only 9:00 to 22:00 read a book on the couch all the time take nap on the weekend (2 h)
read a magazine join Wii gaming (play Wii) make soup eat a cooked meal (interrupting) (eat breakfast (1 h))
watch TV with someone (watch a movie for 1 h 30 min) join shopping (go shopping (4 h)) eat a cooked meal (interrupting) (heat up leftovers)
eat a cooked meal (interrupting) (make frozen pizza and eat it) watch TV with someone (watch TV (1 h))
eat a cooked meal (interrupting) (cook food with rice and eat it) eat small breakfast (25min) interruping subaff, no alarm
eat a cooked meal (interrupting) (cook food with steam cooker and eat it) watch TV with someone (watch a movie for 2 h) taking a vacation
eat a cooked meal (interrupting) (make roulades and eat them) eat a cooked meal (interrupting) (cook food with a deep fryer and eat it)
eat a cooked meal (interrupting) (make mashed potatoes and eat them)

HH0 - CHR20 Garreth (8 Male)

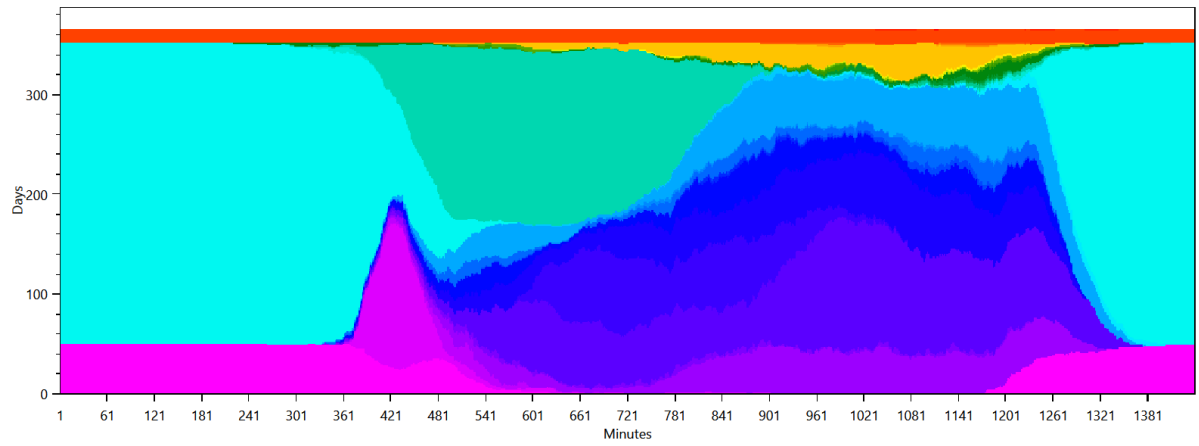


sleep bed 04 (10 h) Child watch a movie for 1 h 30 min with home cinema system eat a cooked meal (interrupting) (eat breakfast (1 h)) go to primary school
go to the toilet play Playstation play with toys (2 h) study at home watch a movie for 2 h with home cinema system play Wii
play board games (1 h) get ready in the morning (children) play with toys (1.5 h) take a nap play with wooden toys (2 h)
watch TV with someone (watch a movie for 2 h with home cinema system) play with wooden toys (1 h) play with toys (1 h)
eat a cooked meal (interrupting) (make fondue and eat it) play with toys 30min join Wii gaming (play Wii) play together with toys (play with toys (1.5 h))
join watching a movie in the home cinema (watch a movie for 2 h with home cinema system) eat a cooked meal (interrupting) (cook food with steam cooker and eat it)
eat a cooked meal (interrupting) (make frozen pizza and eat it) eat a cooked meal (interrupting) (cook pasta and eat it) read a book on the couch only 9:00 to 22:00
read a book on the couch all the time read a book (1 h) eat a cooked meal (interrupting) (cook food with a deep fryer and eat it)
watch TV with someone (watch a movie for 1 h 30 min with home cinema system) eat a cooked meal (interrupting) (make custom pizza and eat it)
watch a movie for 1 h 30 min eat a cooked meal (interrupting) (heat up leftovers)
join watching a movie in the home cinema (watch a movie for 1 h 30 min with home cinema system) eat a cooked meal (interrupting) (make roulades and eat them)
watch TV with someone (watch a movie for 1 h 30 min) watch TV (1 h) eat a cooked meal (interrupting) (make soup)
eat a cooked meal (interrupting) (cook food with rice and eat it) eat a cooked meal (interrupting) (cook a sunday feast with extractor hood and eat it)
watch TV with someone (watch sports on TV with SAT Reciever (2 h)) watch TV with someone (watch a movie for 2 h) play together with toys (play with toys (1 h))
watch a movie for 2 h play together with toys (play with toys (2 h)) eat a cooked meal (interrupting) (make mashed potatoes and eat them)
play together (play with toys (1 h)) watch TV with someone (watch TV (1 h)) play together with toys (play with toys 30min) taking a vacation
watch TV with someone (watch the news)

HH0 - CHR20 George (12 Male)



HH0 - CHR20 Gregor (4 Male)

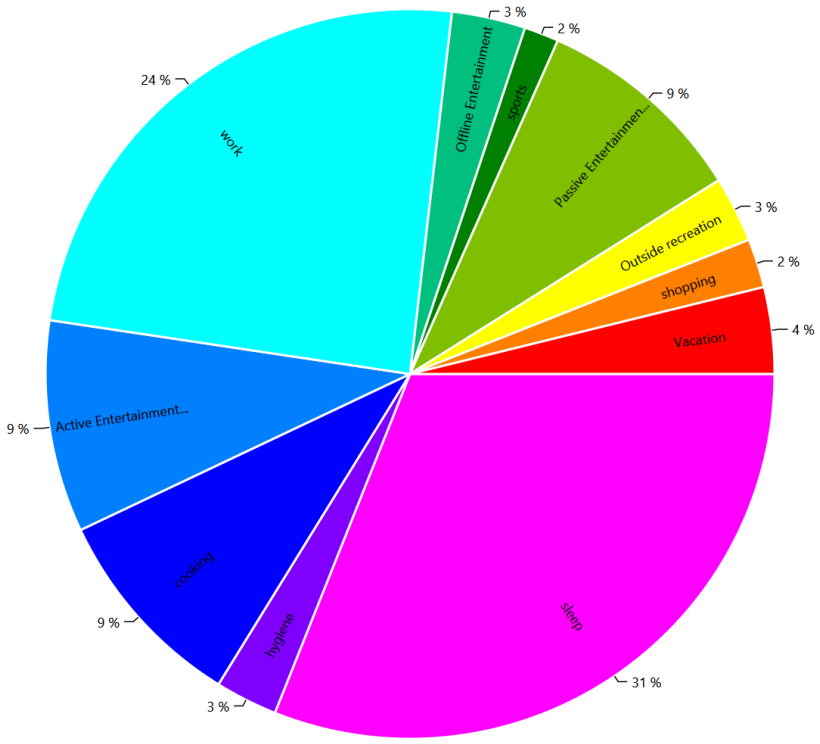


Activity Distribution per Person

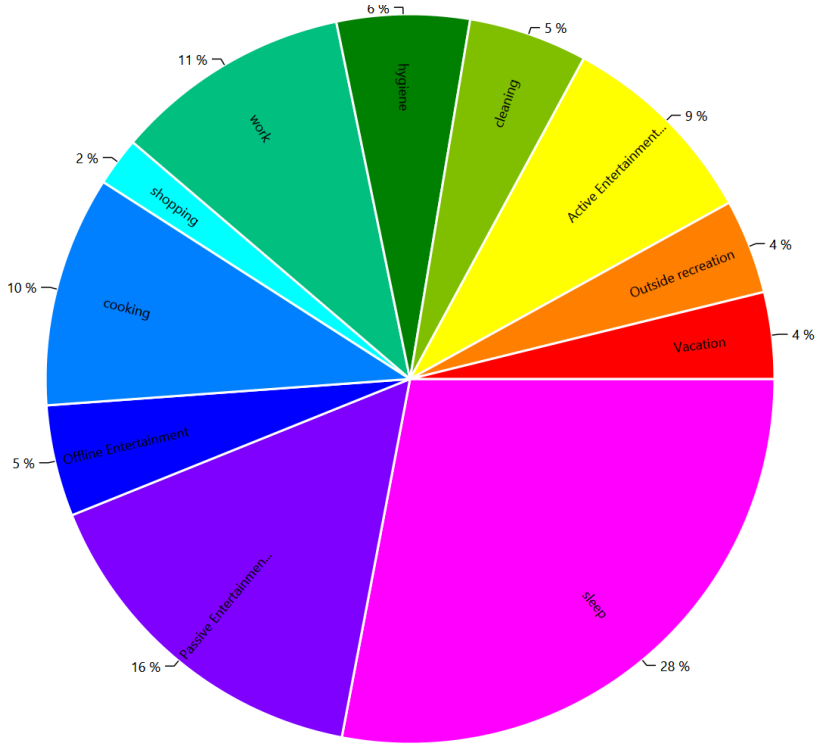
This is made from the files starting with: ActivityPercentage

This shows the distribution of the activities, grouped by the affordance AffordanceToCategories.

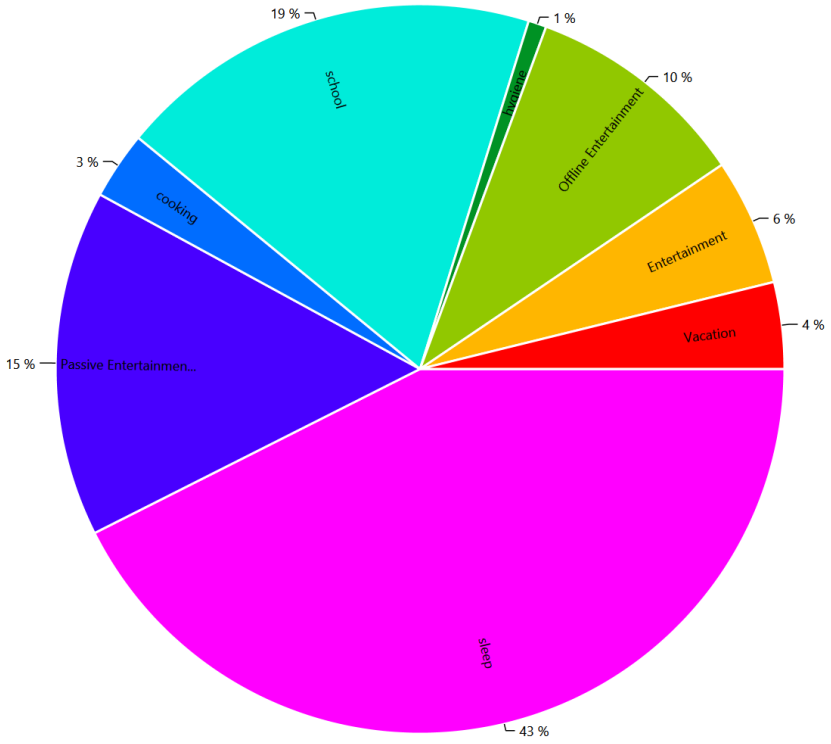
HH0 - CHR20 Arthur (45 Male)



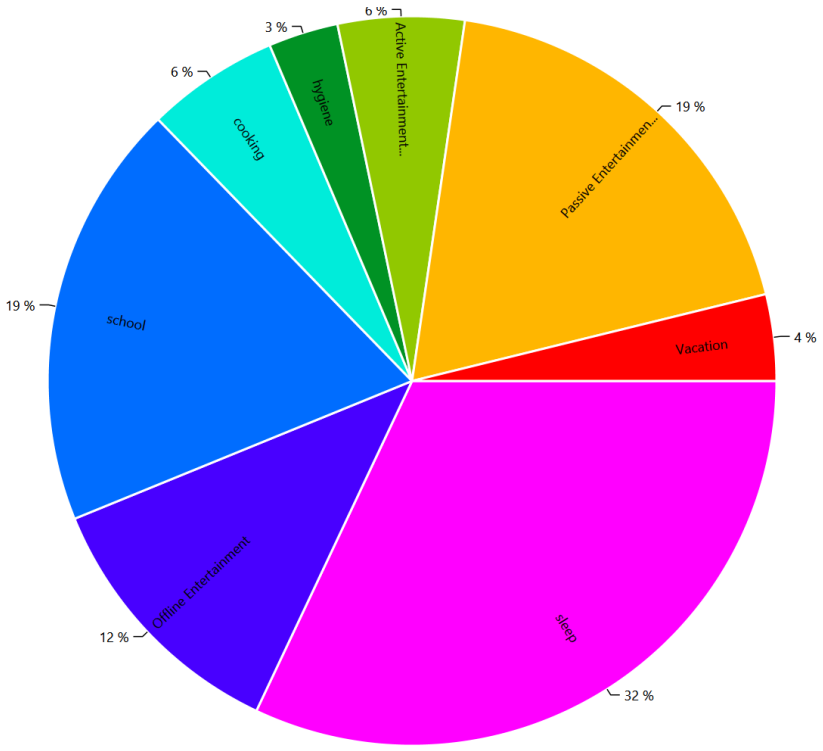
HH0 - CHR20 Cassie (40 Female)



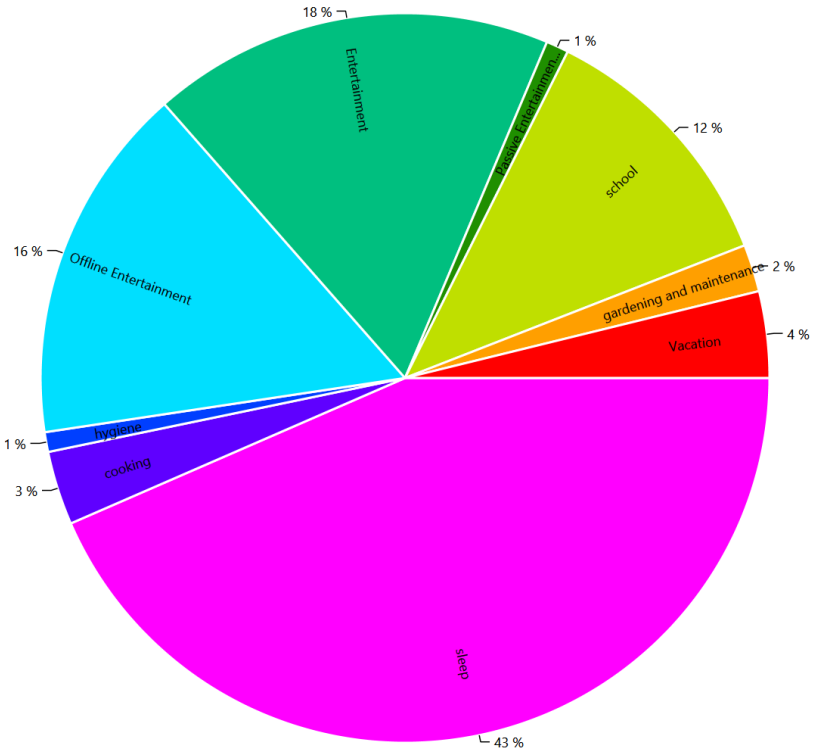
HH0 - CHR20 Garreth (8 Male)



HH0 - CHR20 George (12 Male)



HH0 - CHR20 Gregor (4 Male)

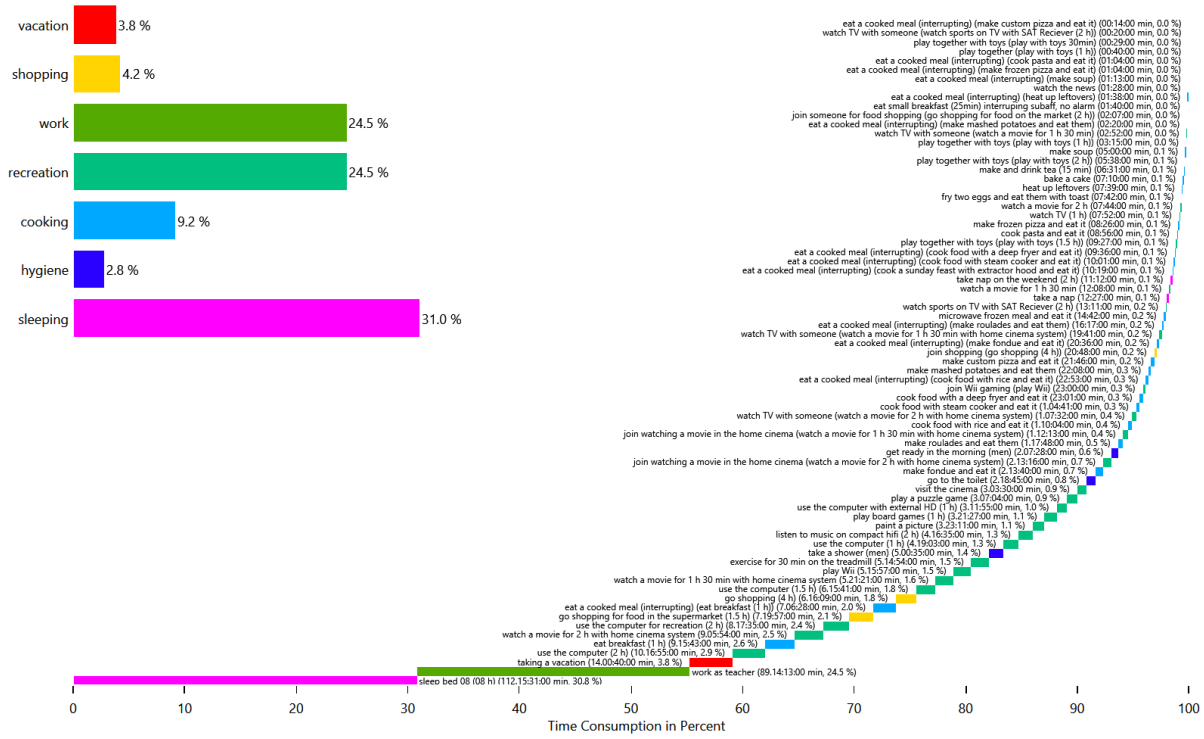


Time Use per Person per Affordance Per Person

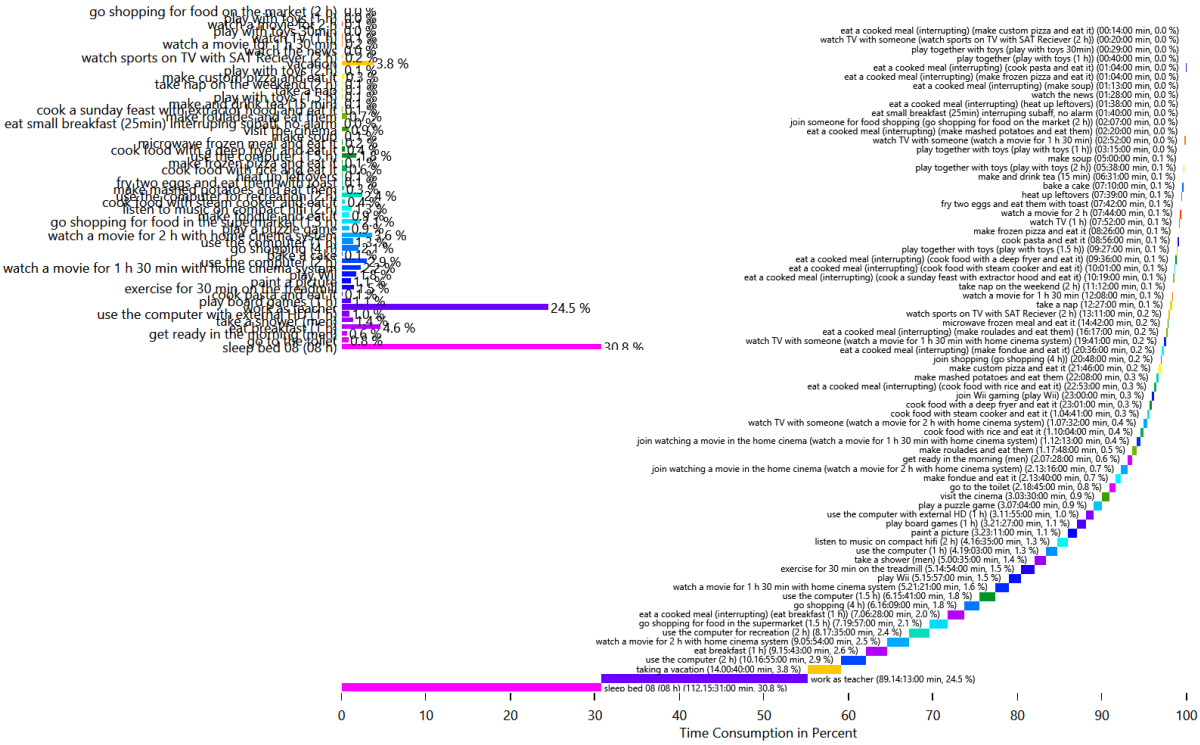
This is made from the files starting with: AffordanceTimeUse

These charts show how the people in the household use their time. This shows the individual affordances to help find problems in the household definition.

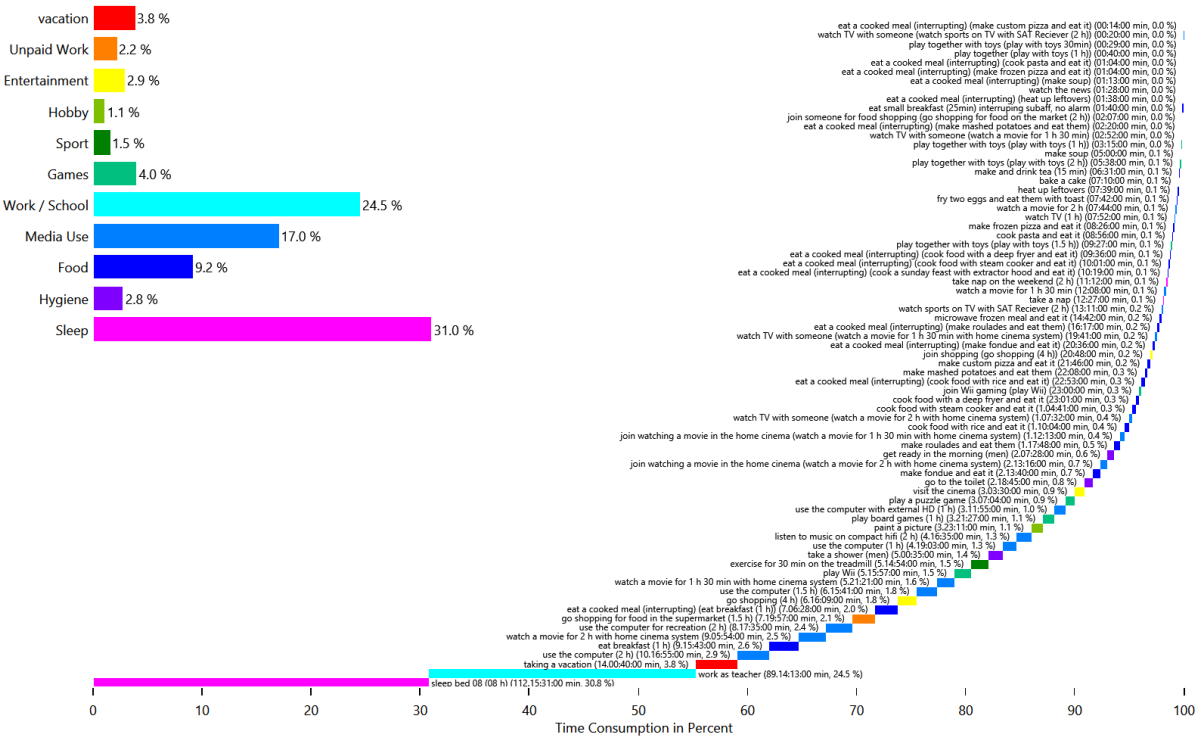
HH0 - CHR20 Arthur (45 Male)



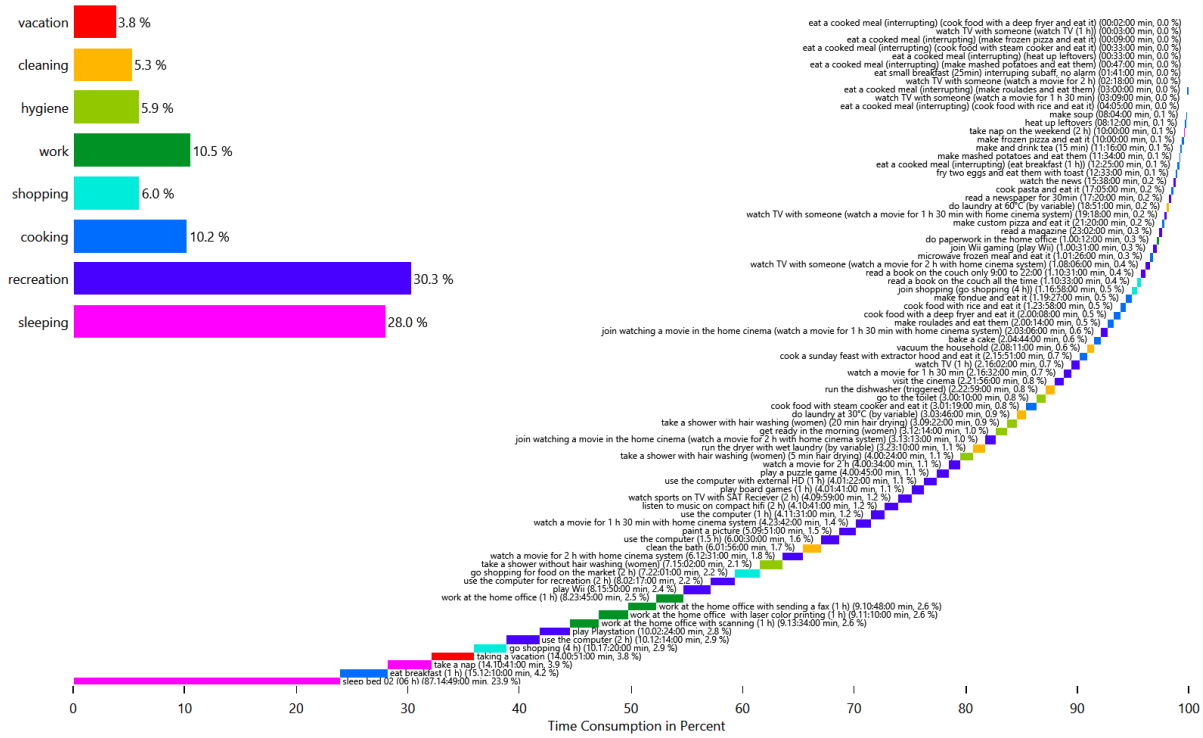
HH0 - CHR20 Arthur (45 Male)



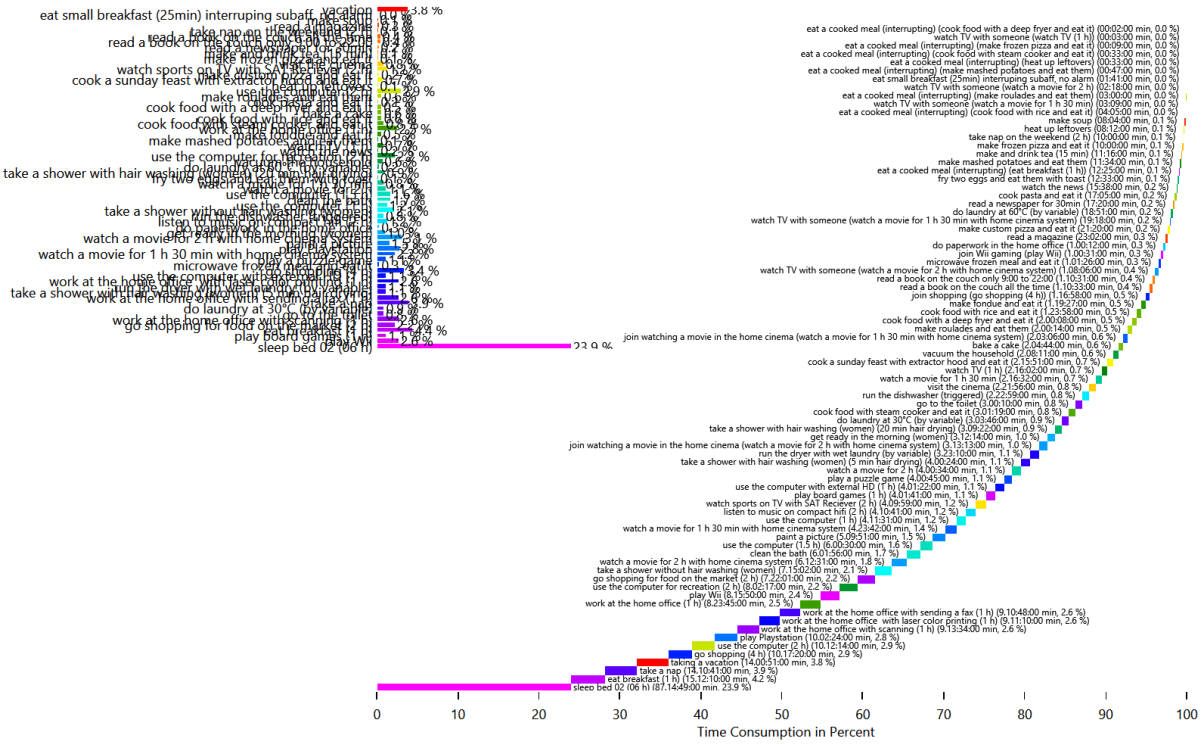
HH0 - CHR20 Arthur (45 Male)



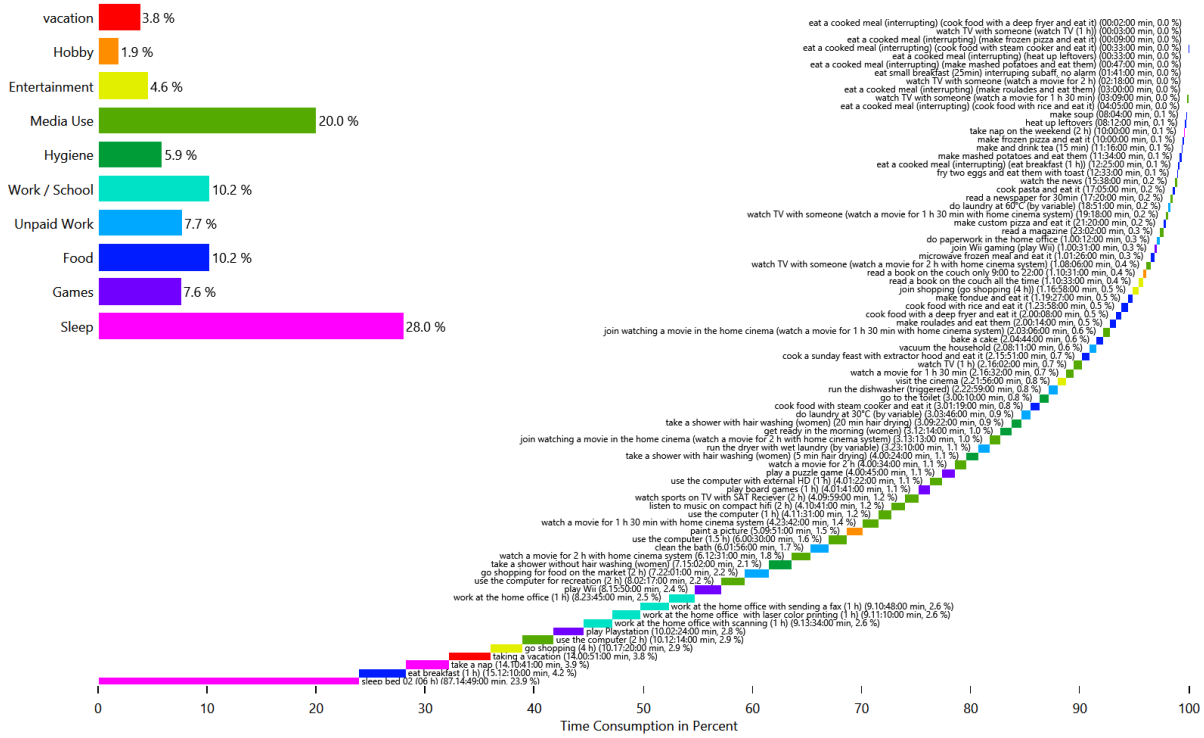
HH0 - CHR20 Cassie (40 Female)



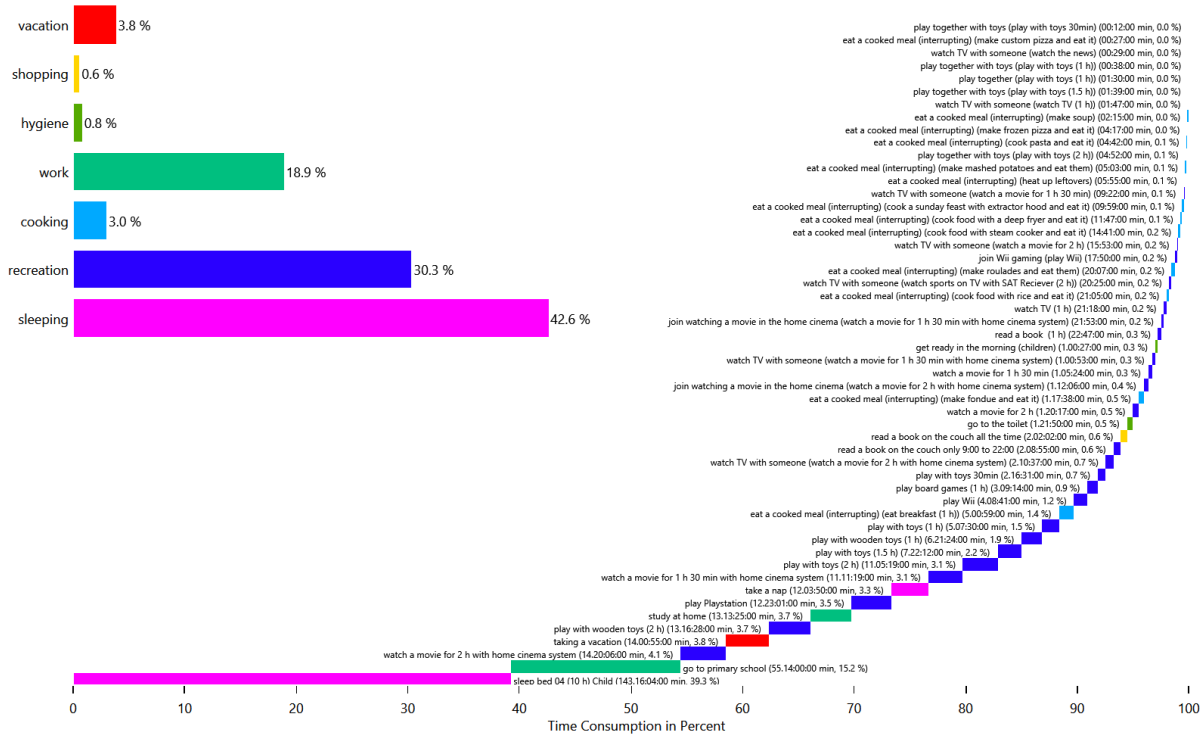
HH0 - CHR20 Cassie (40 Female)



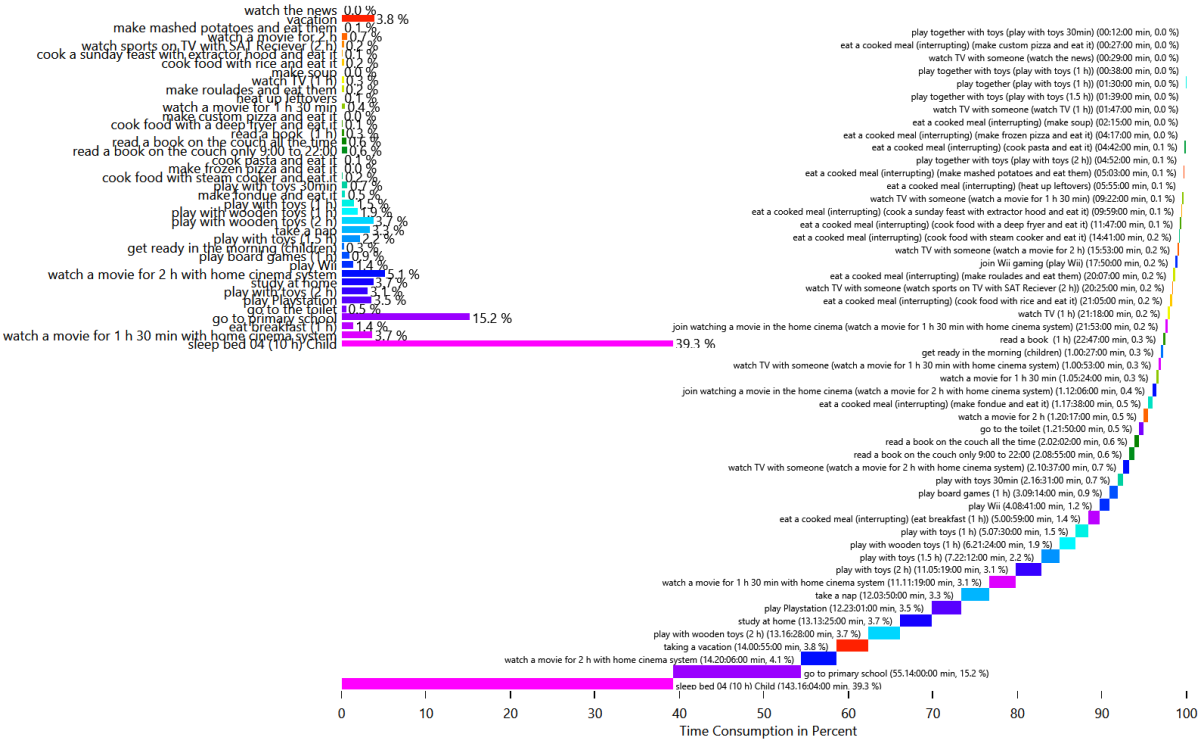
HH0 - CHR20 Cassie (40 Female)



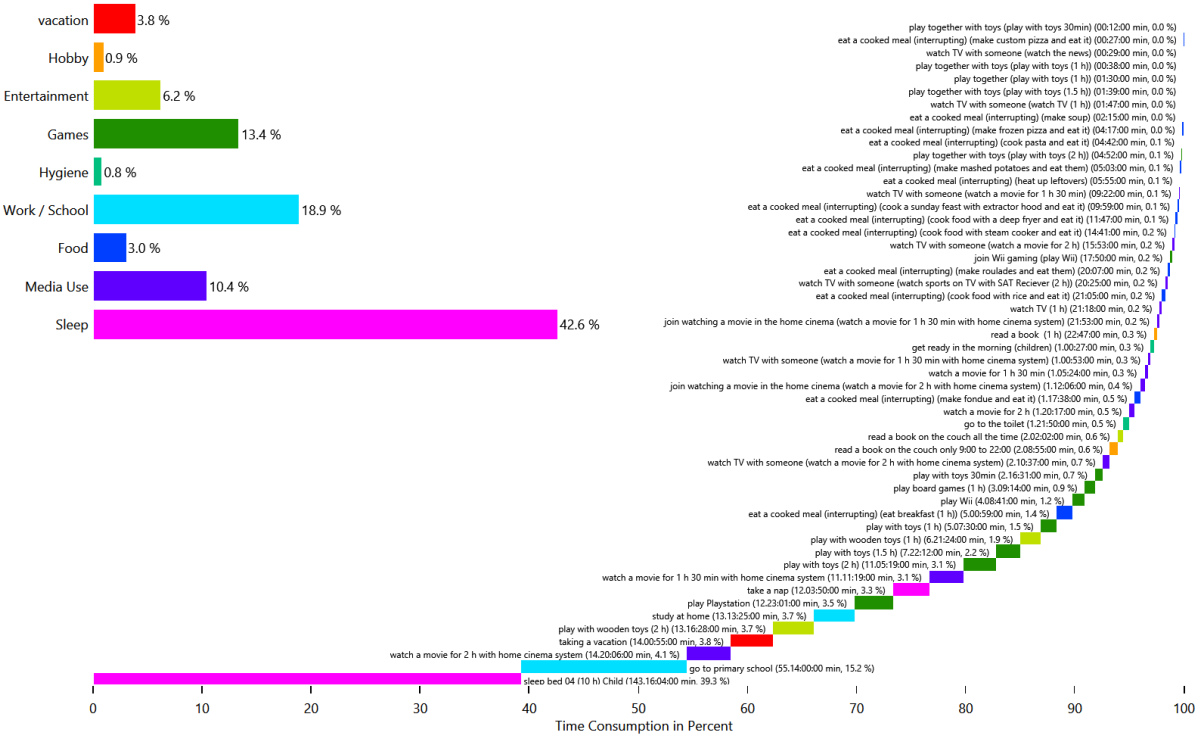
HH0 - CHR20 Garreth (8 Male)



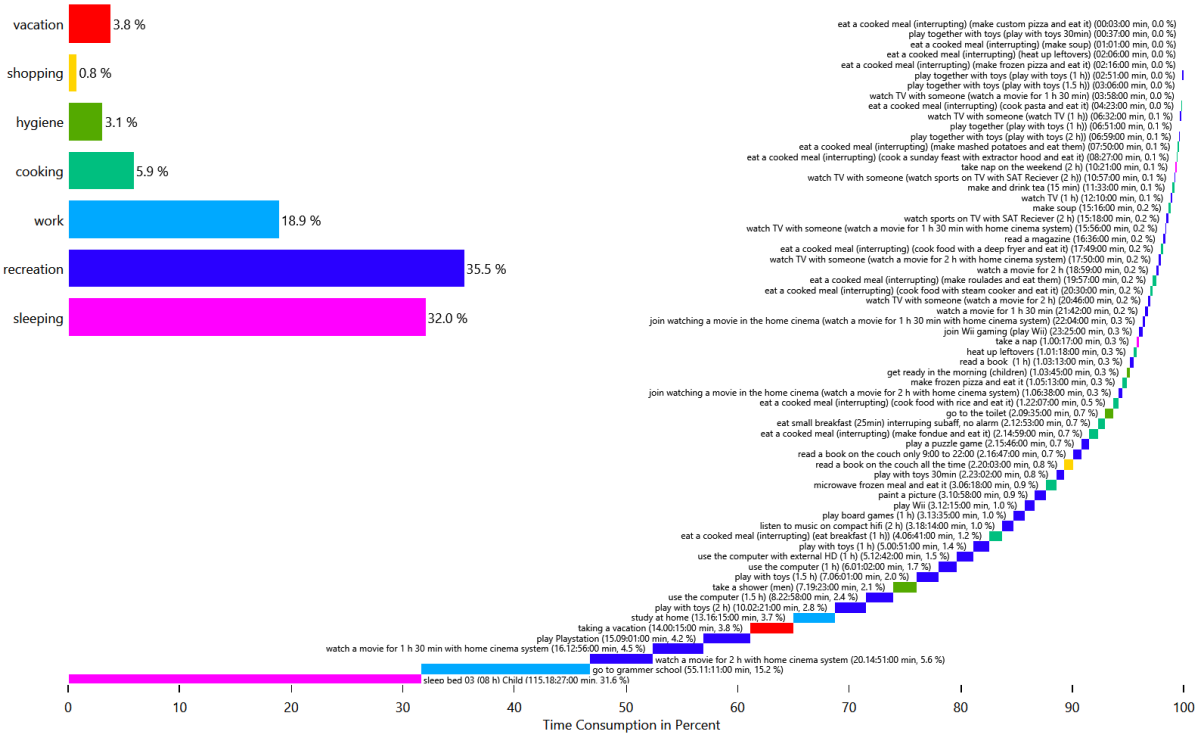
HH0 - CHR20 Garreth (8 Male)



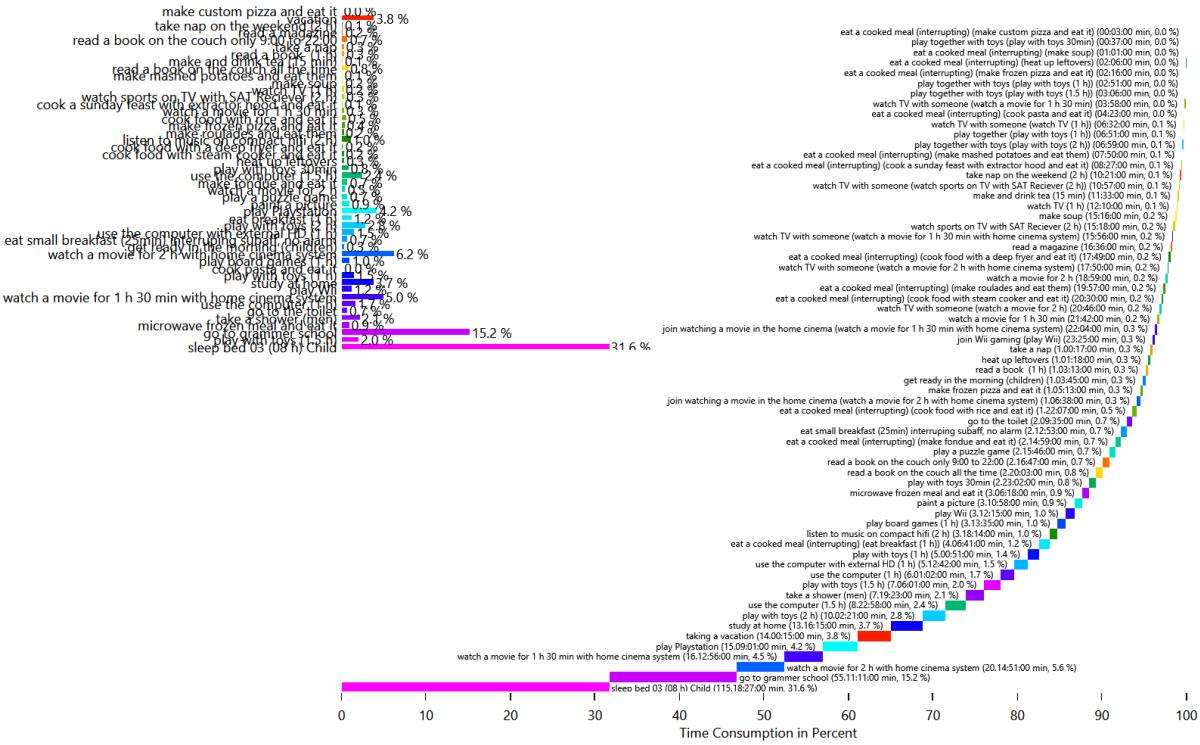
HH0 - CHR20 Garreth (8 Male)



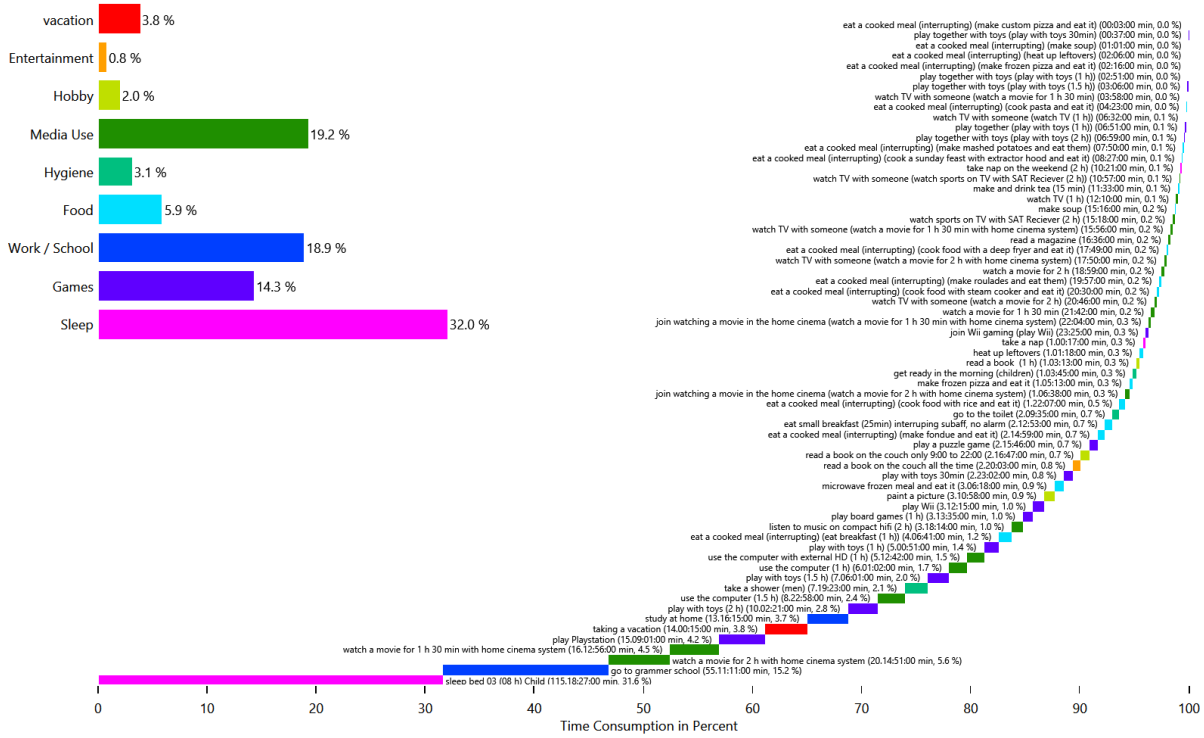
HH0 - CHR20 George (12 Male)



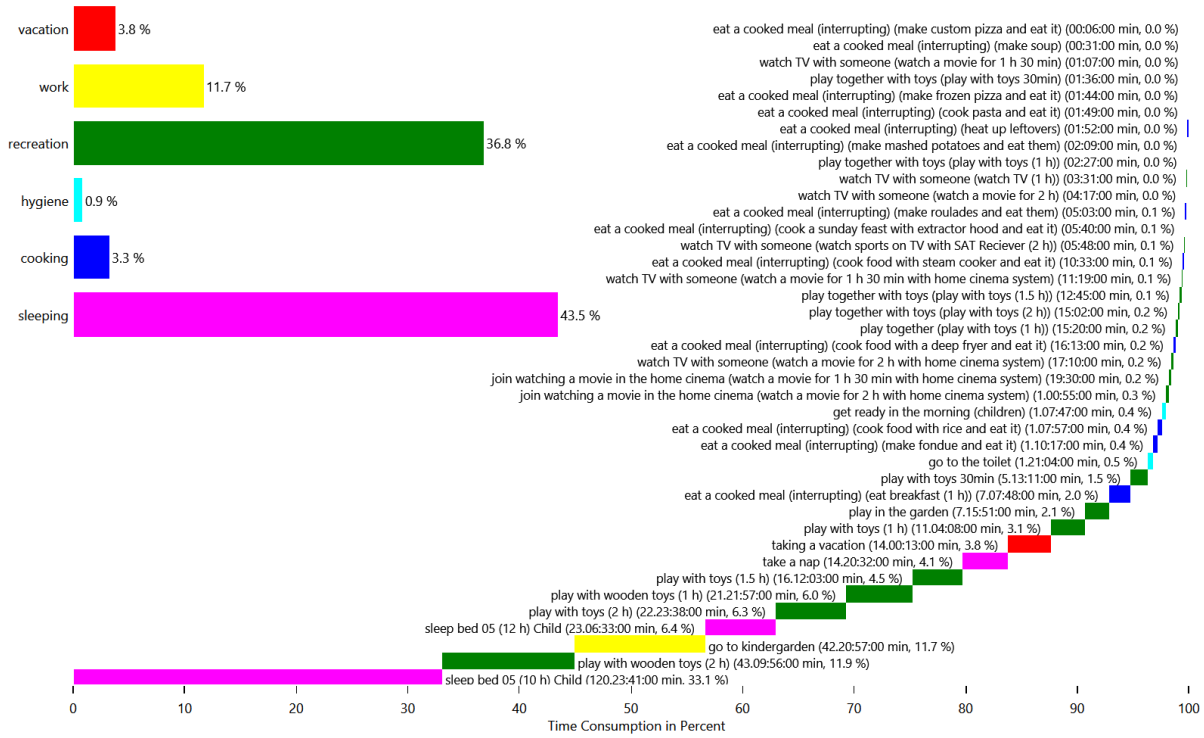
HH0 - CHR20 George (12 Male)



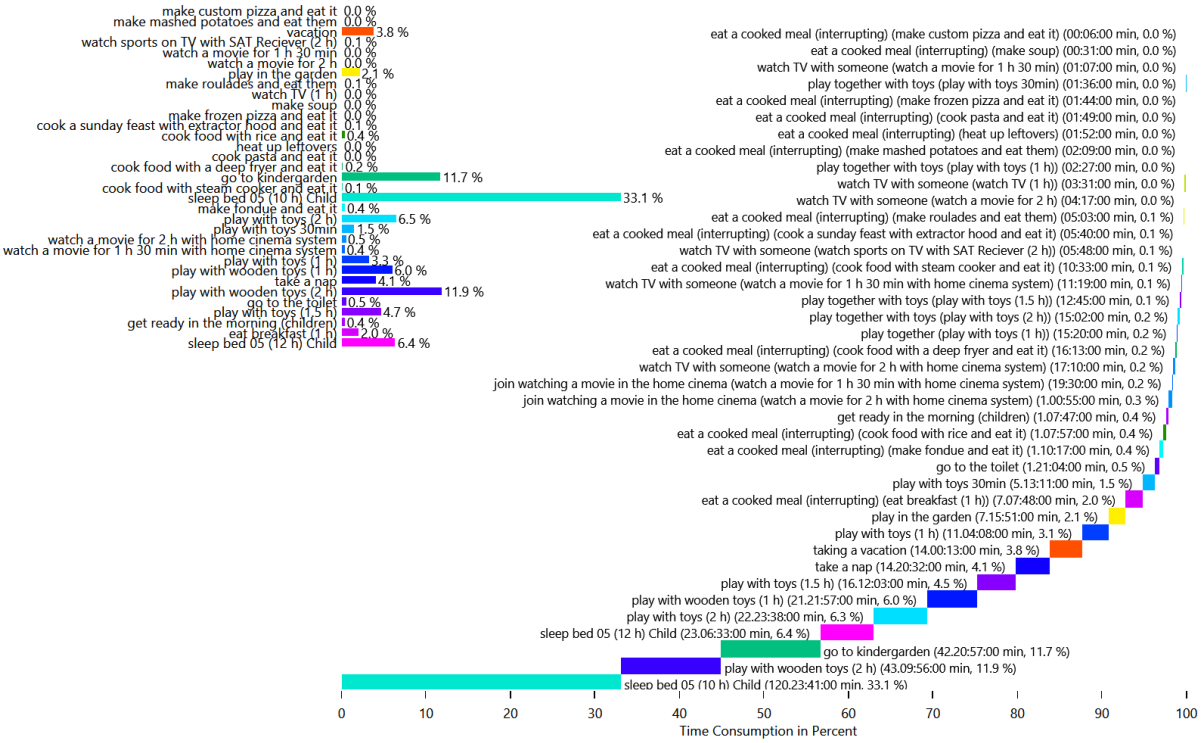
HH0 - CHR20 George (12 Male)



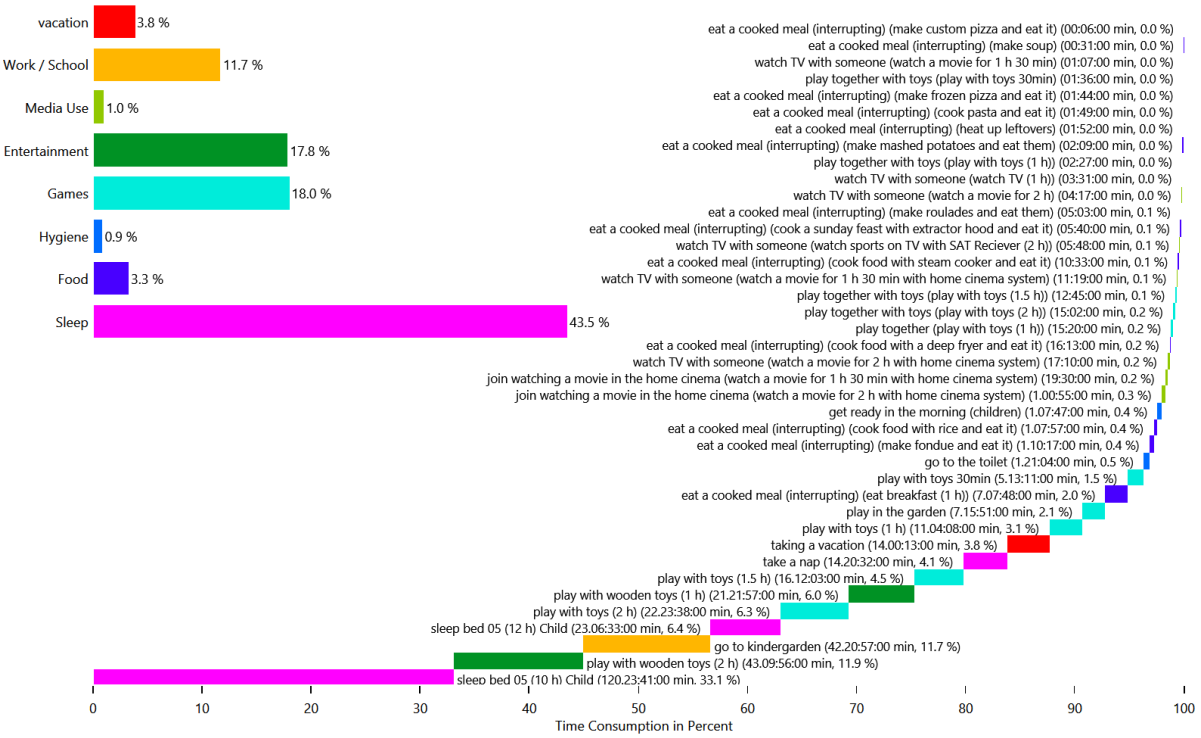
HH0 - CHR20 Gregor (4 Male)



HH0 - CHR20 Gregor (4 Male)



HH0 - CHR20 Gregor (4 Male)

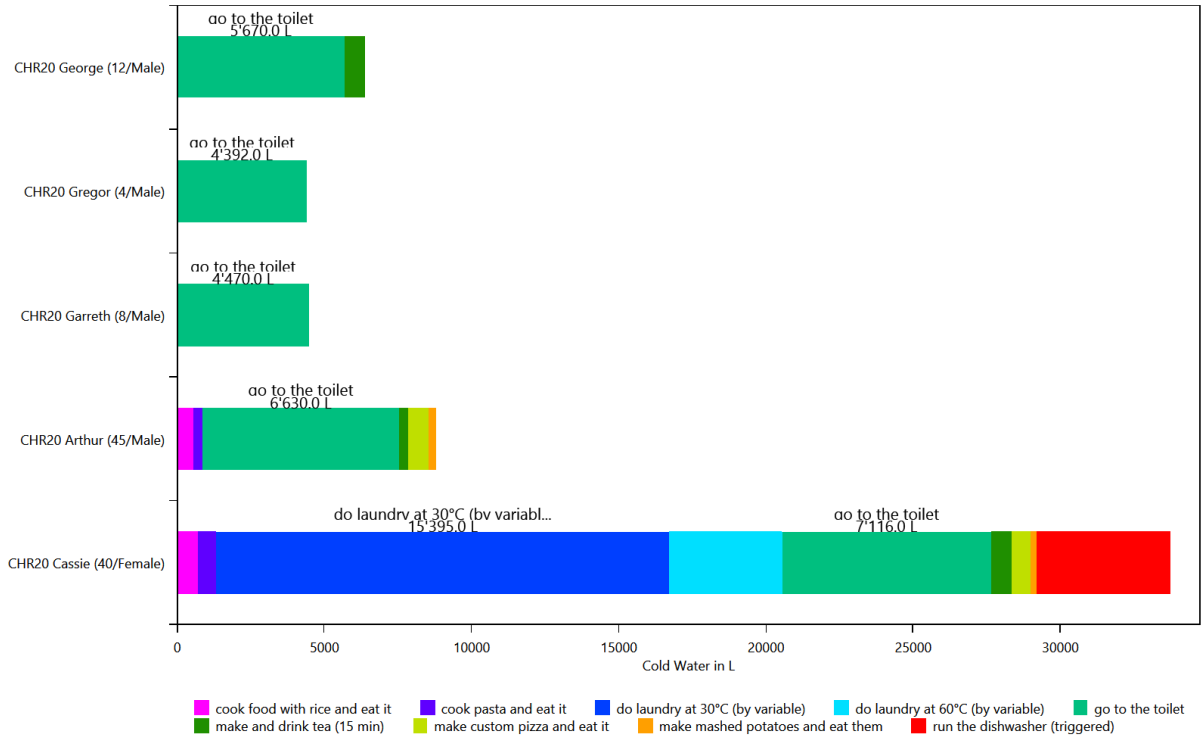


Energy use per person per affordance

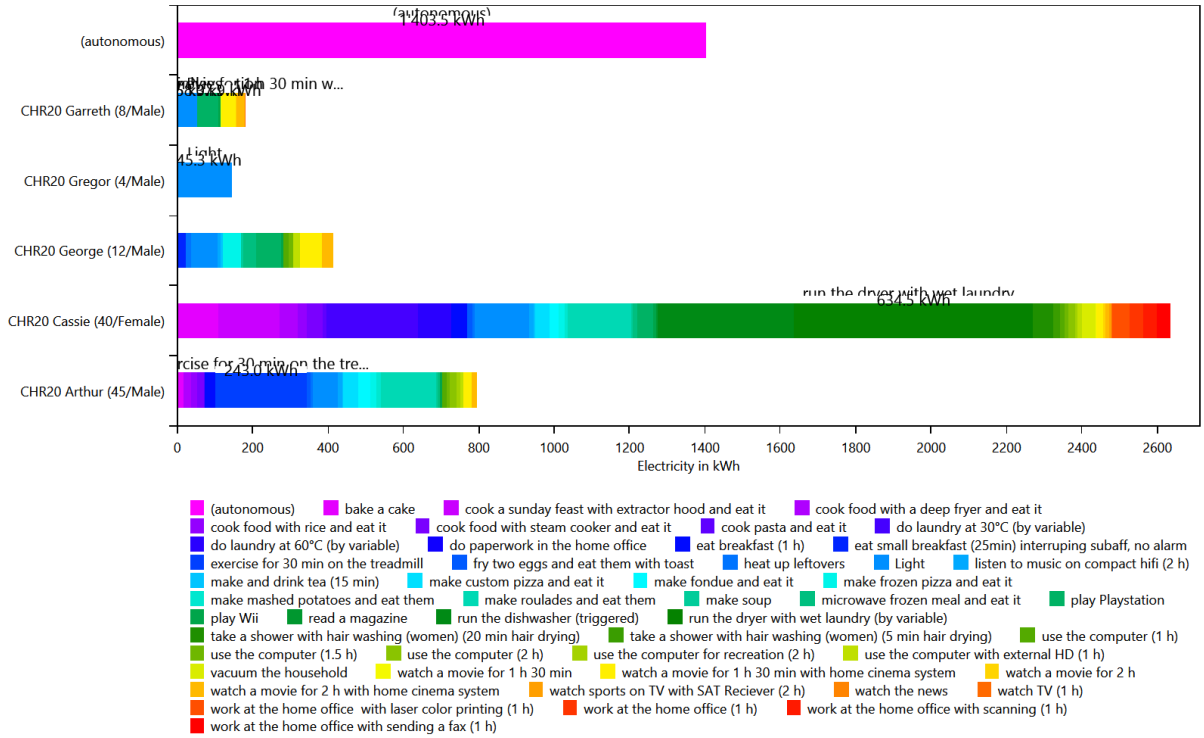
This is made from the files starting with: AffordanceEnergyUsePerPerson

This shows the distribution of the energy/ressource use to each affordance by load type and by person. This helps with figuring out if a person is using too much electricity.

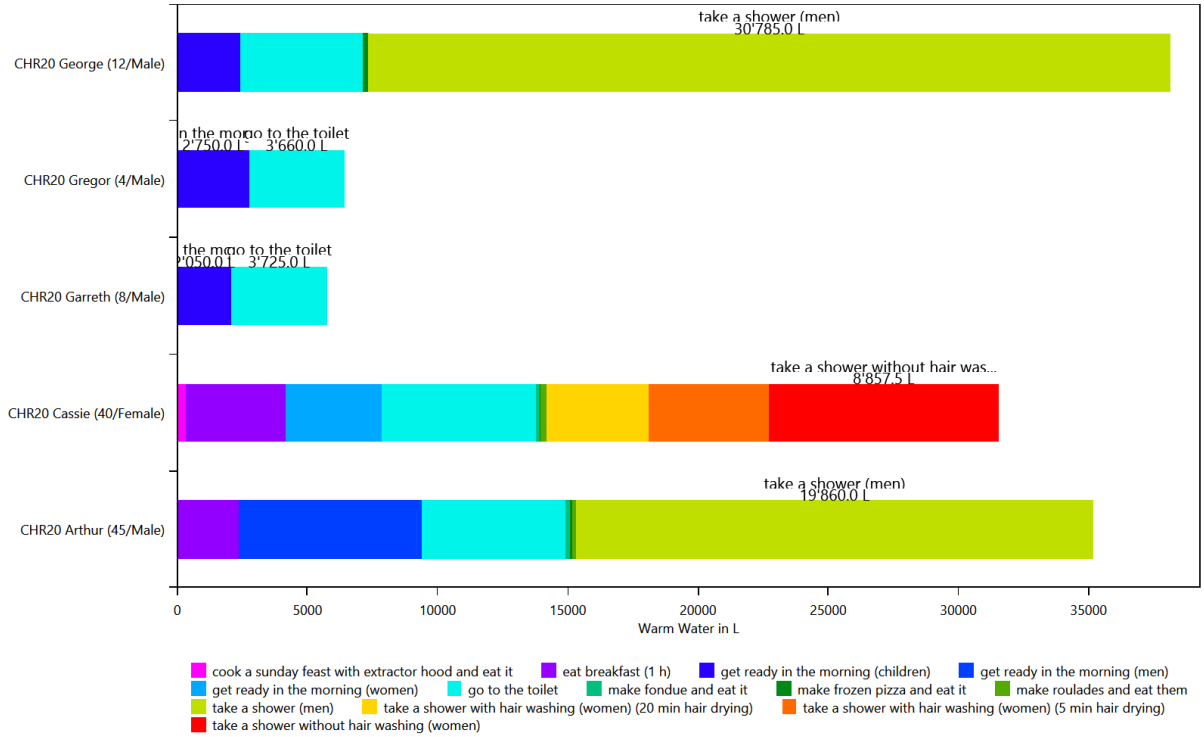
HH0 - Cold Water



HH0 - Electricity



HH0 - Warm Water

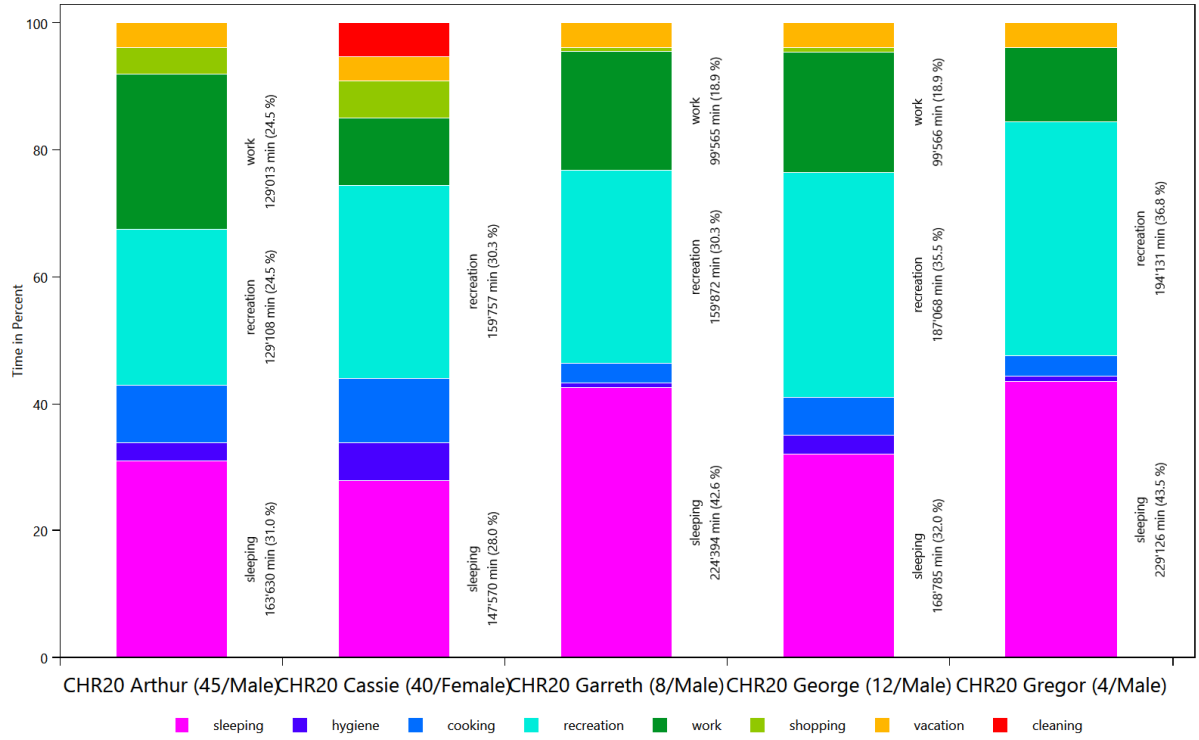


Time Use per Person Per Affordance according to different category definitions

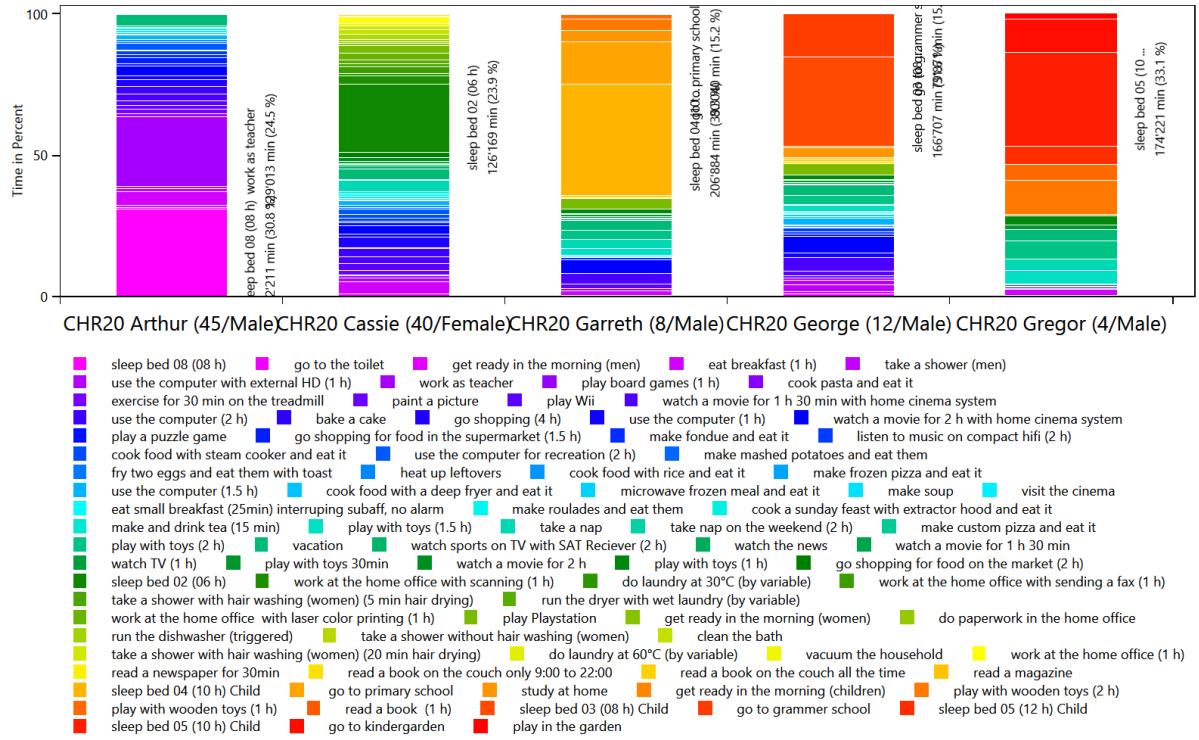
This is made from the files starting with: AffordanceTaggingSet

These charts show how the people in the household use their time. To help with analysis, the activities can be grouped by various criteria. This is done with the affordance tagging sets in the LPG.

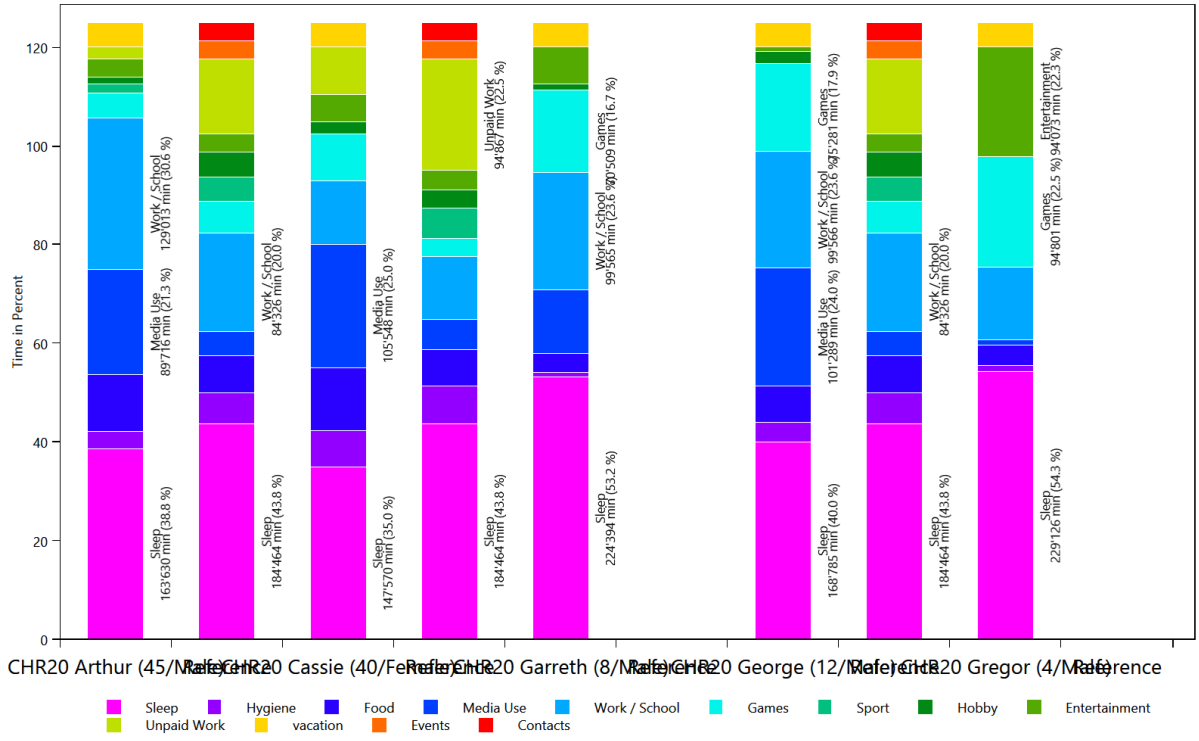
Basic Tagging - HH0



Tagging Set For Planning - HH0



Wo bleibt die Zeit - HH0

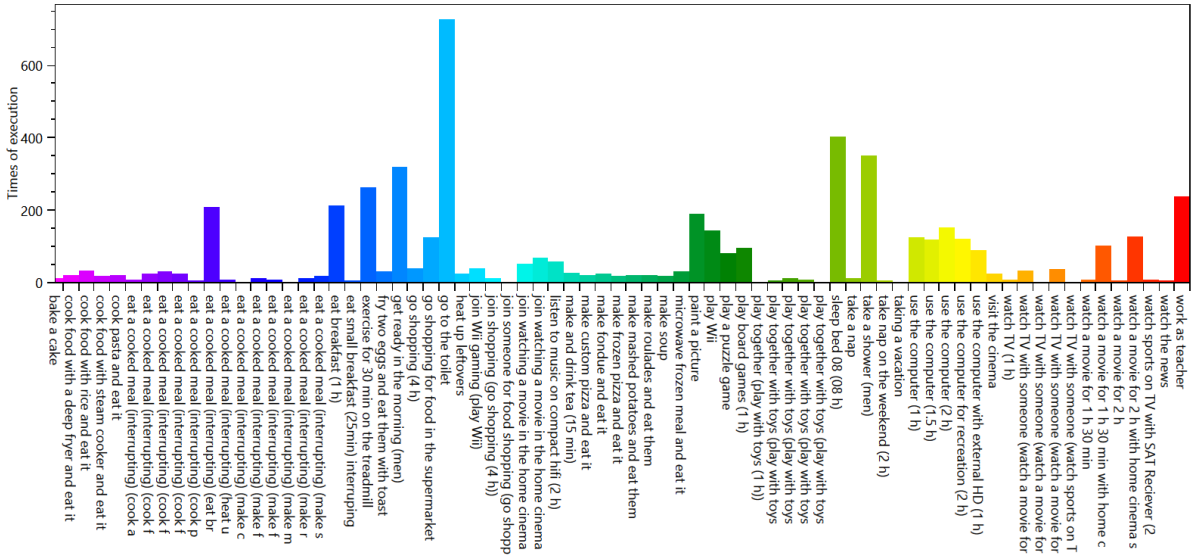


Overview of the actions of each member of the household

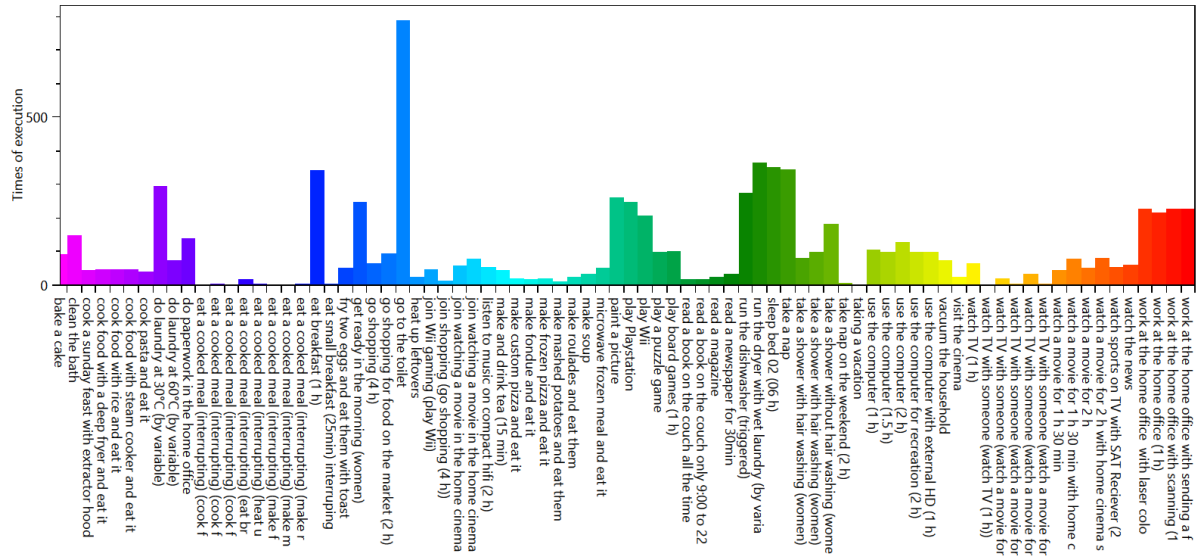
This is made from the files starting with: ExecutedActionsOverviewCount

These charts show how often each affordance was executed.

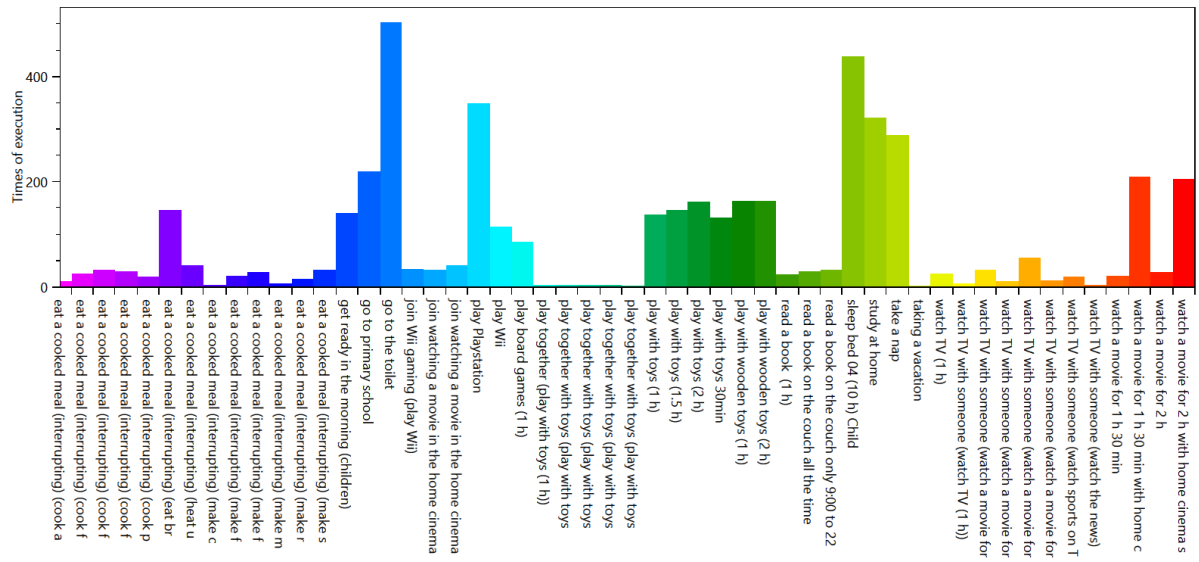
HH0 - CHR20 Arthur (45 Male)



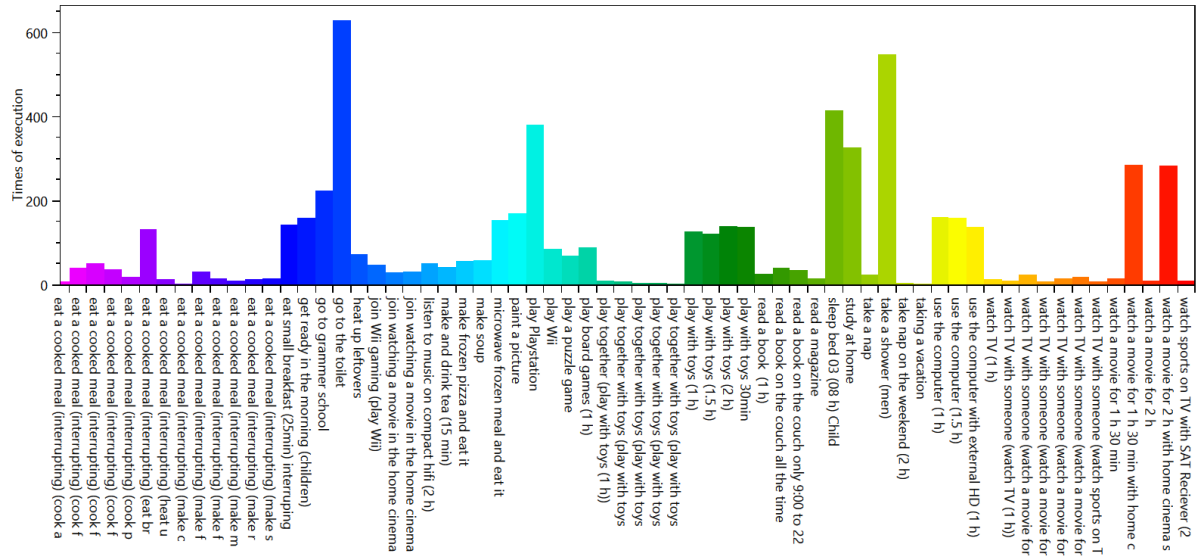
HH0 - CHR20 Cassie (40 Female)



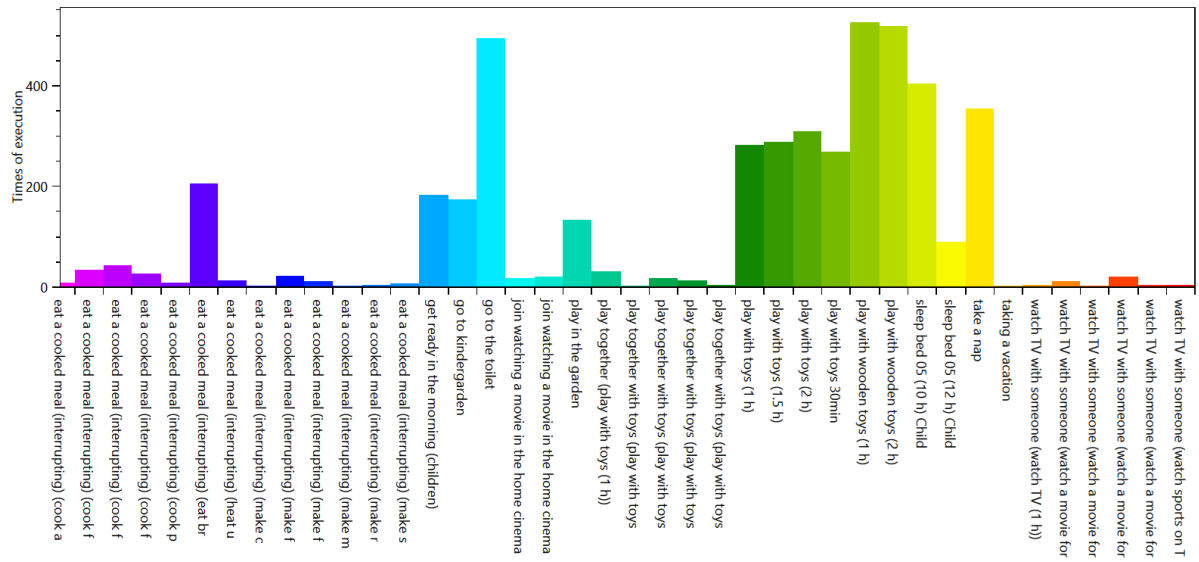
HH0 - CHR20 Garreth (8 Male)



HH0 - CHR20 George (12 Male)



HH0 - CHR20 Gregor (4 Male)

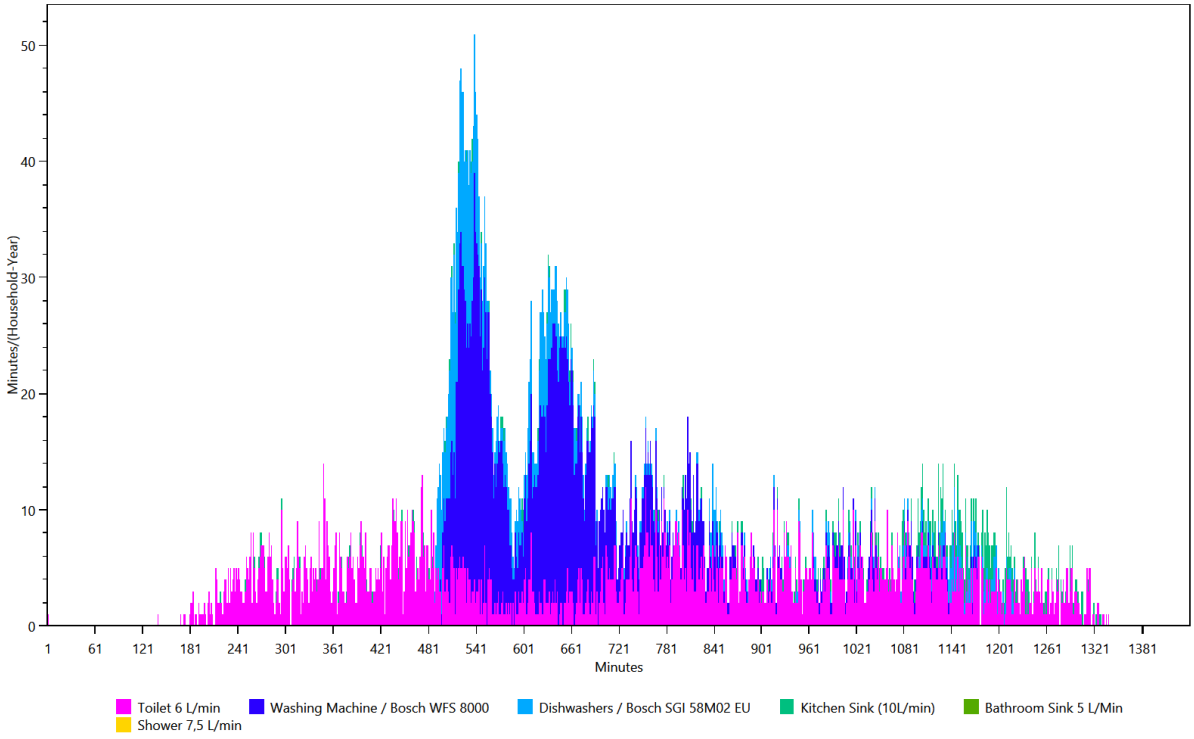


Overview of the time of the use per load type per device

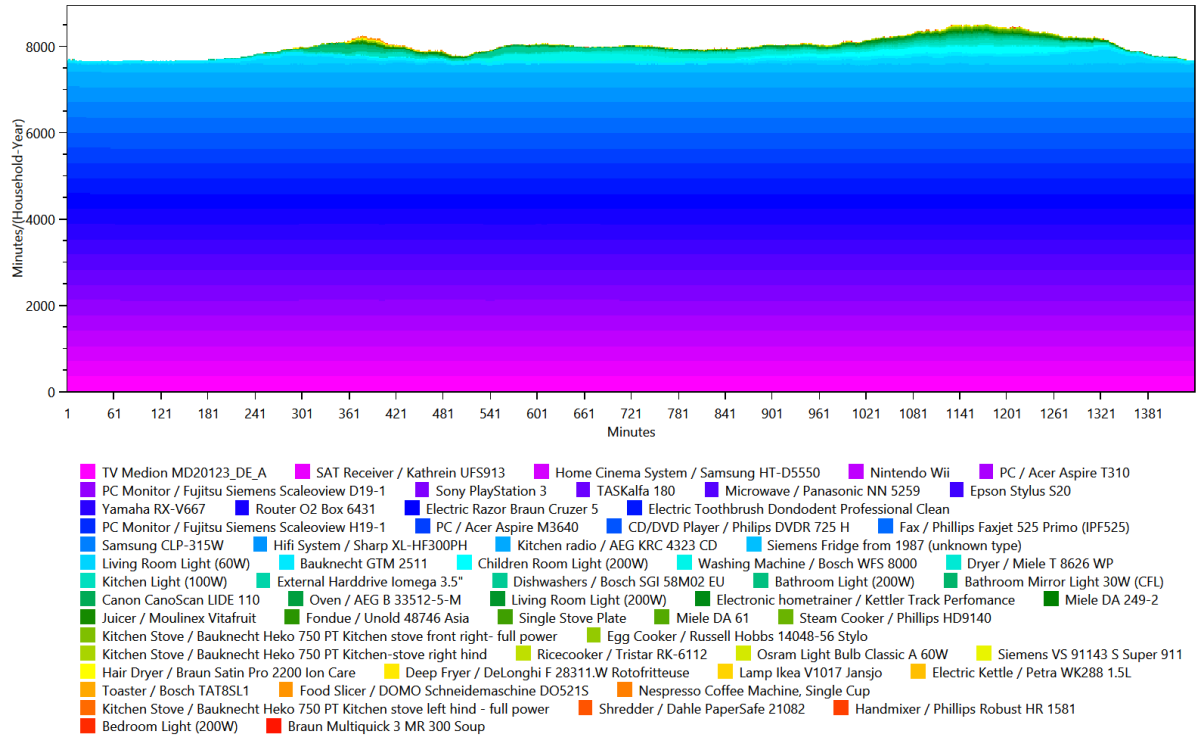
This is made from the files starting with: TimeOfUseEnergyProfiles

The time of use energy profiles shows when each device was used.

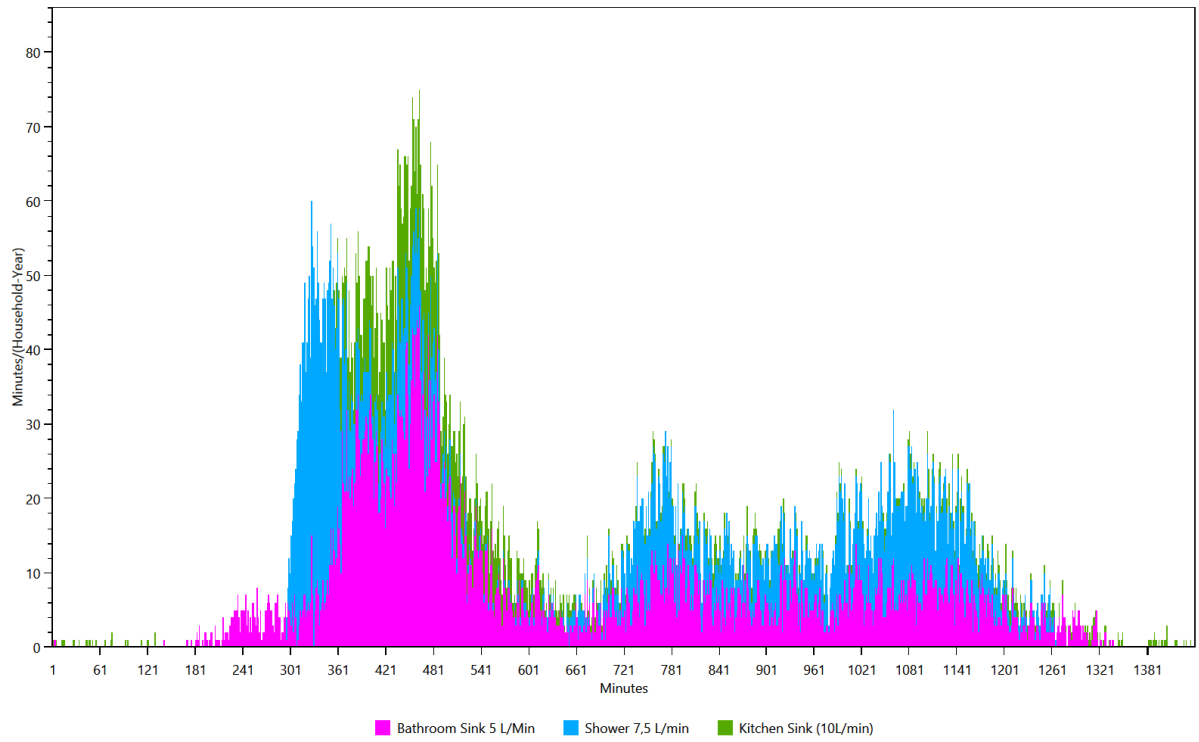
Cold Water



Electricity



Warm Water

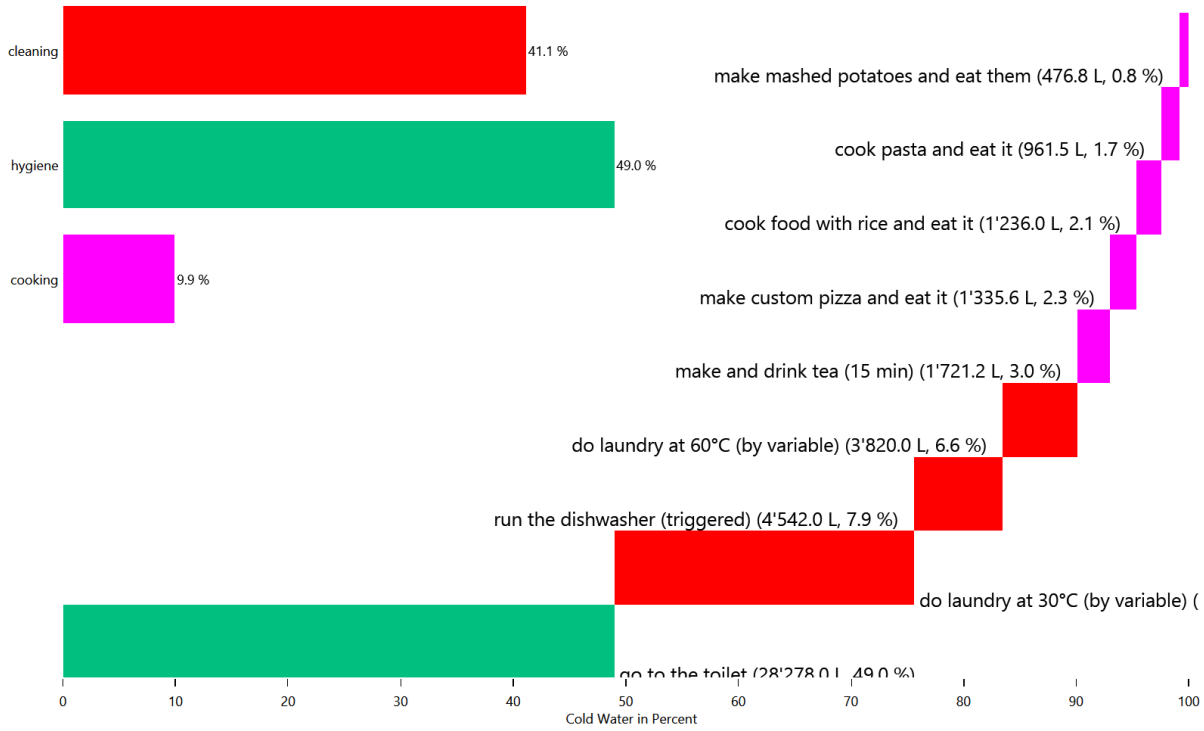


Energy/Resource use distribution per load type per affordance

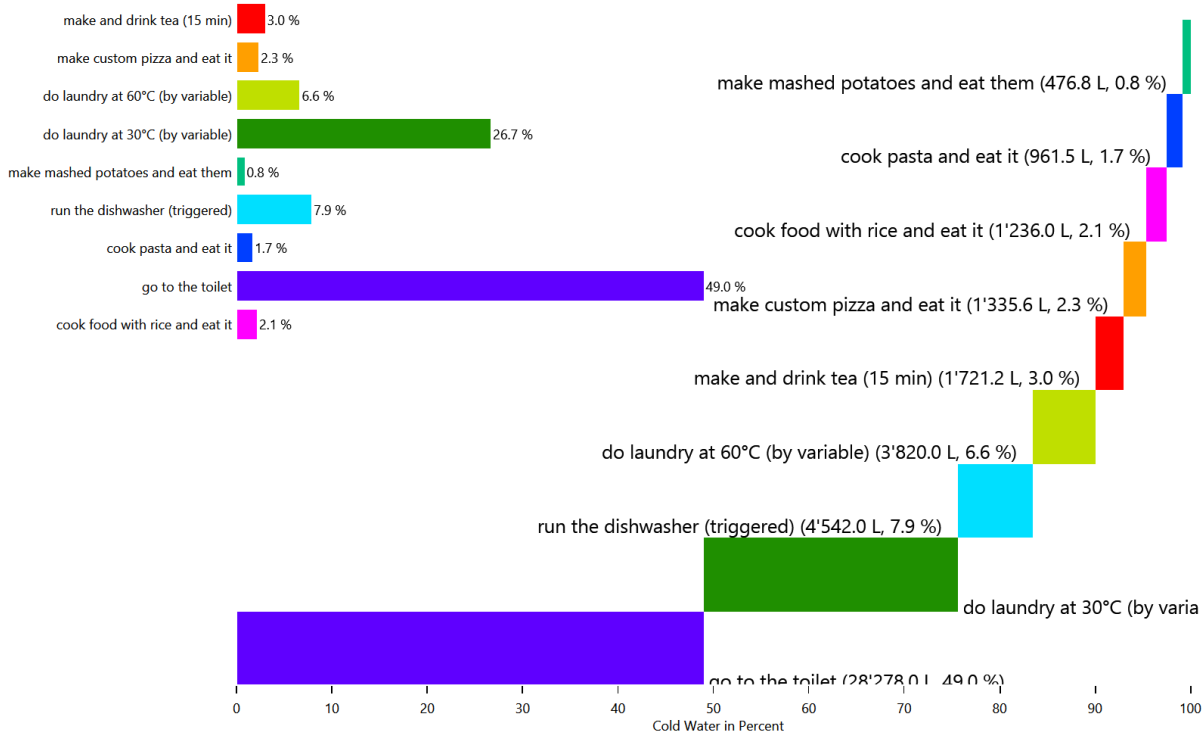
This is made from the files starting with: AffordanceEnergyUse

This shows the distribution of the energy/ressource use to each affordance by load type.

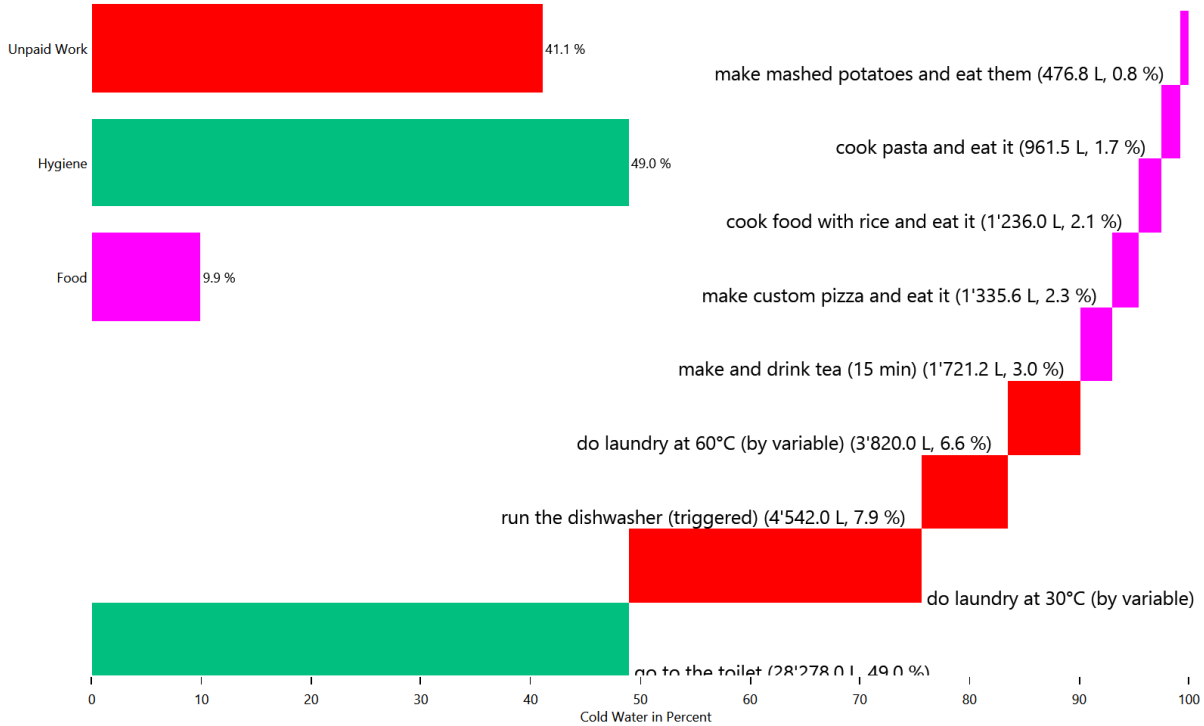
HH0 - Cold Water



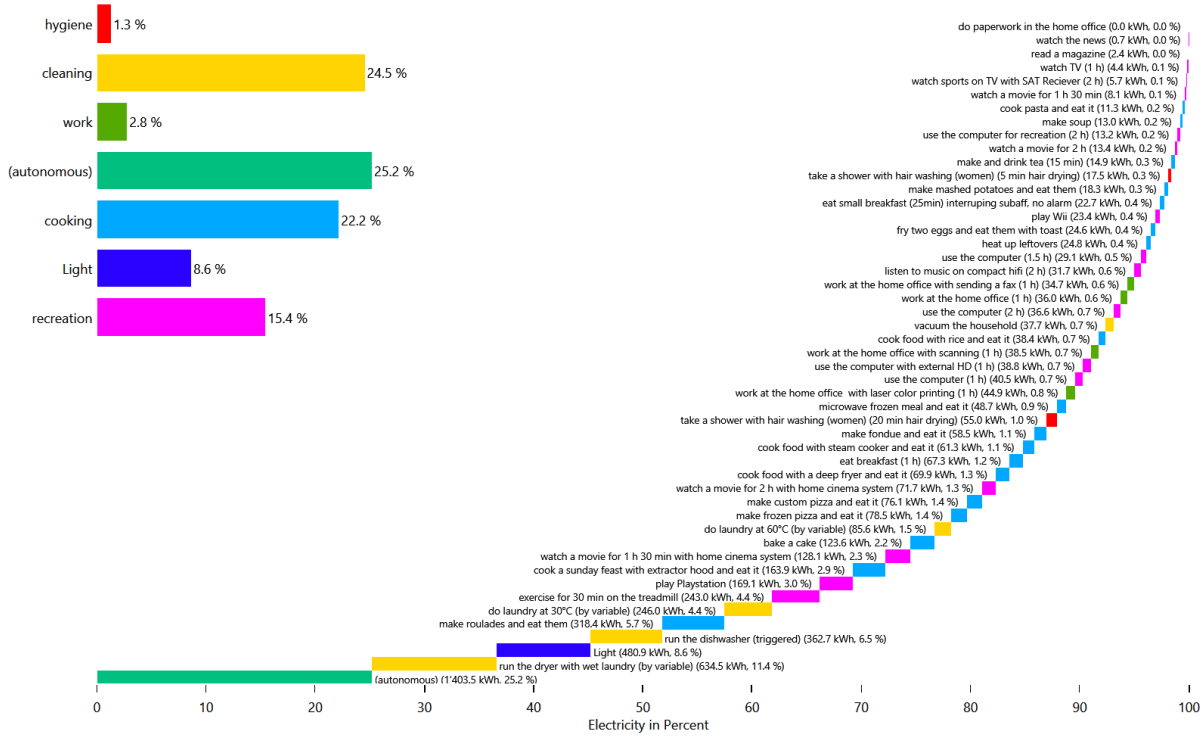
HH0 - Cold Water



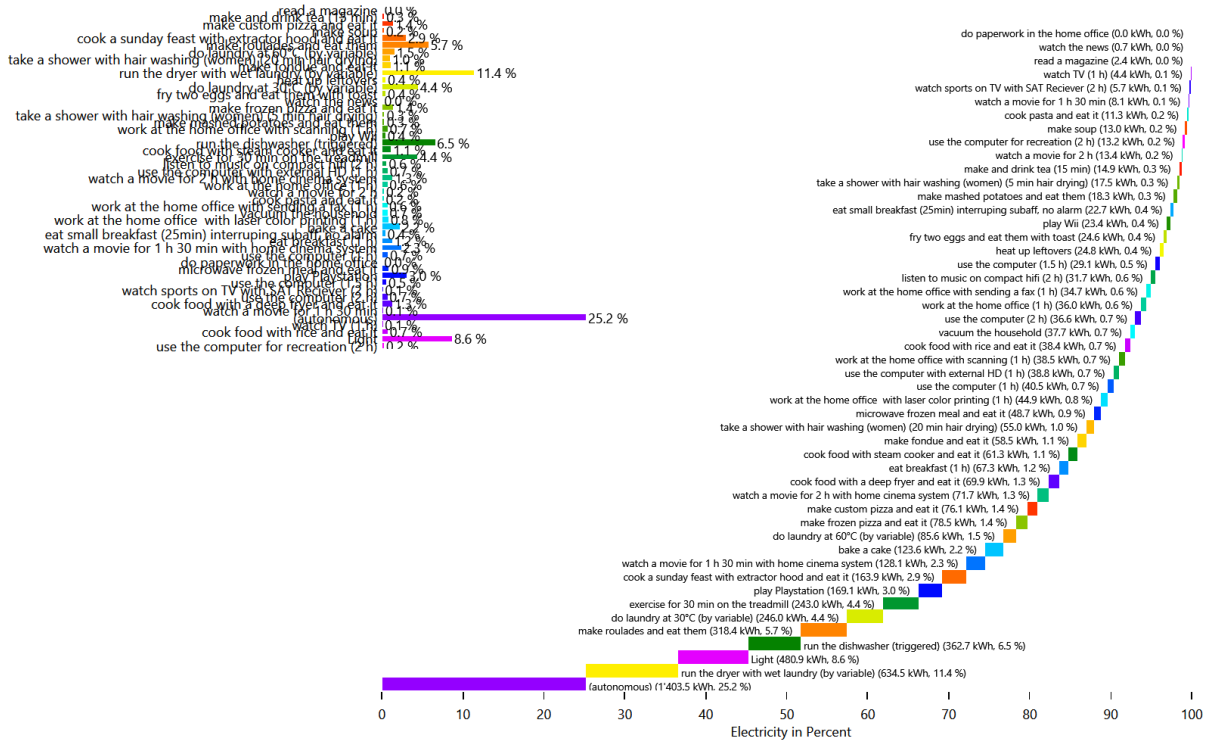
HH0 - Cold Water



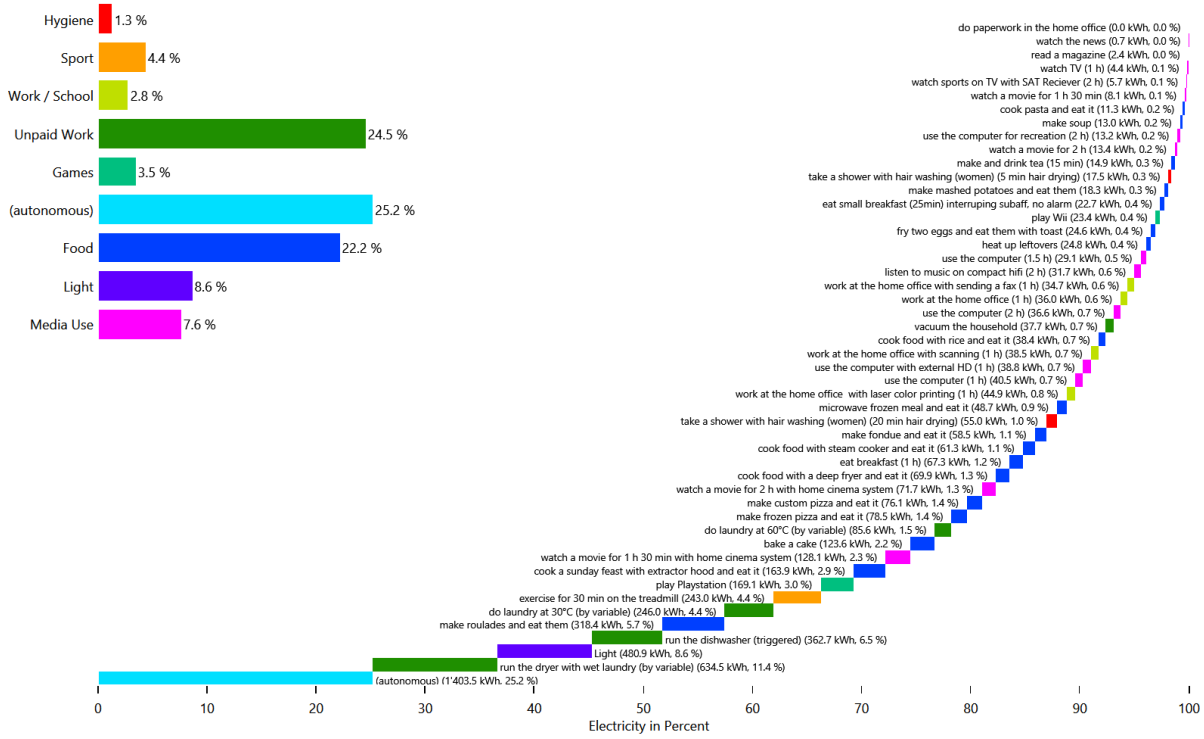
HH0 - Electricity



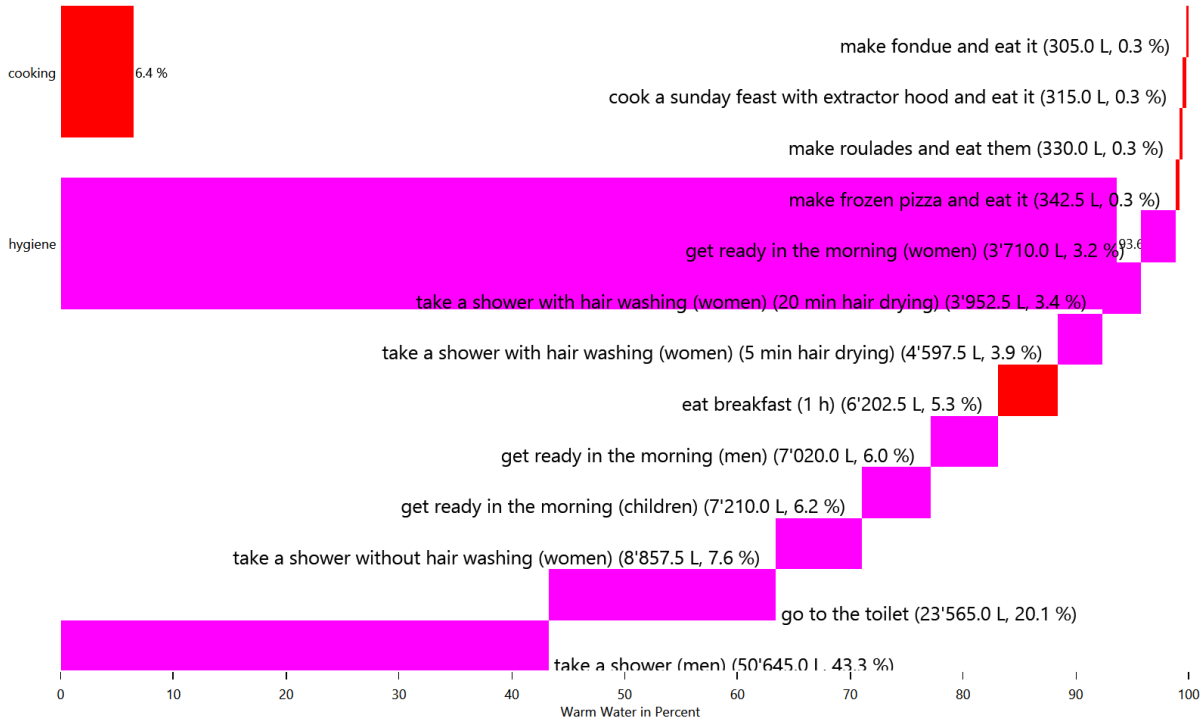
HH0 - Electricity



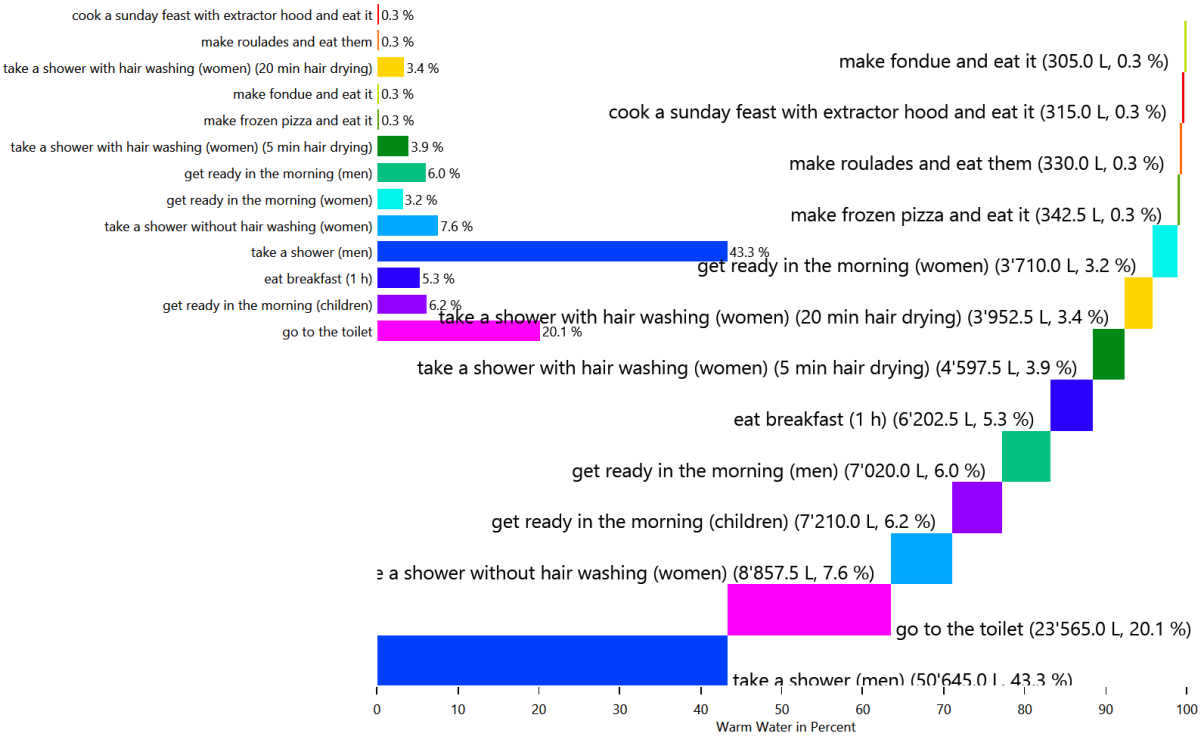
HH0 - Electricity



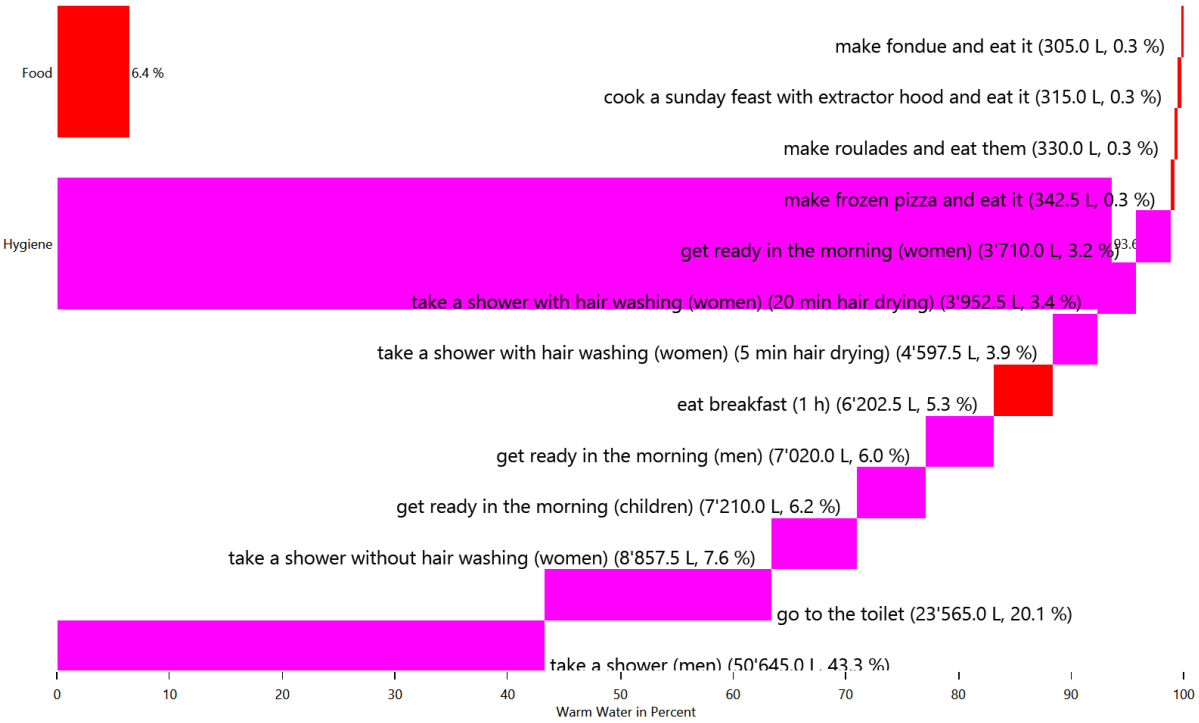
HH0 - Warm Water



HH0 - Warm Water



HH0 - Warm Water

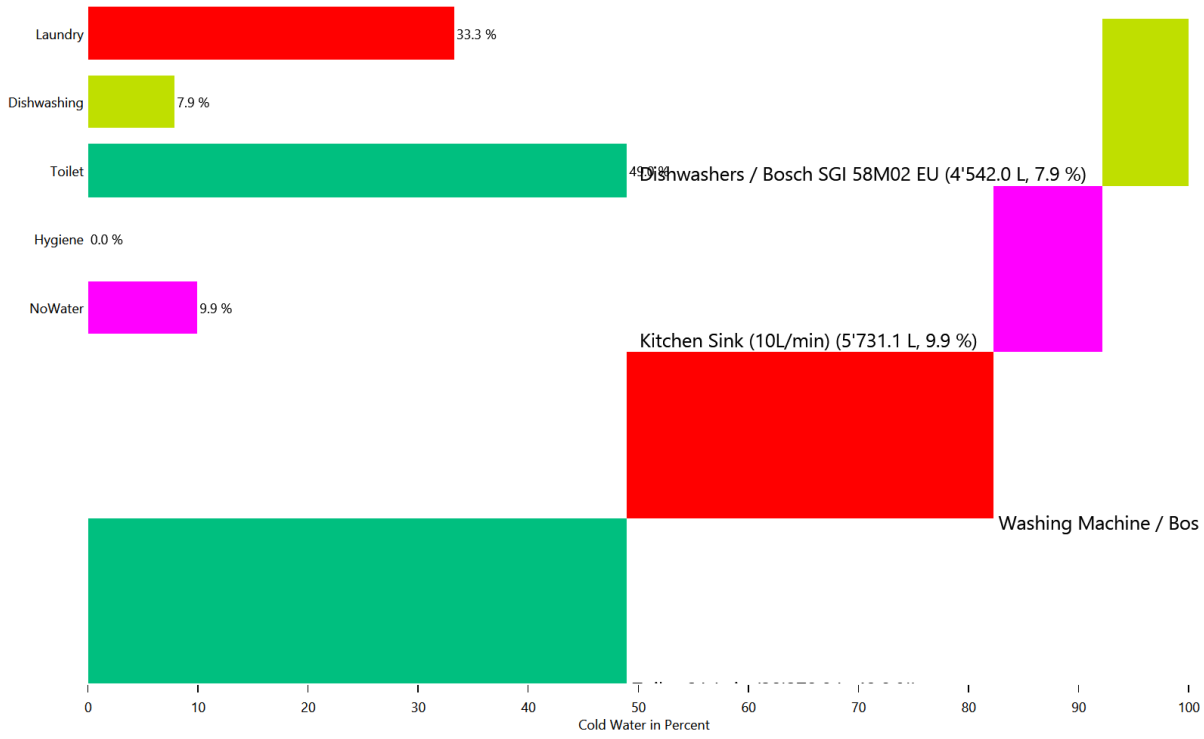


Energy use for each load type for each device

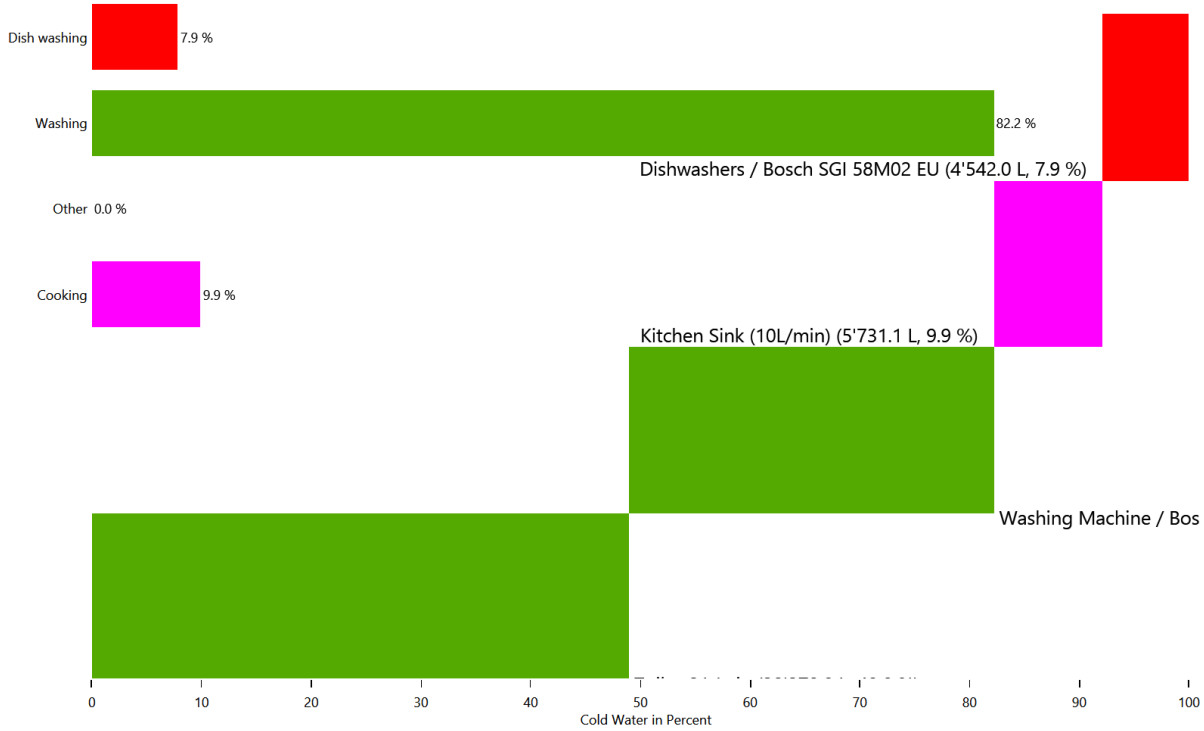
This is made from the files starting with: DeviceSums

These pie charts show the energy use for each invidividual device in each load type.

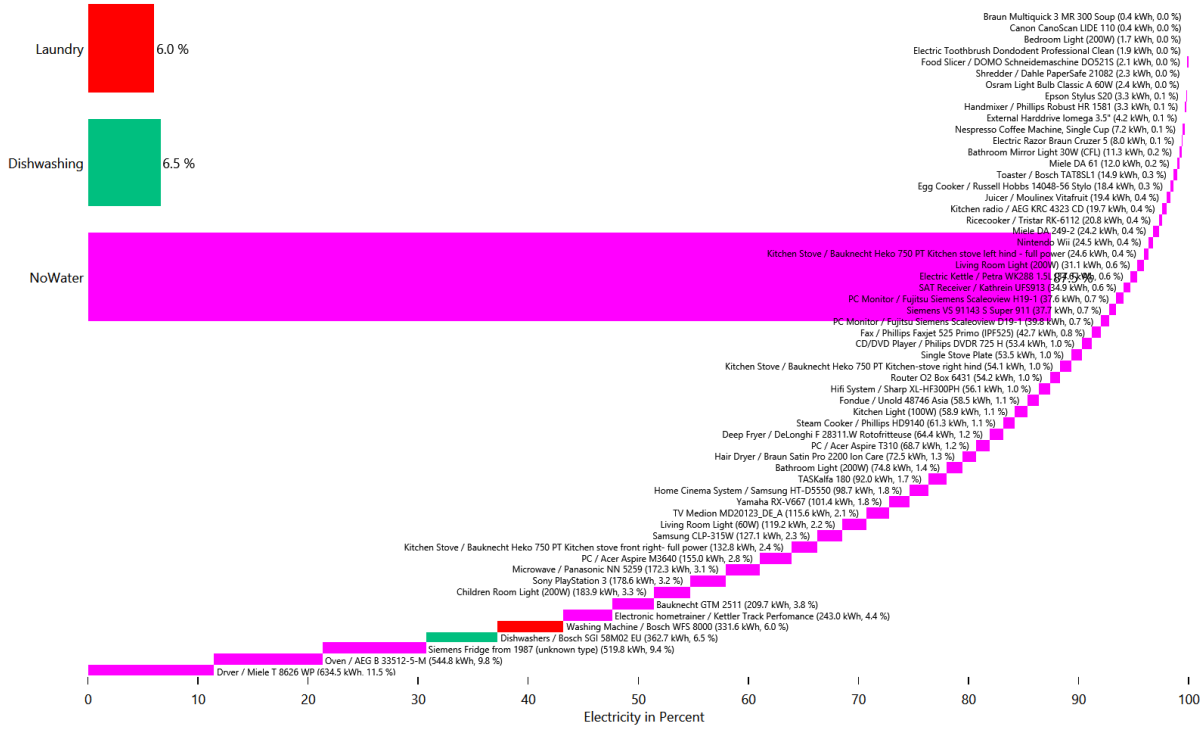
Cold Water



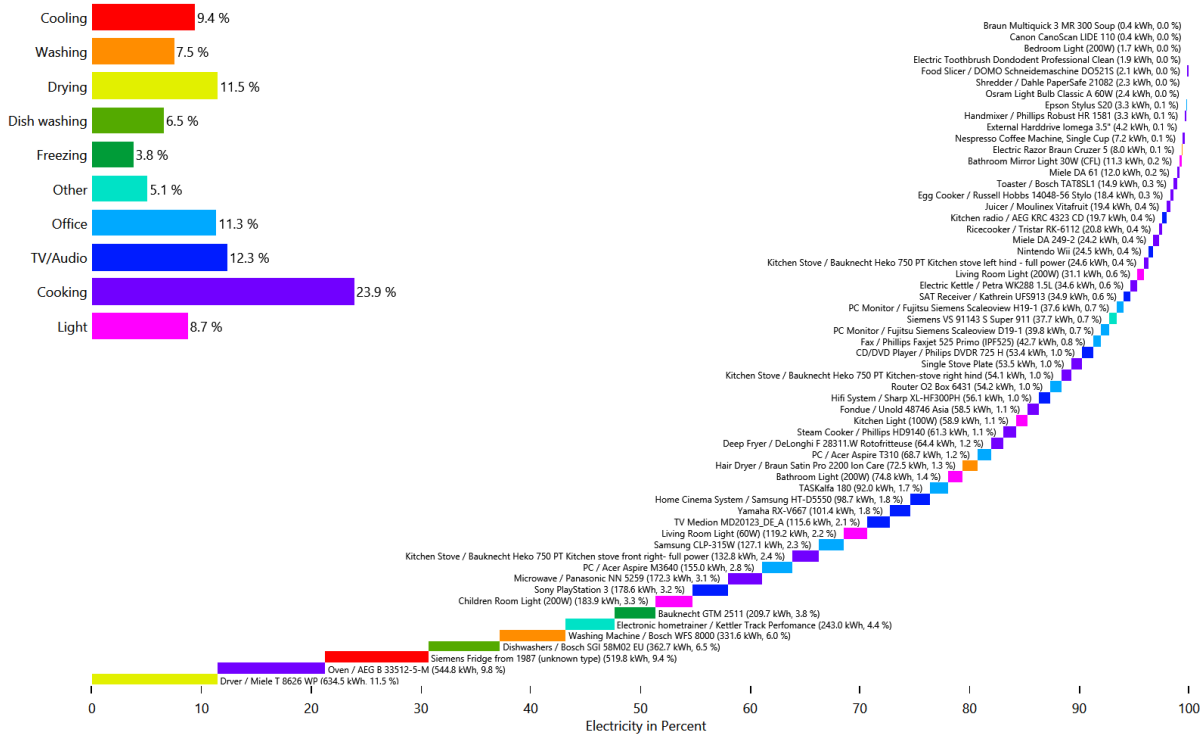
Cold Water



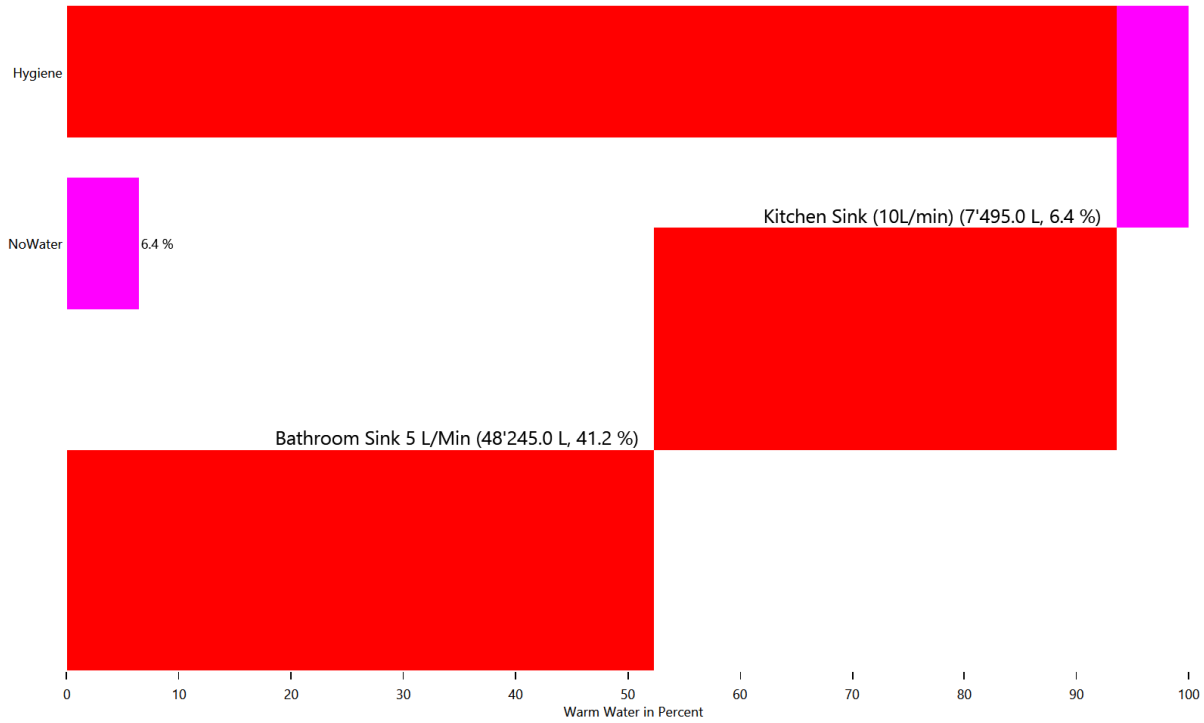
Electricity



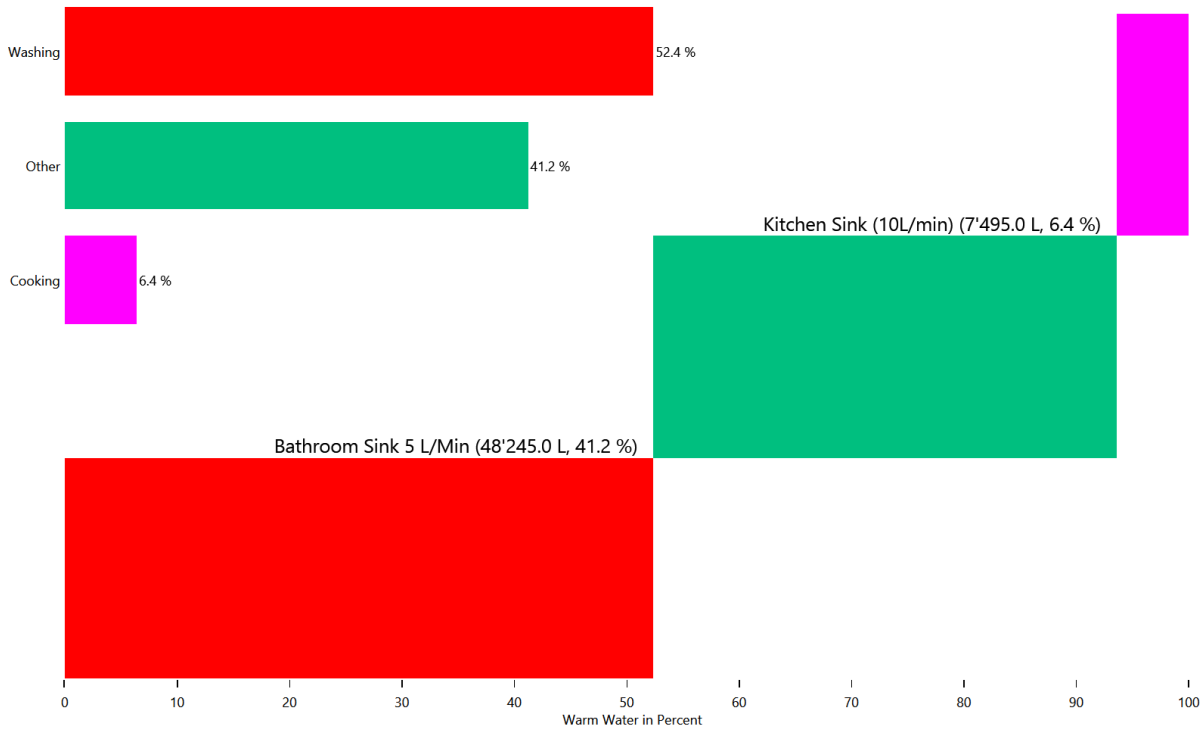
Electricity



Warm Water



Warm Water

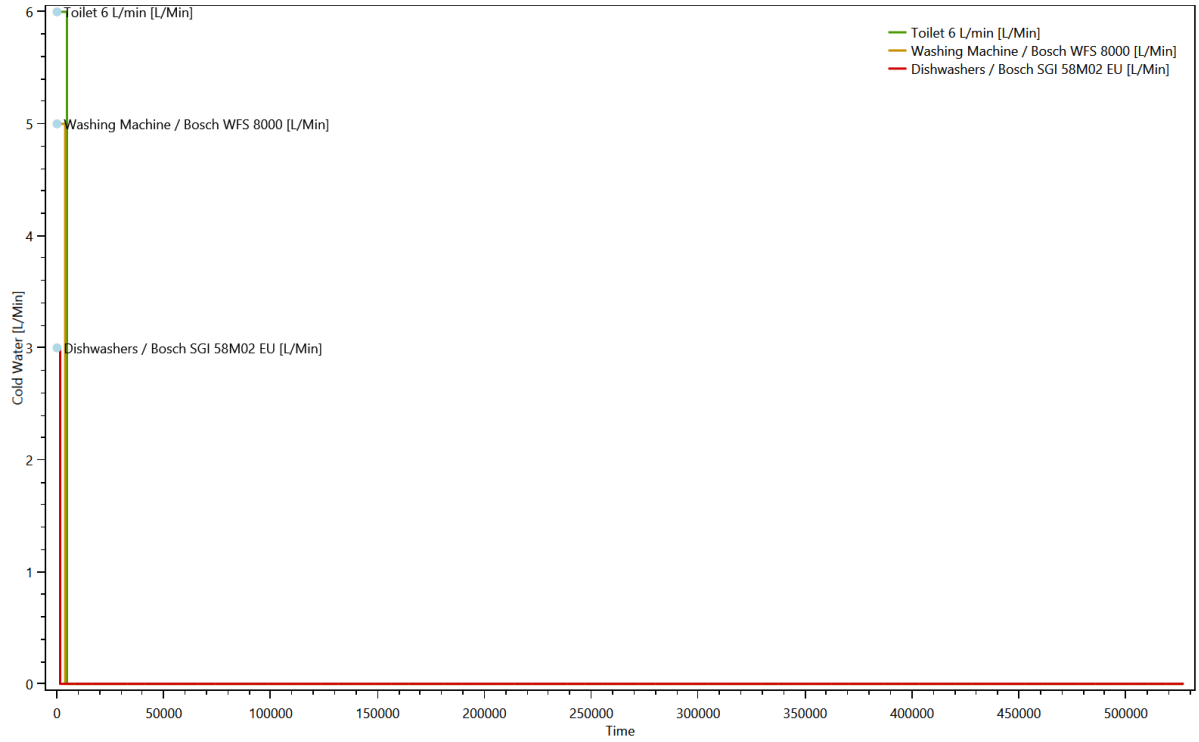

Washing
52.4 %
Other
41.2 %
Cooking
6.4 %
Kitchen Sink (10L/min) (7'495.0 L, 6.4 %)
Bathroom Sink 5 L/Min (48'245.0 L, 41.2 %)
0
10
20
30
40
50
60
70
80
90
100
Warm Water in Percent

Duration curve for each device for each load type

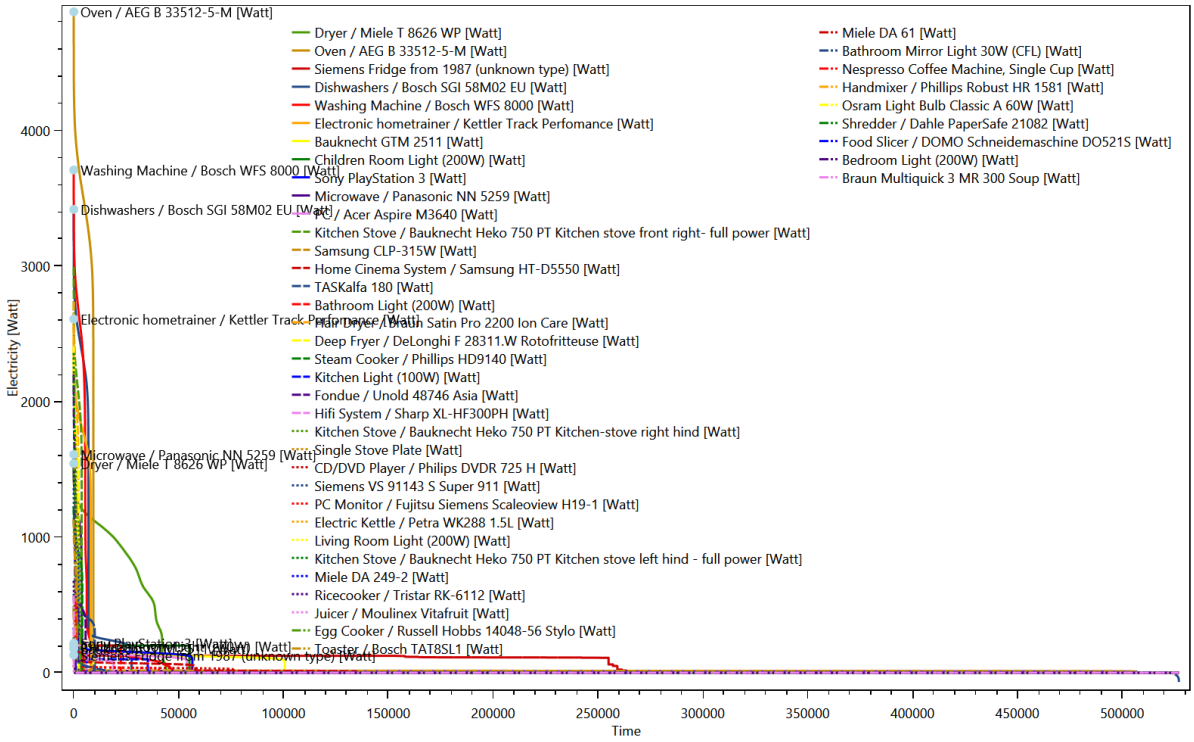
This is made from the files starting with: DeviceDurationCurves

The device duration curve show the duration curve of each device to give an overview of the power consumption.

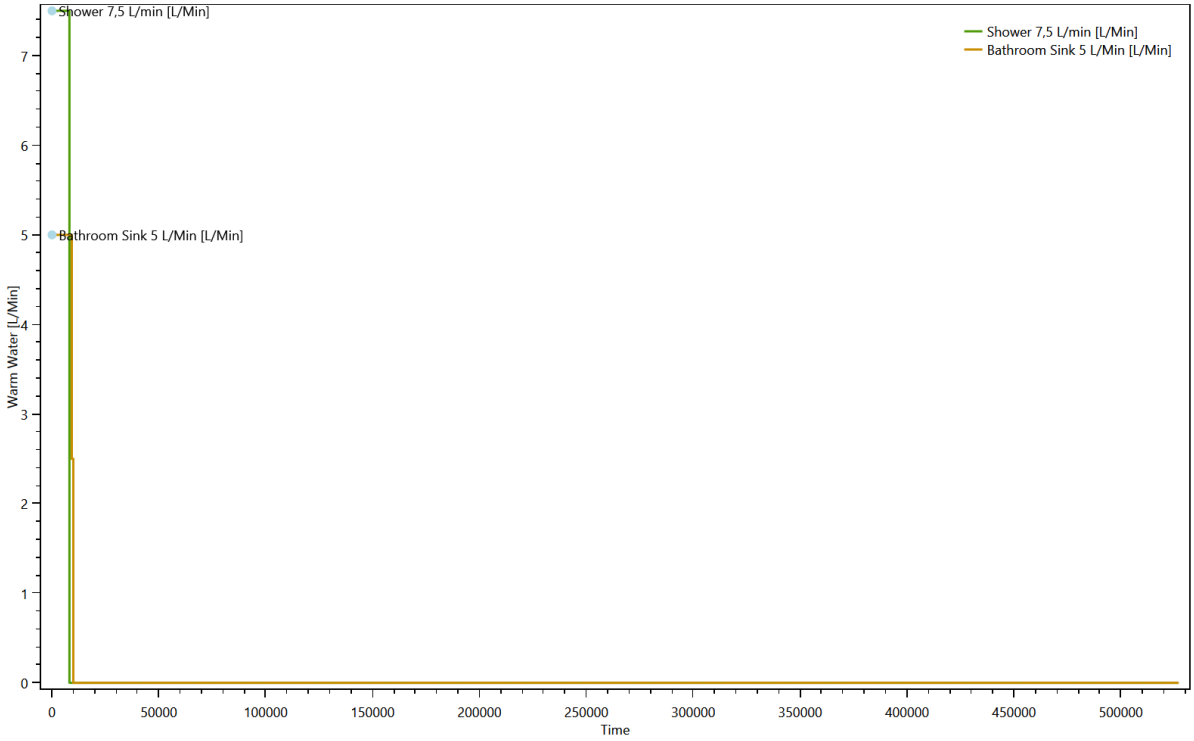
Cold Water



Electricity



Warm Water

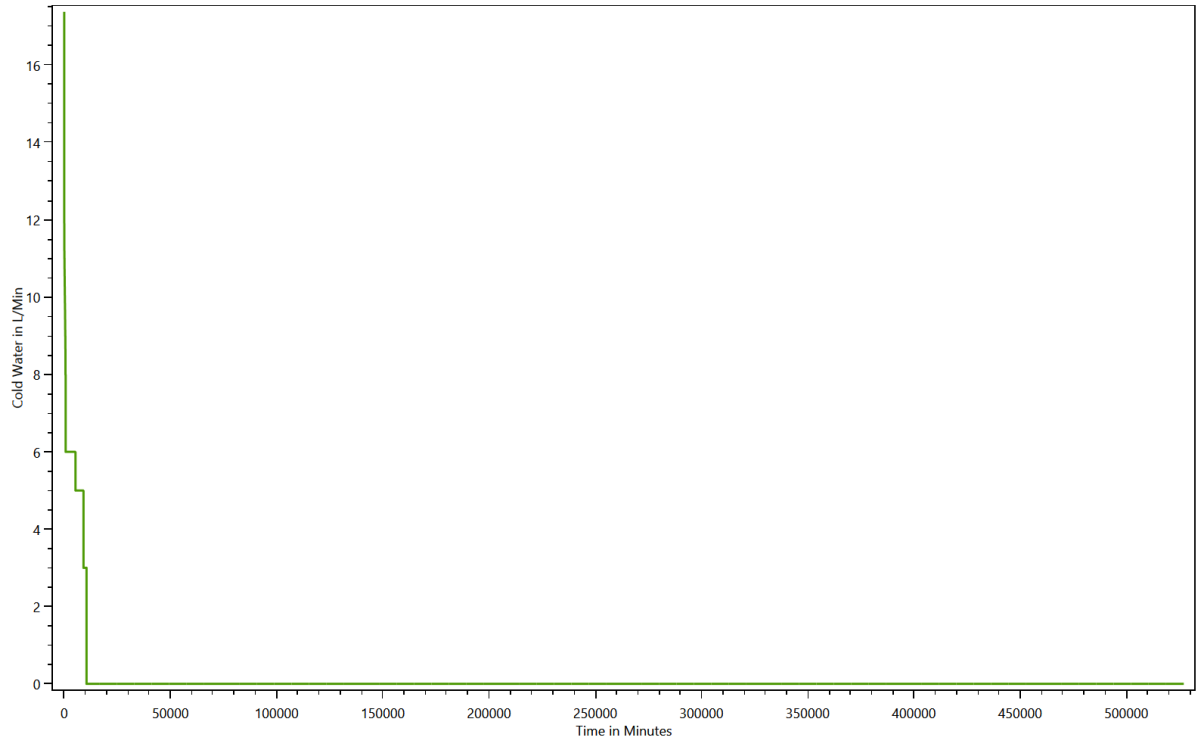


Duration curve for each load type

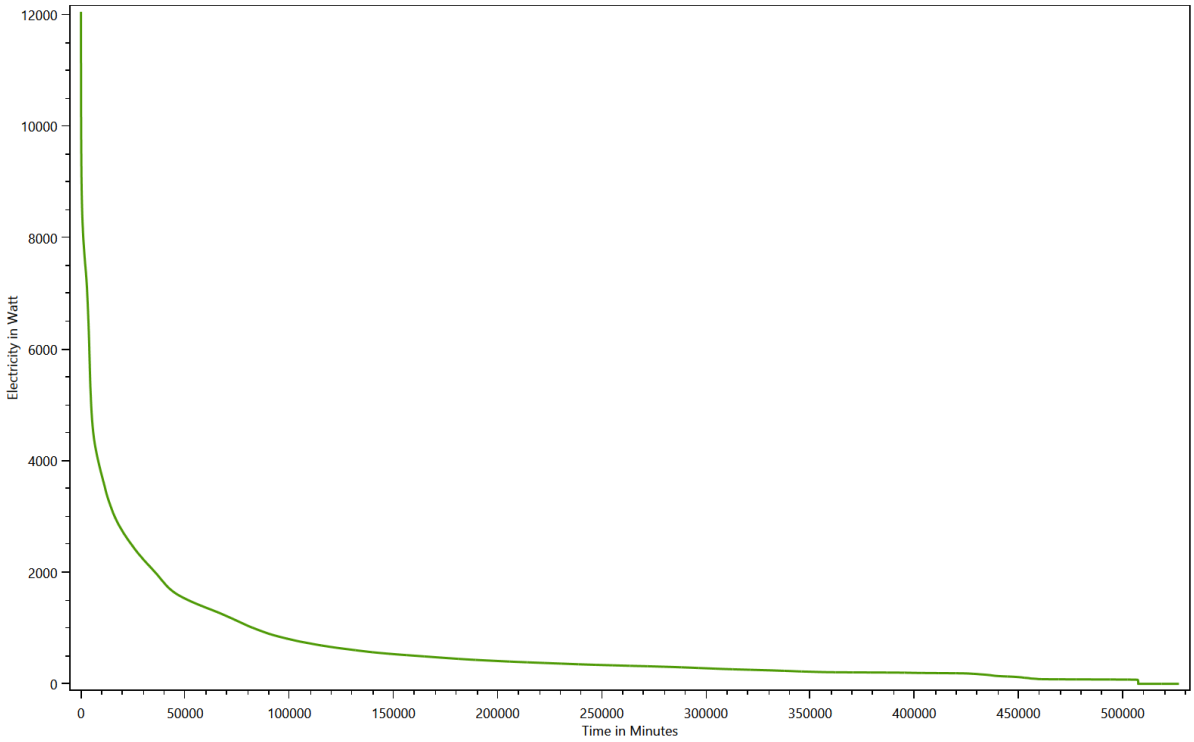
This is made from the files starting with: DurationCurve

The duration curve show the duration curve for the entire household to give an overview of the power consumption.

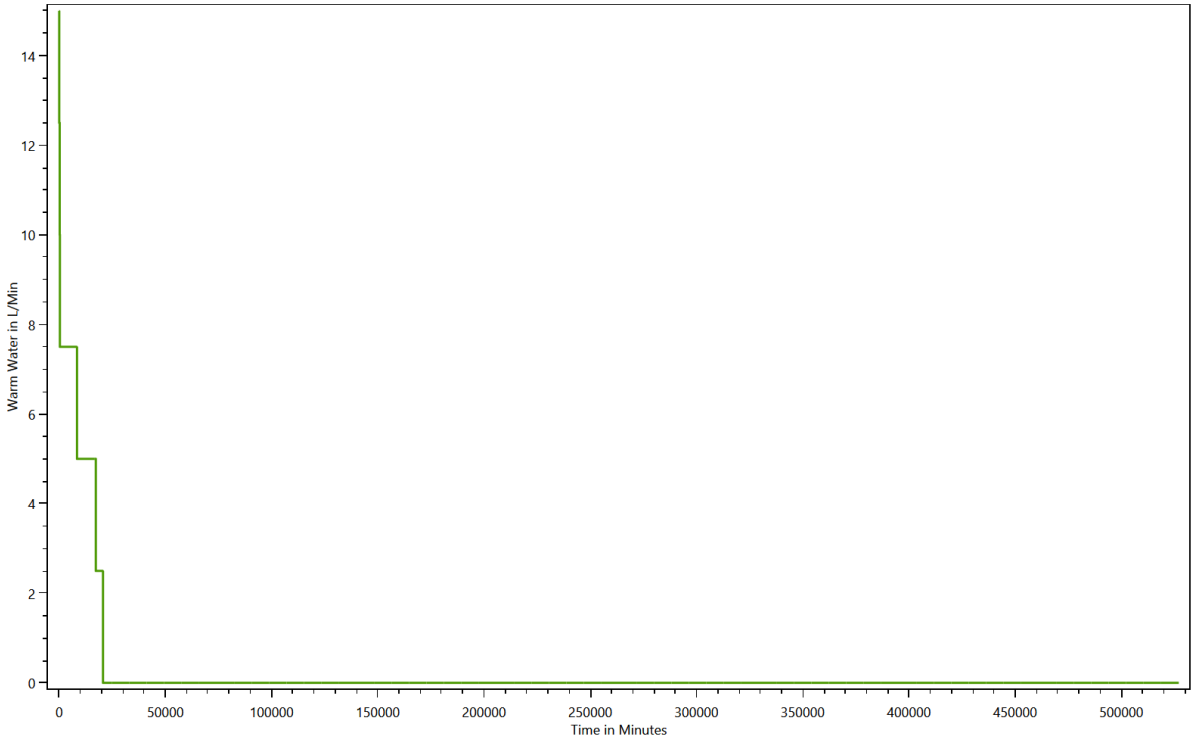
Cold Water



Electricity



Warm Water

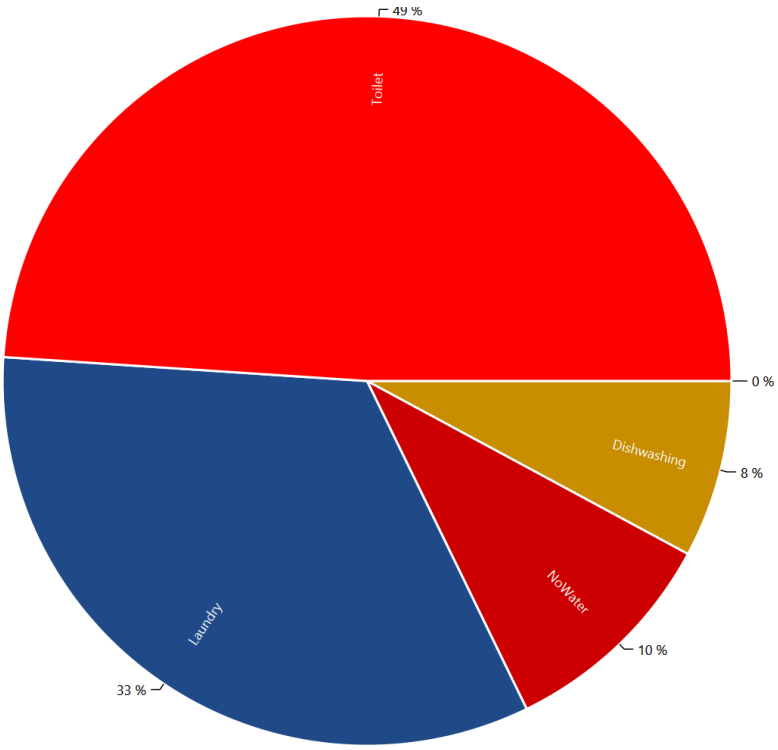


Grouped energy use for each load type for each device

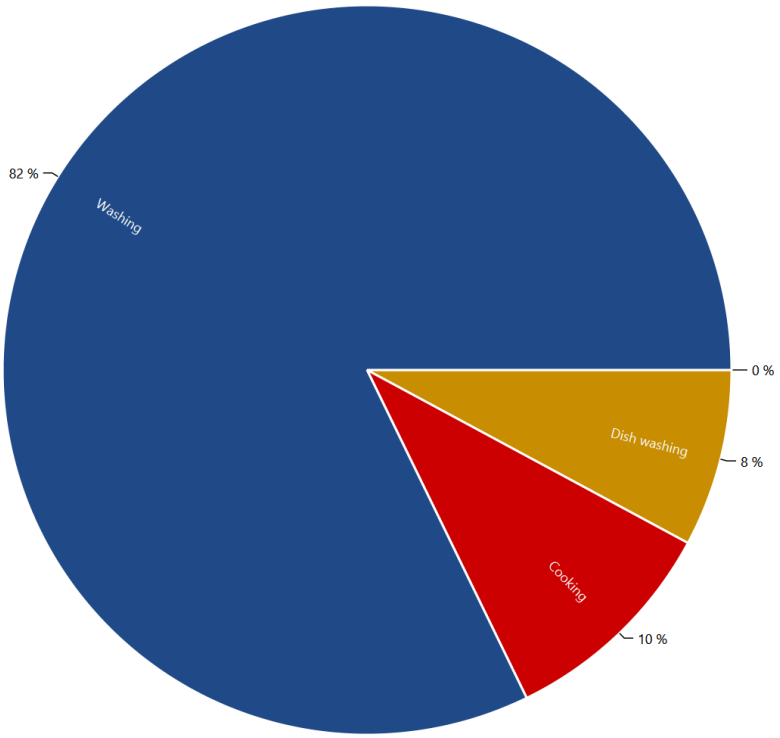
This is made from the files starting with: DeviceTaggingSet

The devices in the LPG can be grouped with various criteria by the device tagging sets. These charts show the results.

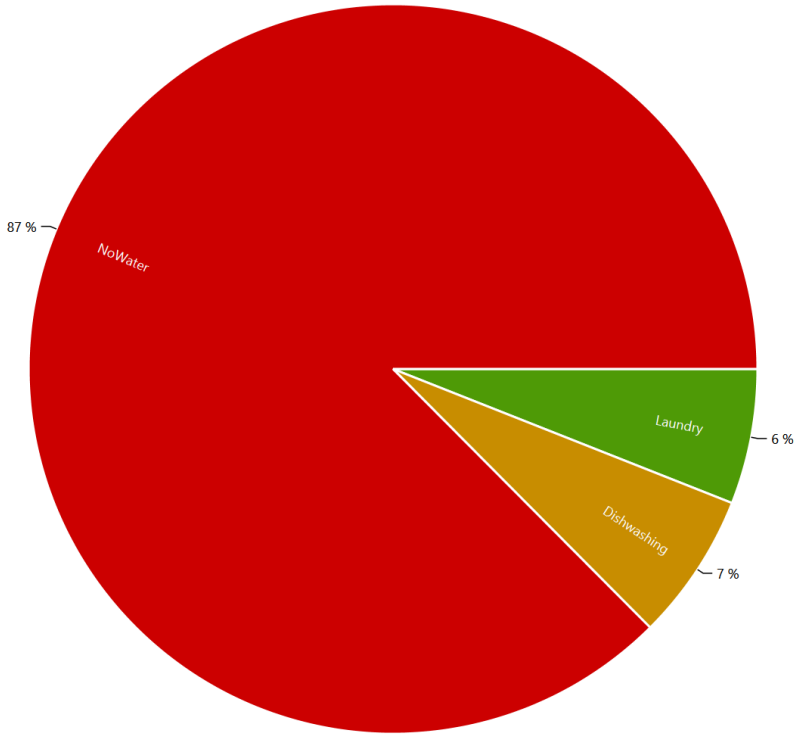
HH0 - Destatis Water Usage Statistics - Cold Water



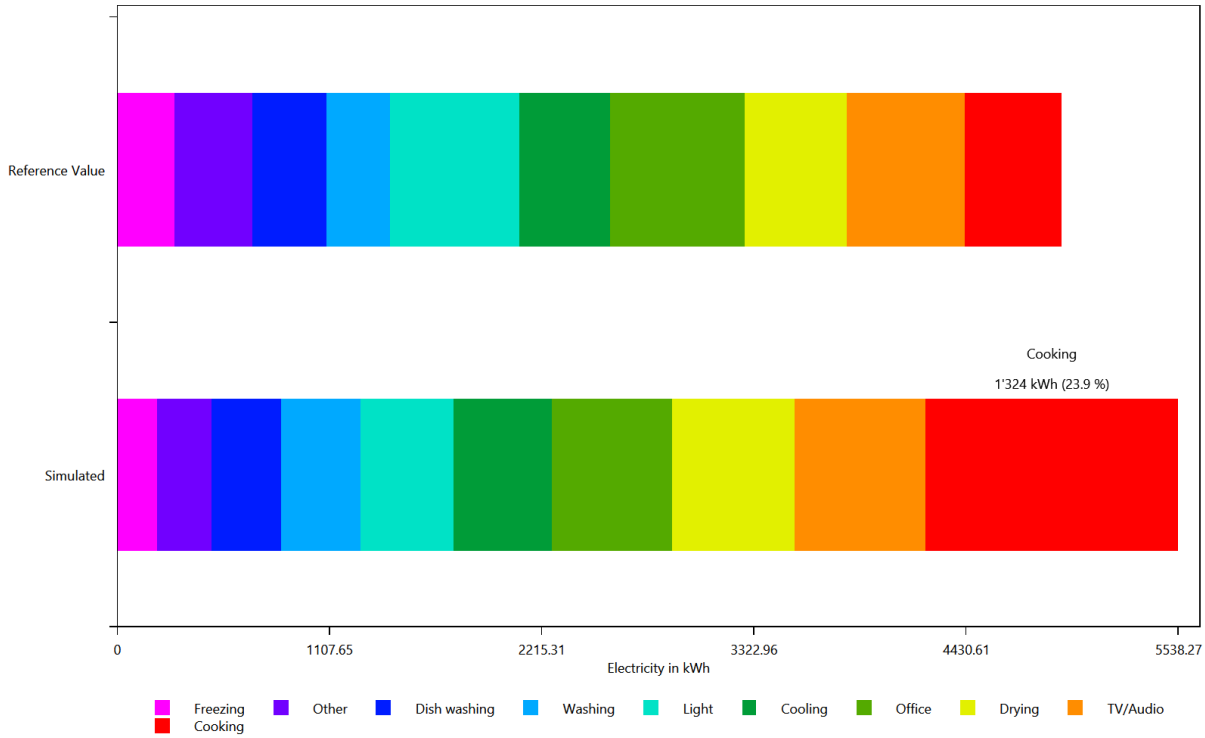
HH0 - Energieagentur - Cold Water



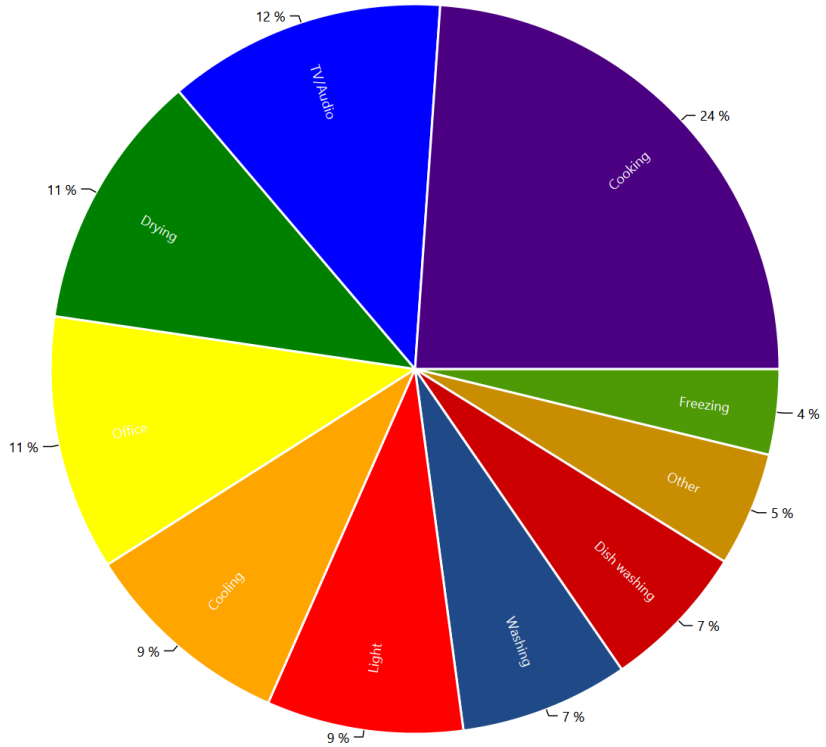
HH0 - Destatis Water Usage Statistics - Electricity



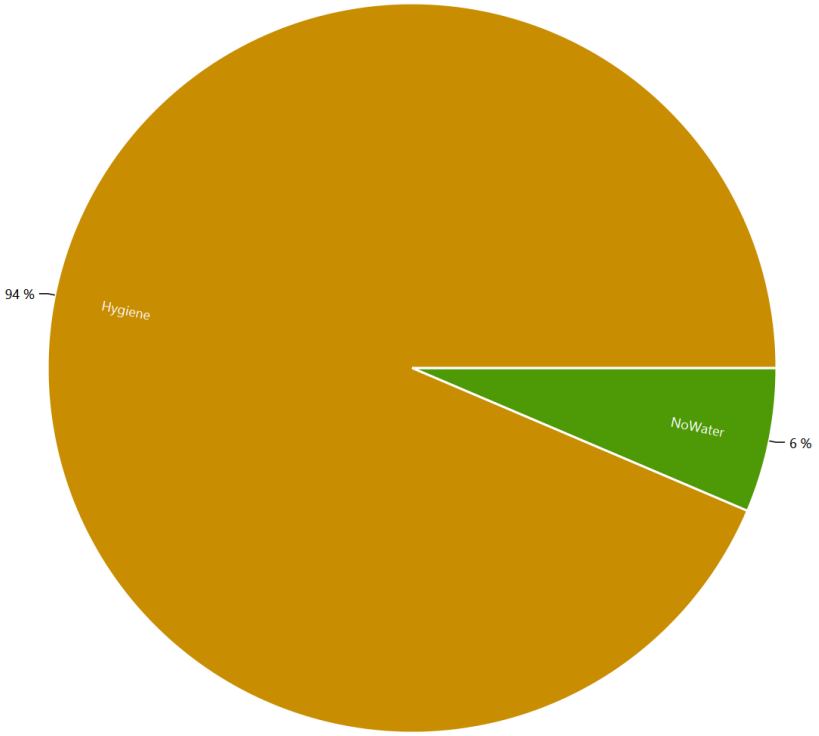
HH0 - Energieagentur - Electricity



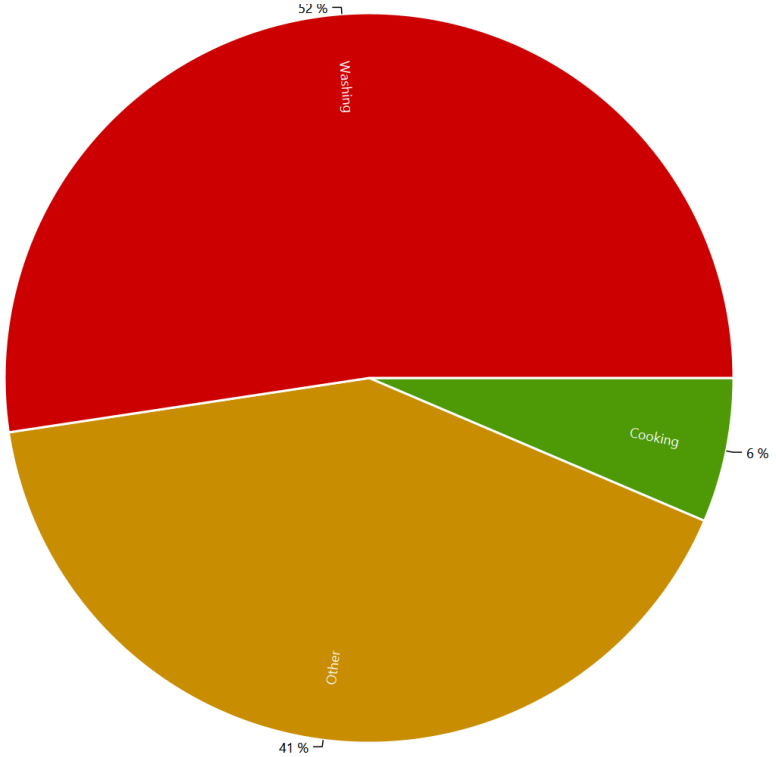
HH0 - Energieagentur - Electricity



HH0 - Destatis Water Usage Statistics - Warm Water



HH0 - Energieagentur - Warm Water

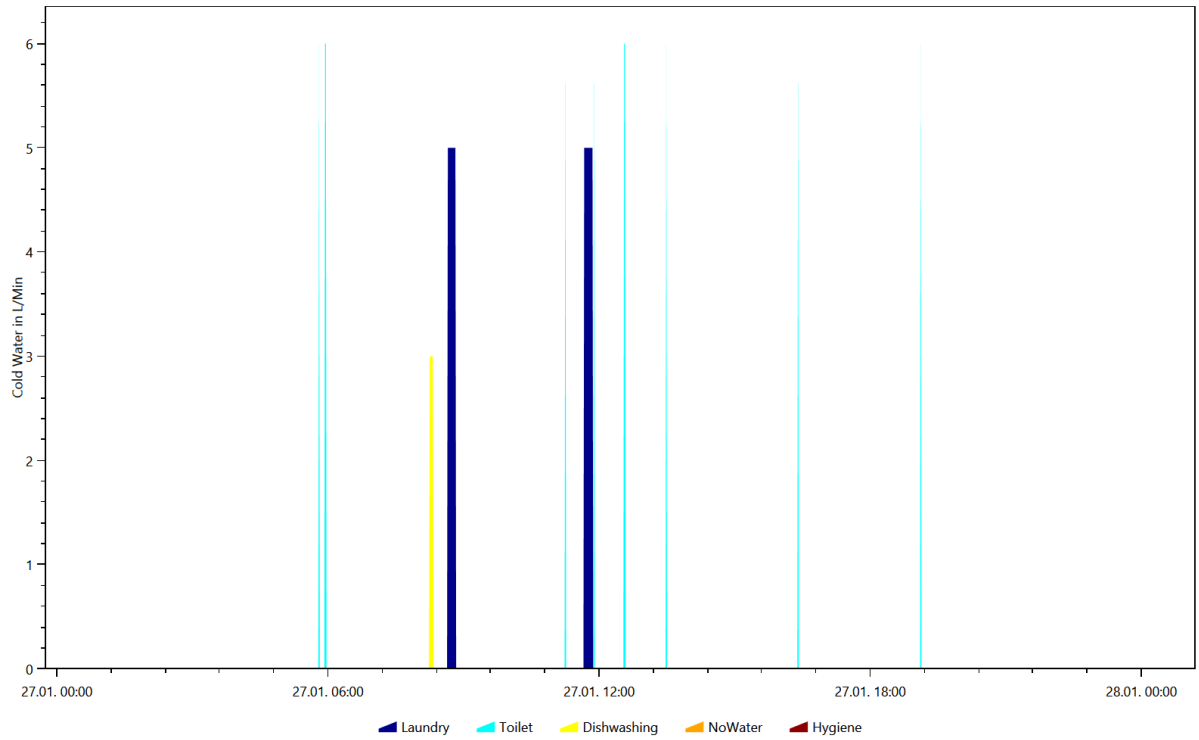


Example of the device profiles for each load type

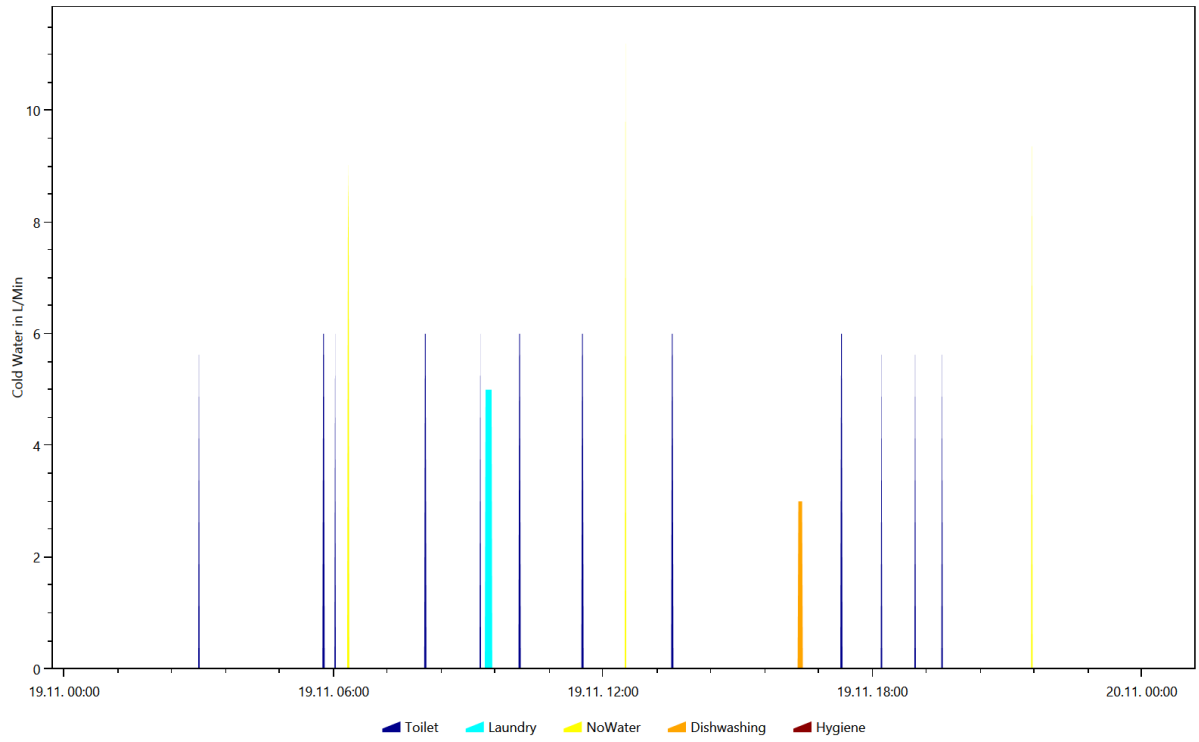
This is made from the files starting with: DeviceProfiles

The device profile files are the reason for the LPG. They show the power consumption of each device.

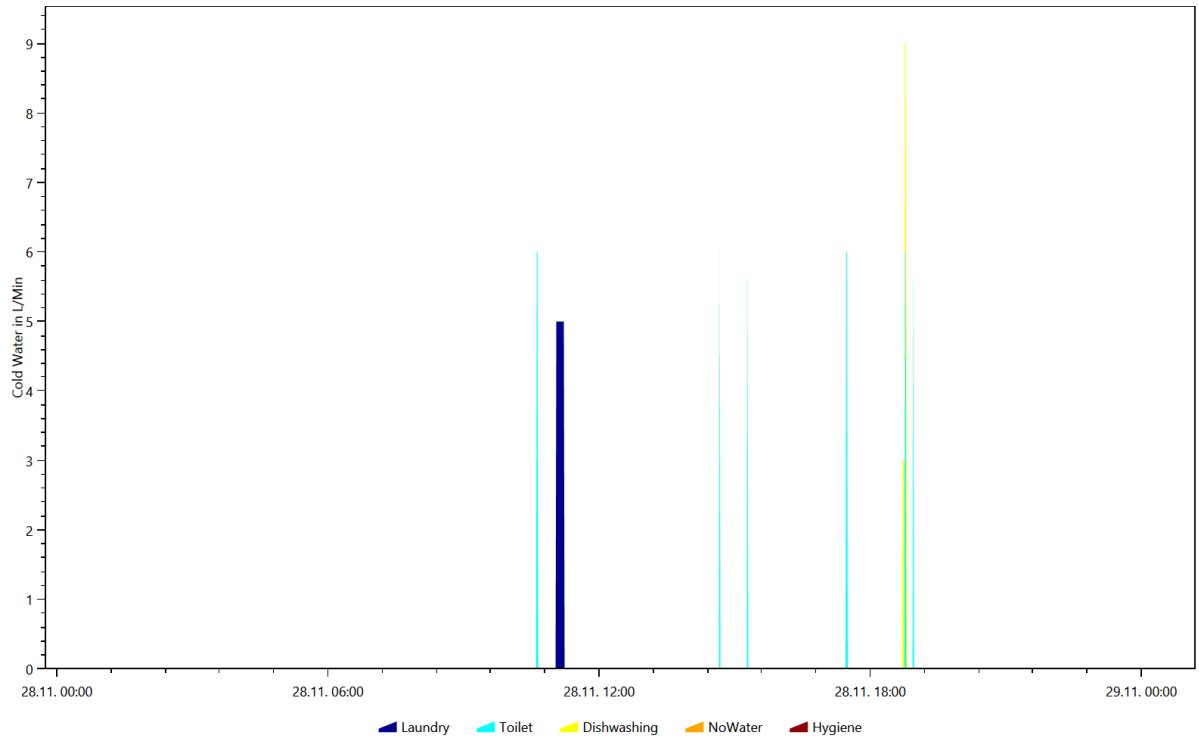
Cold Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.1.27



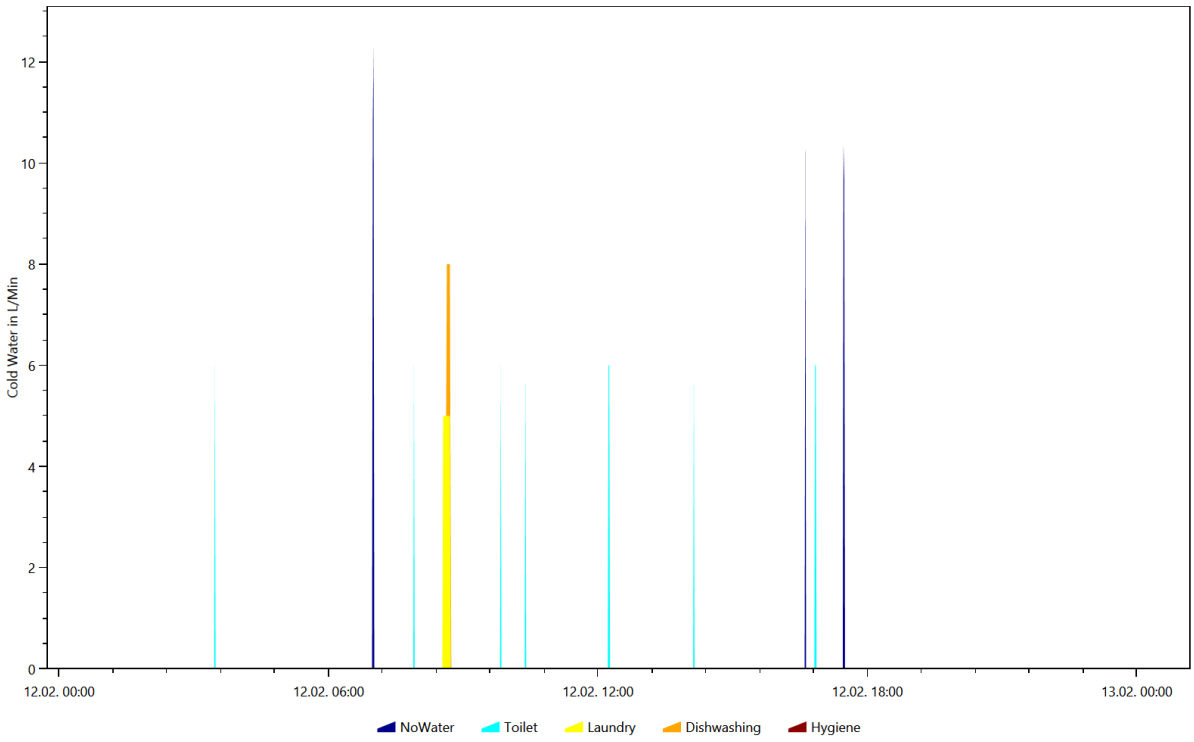
Cold Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.11.19



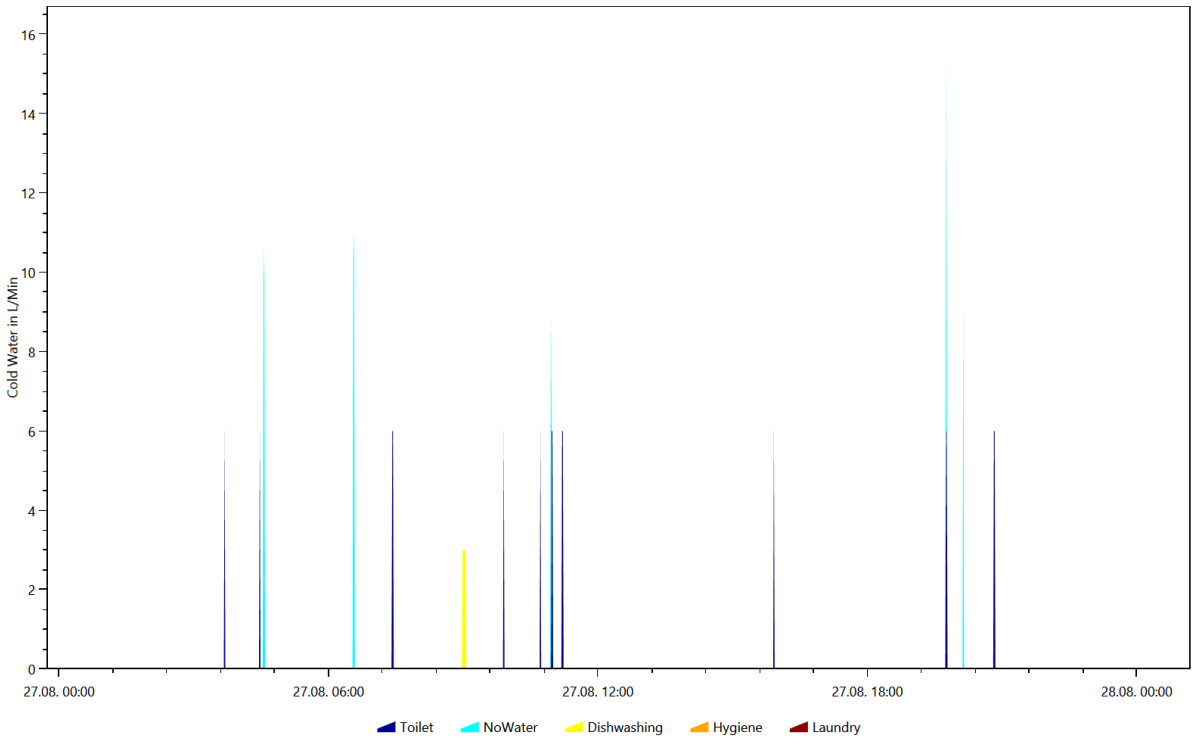
Cold Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.11.28



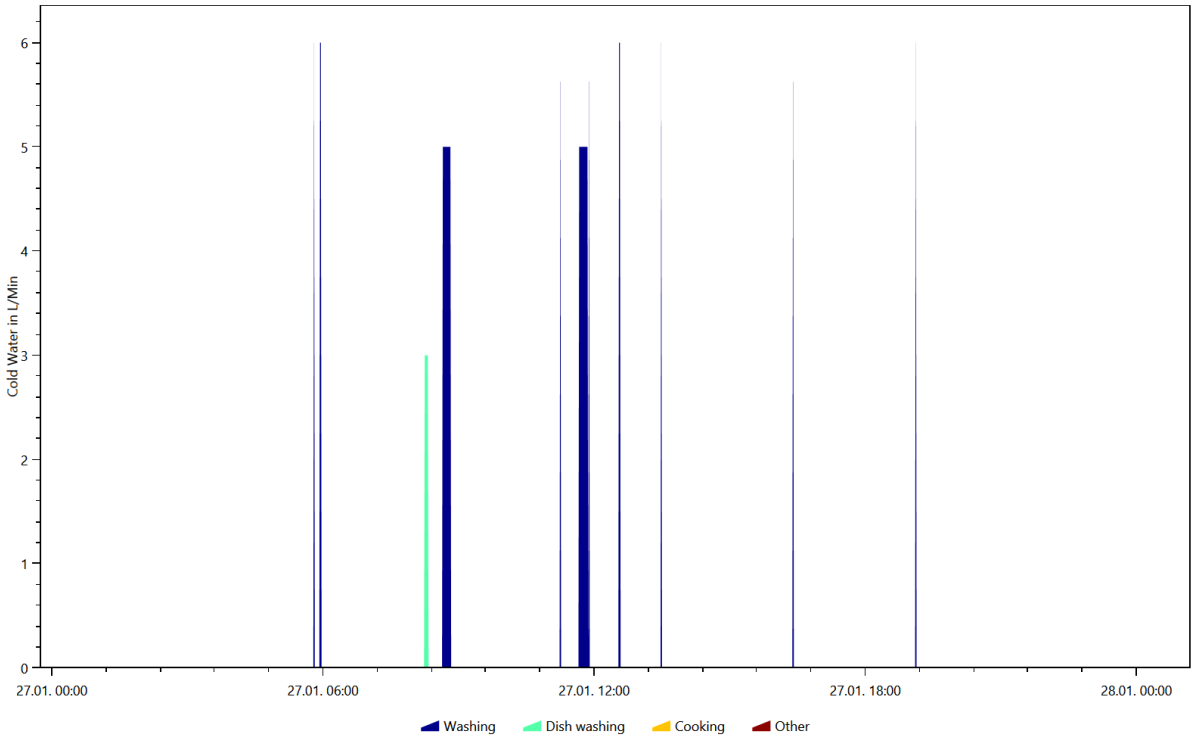
Cold Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.2.12



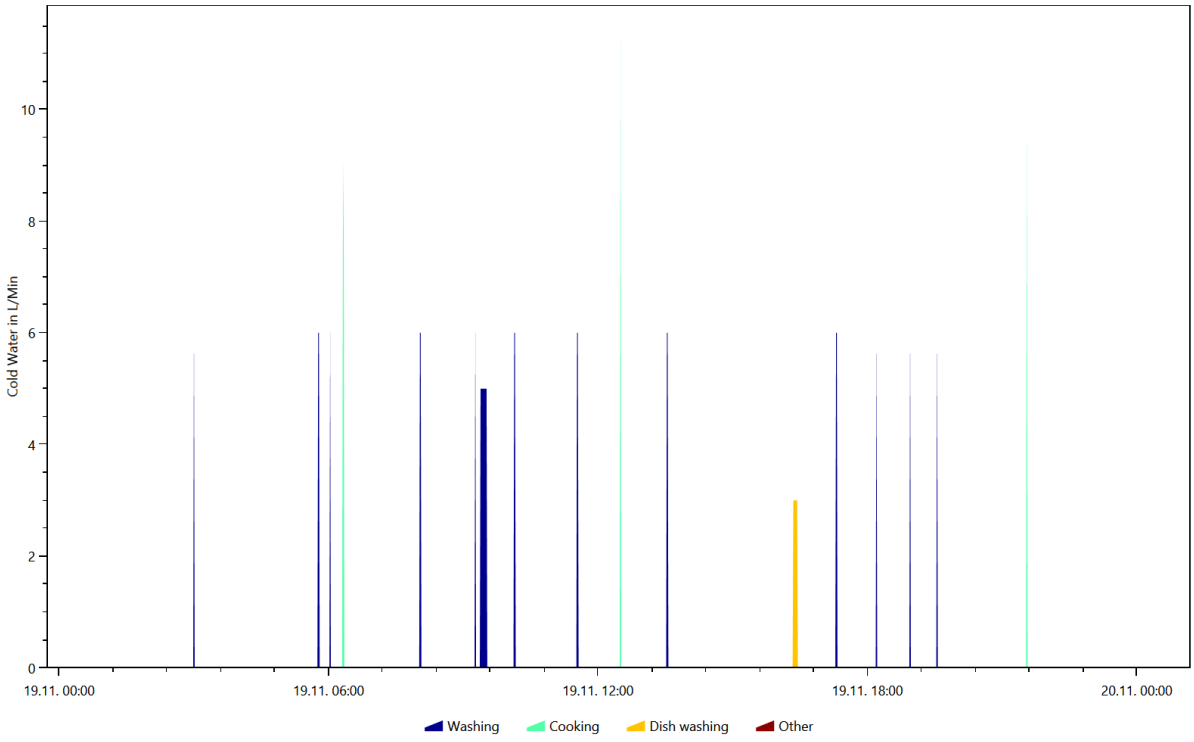
Cold Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.8.27



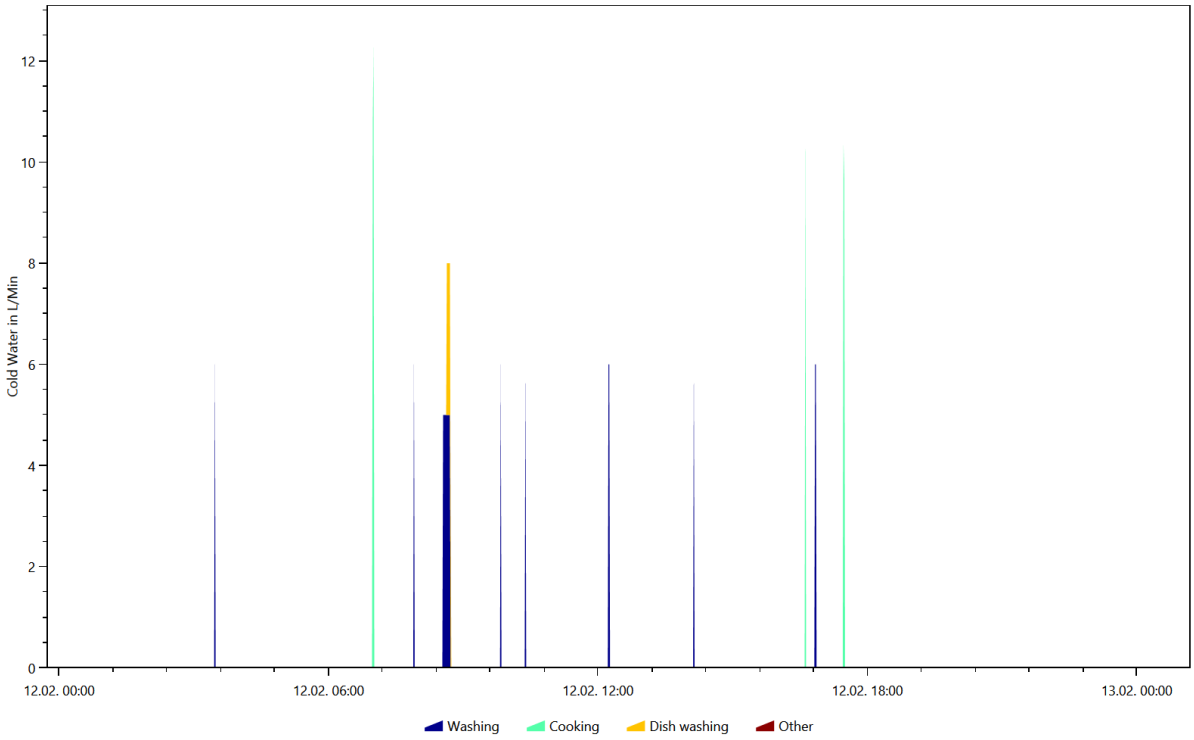
Cold Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.1.27



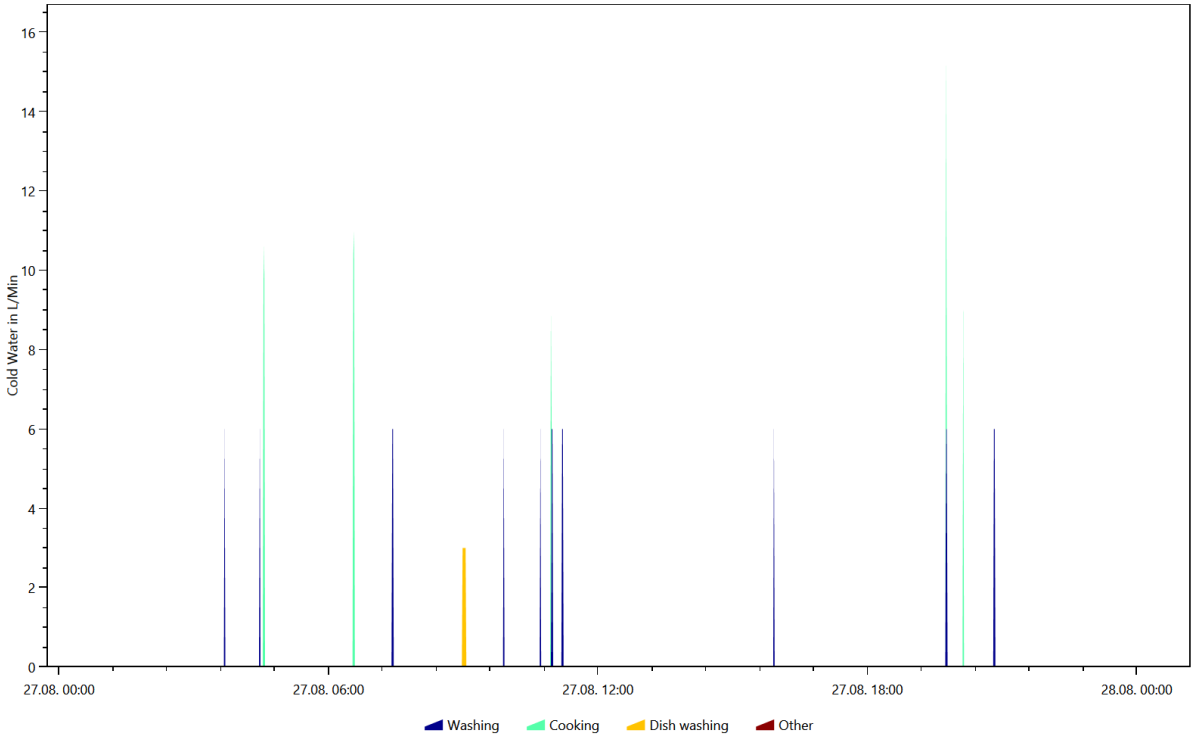
Cold Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.11.19



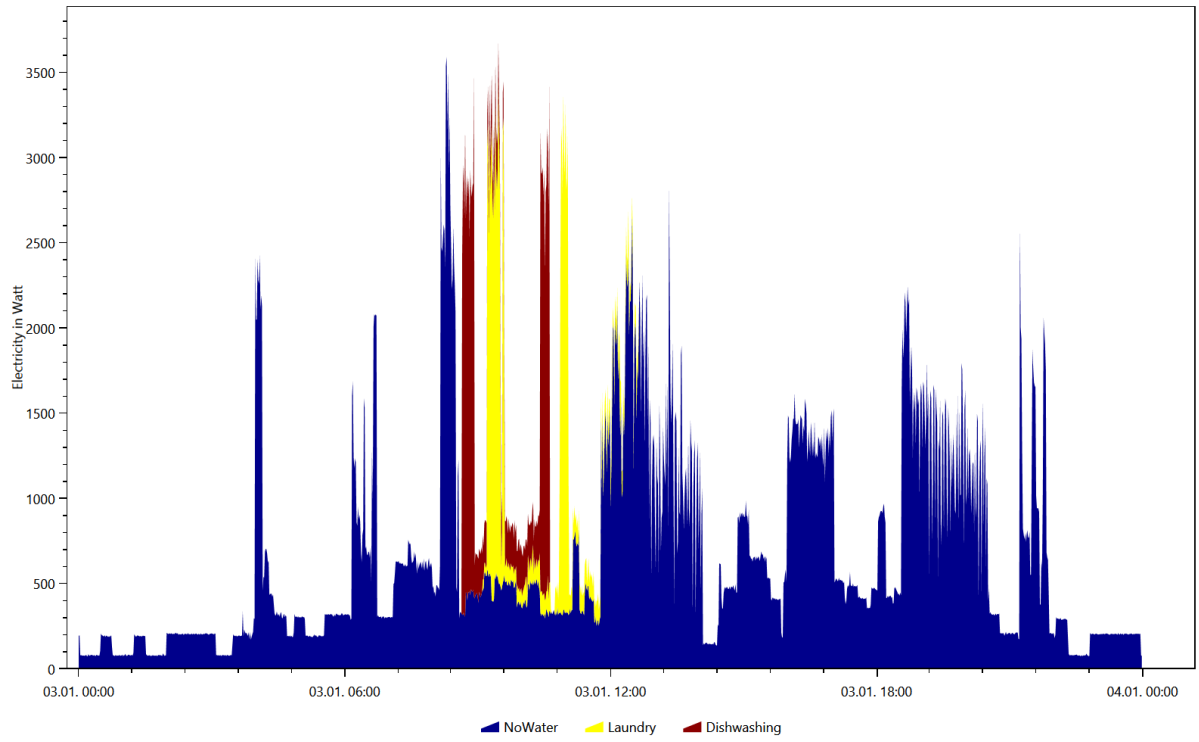
Cold Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.2.12



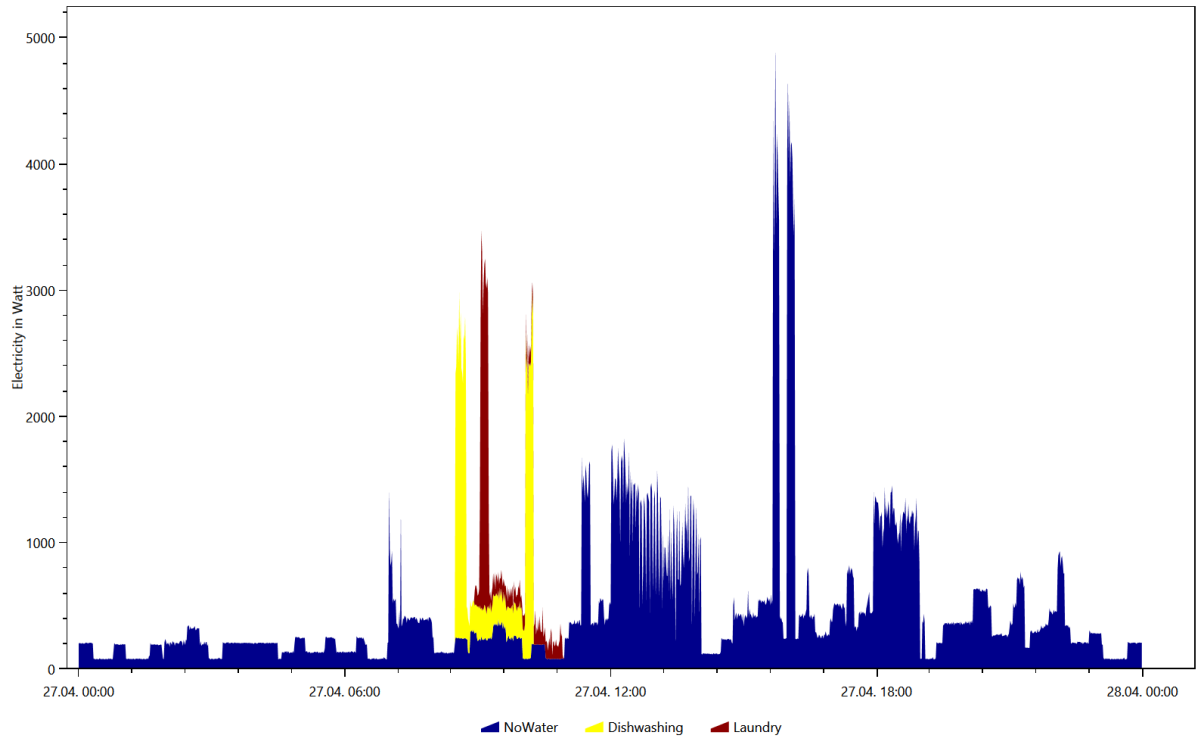
Cold Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.8.27



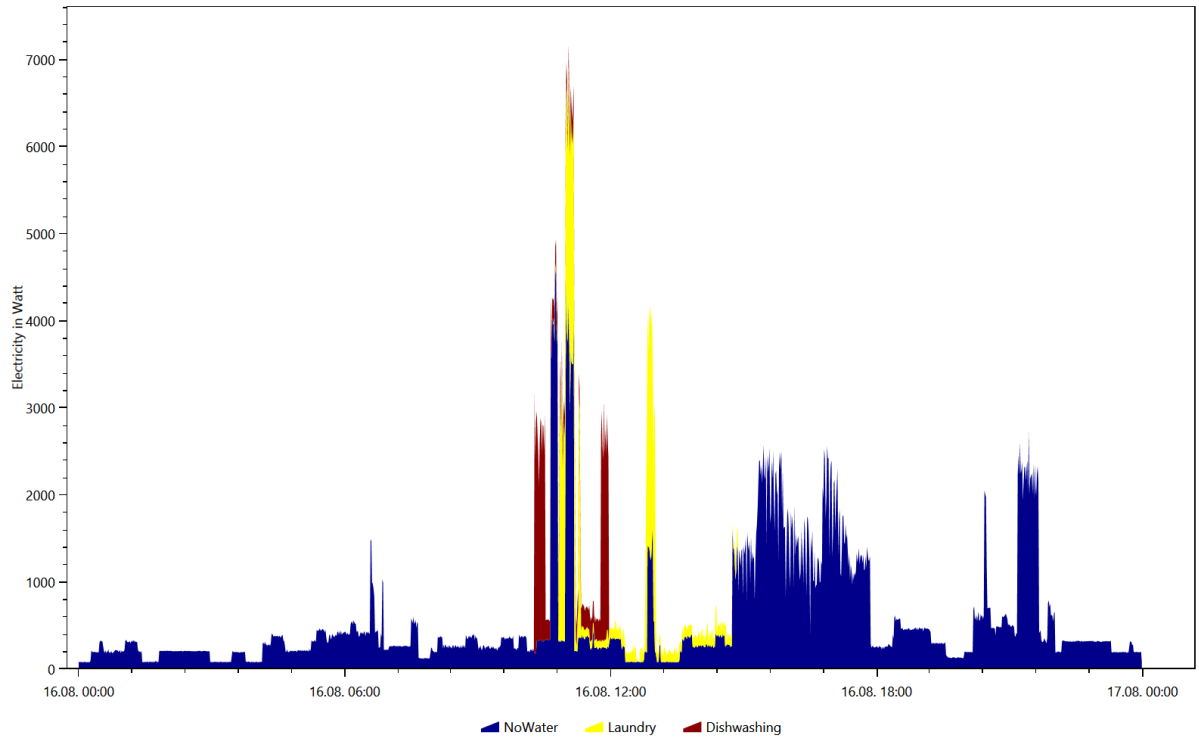
Electricity, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.1.3



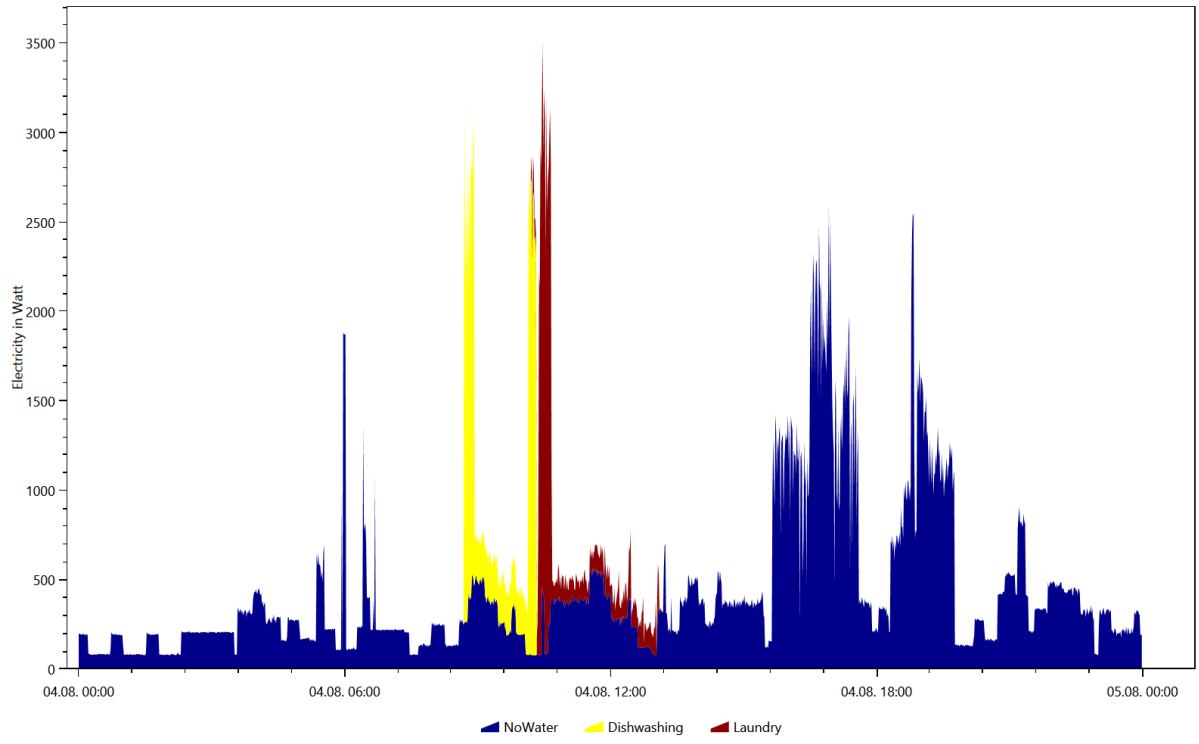
Electricity, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.4.27



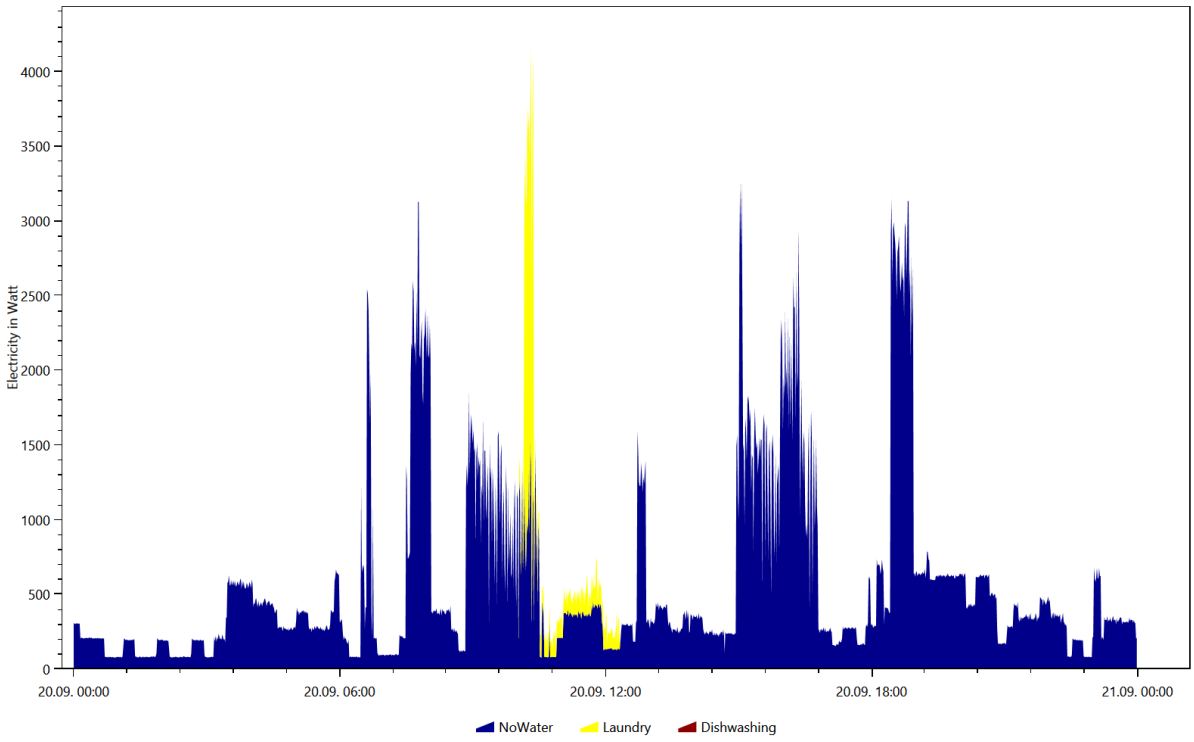
Electricity, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.8.16



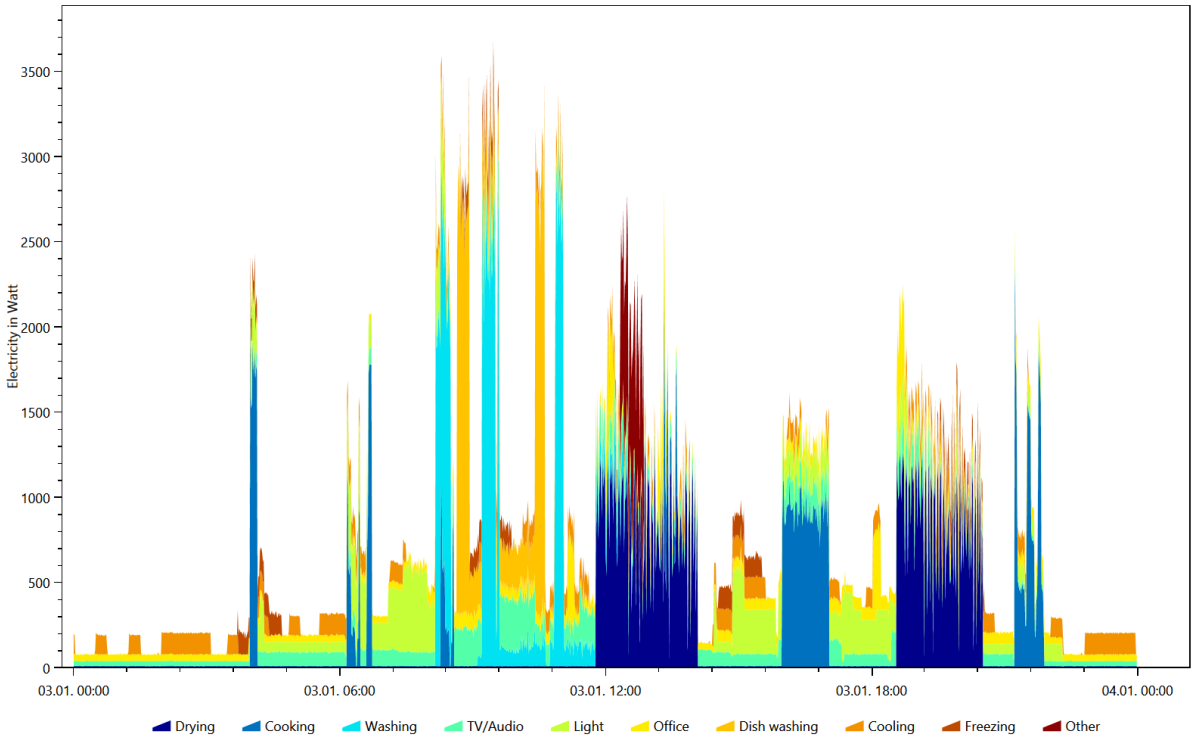
Electricity, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.8.4



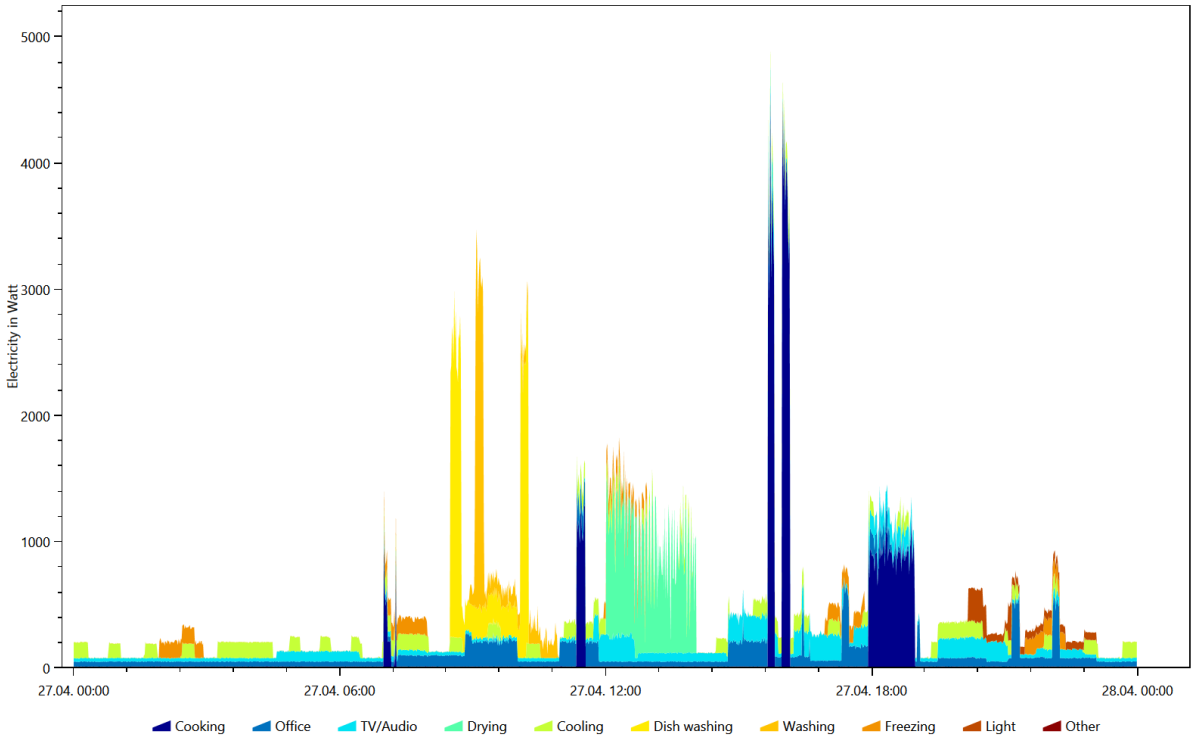
Electricity, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.9.20



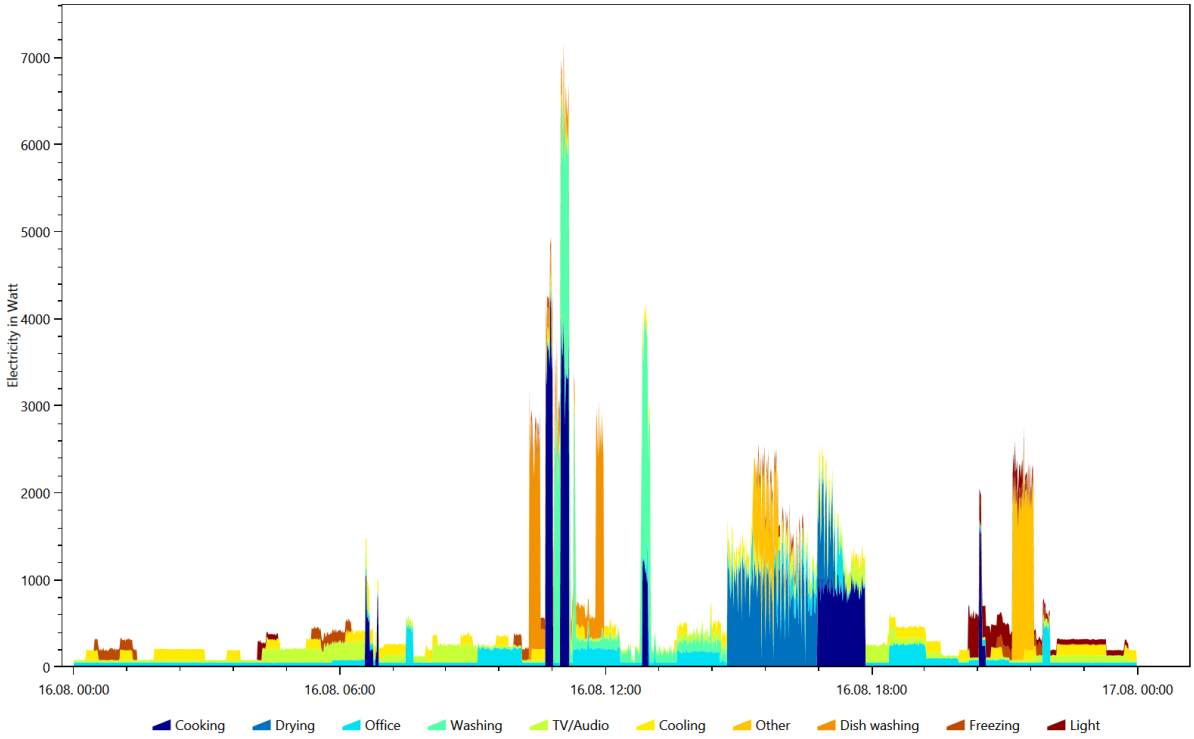
Electricity, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.1.3



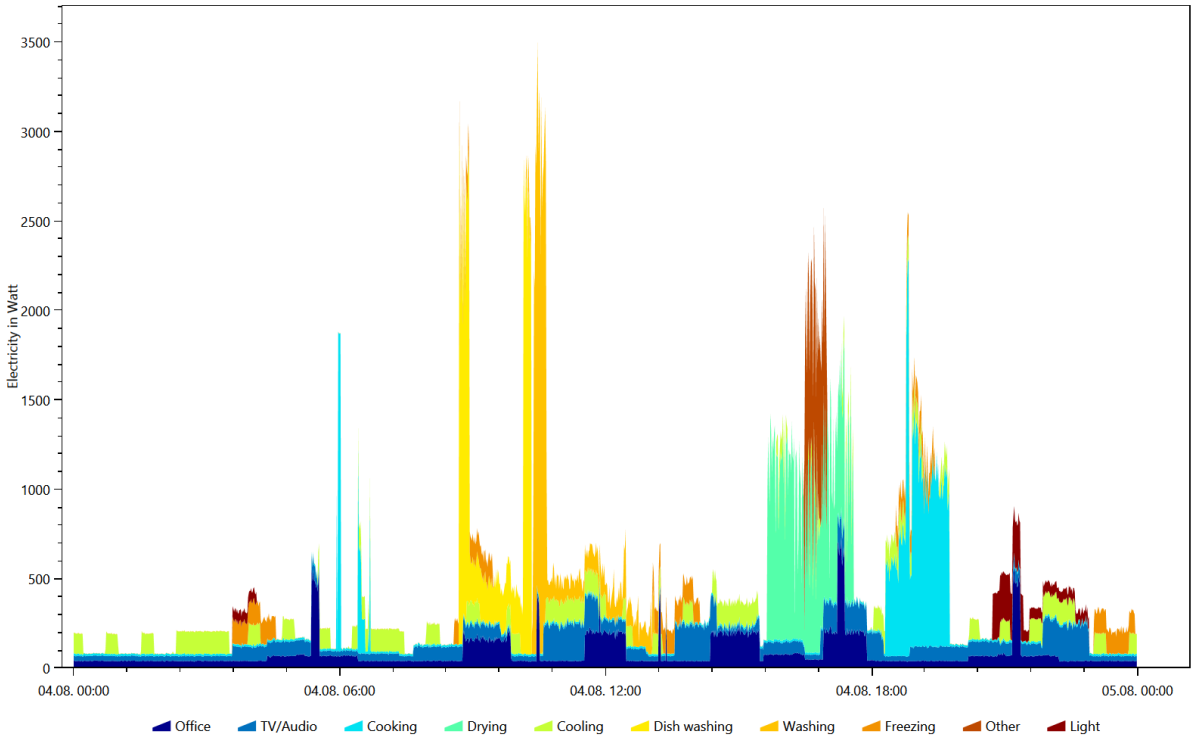
Electricity, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.4.27



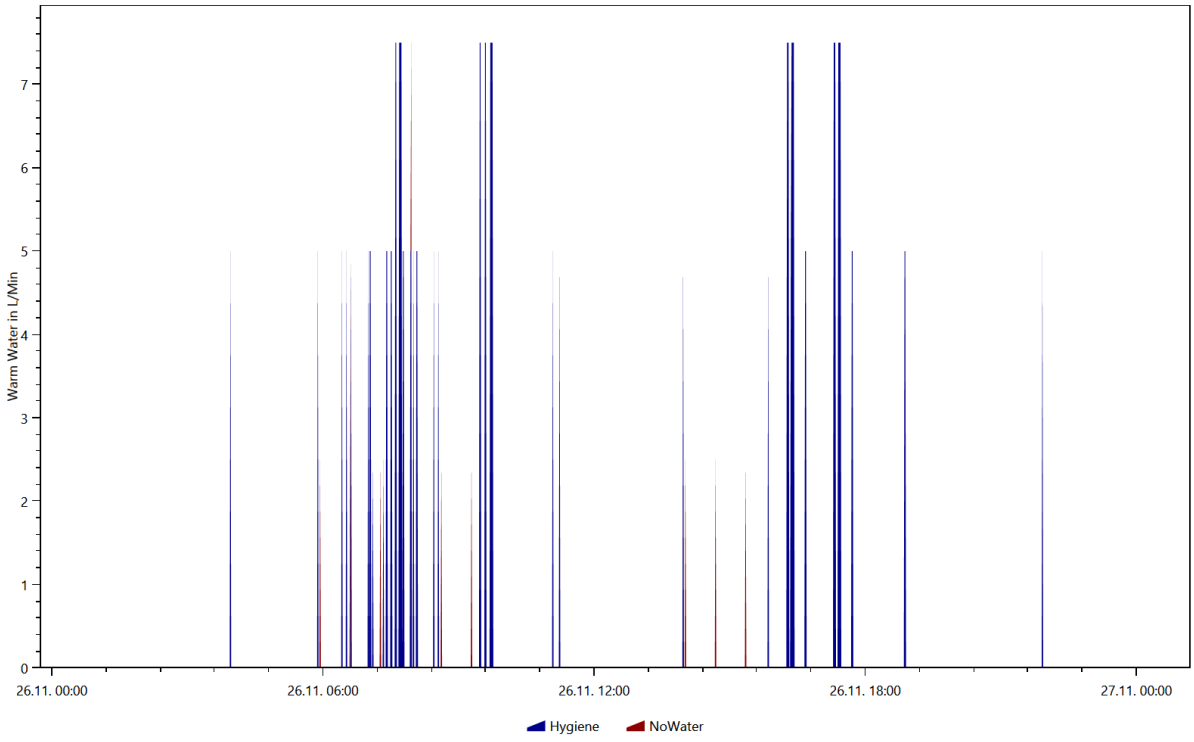
Electricity, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.8.16



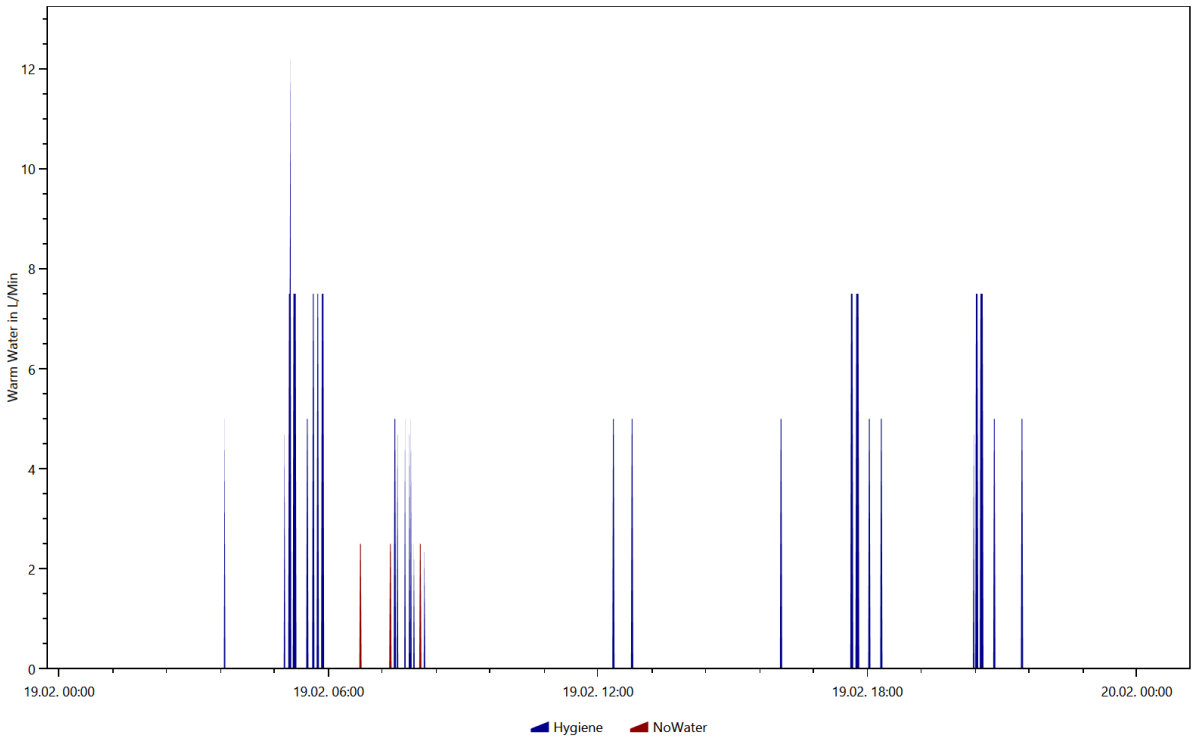
Electricity, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.8.4



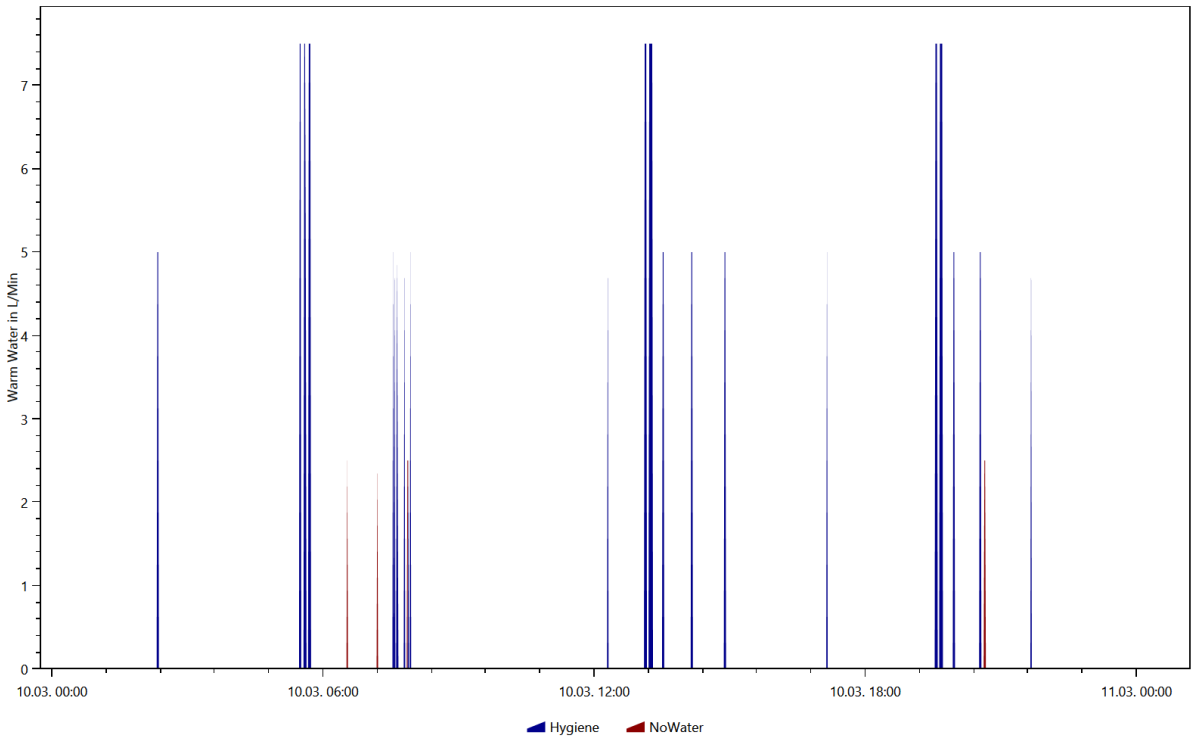
Warm Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.11.26



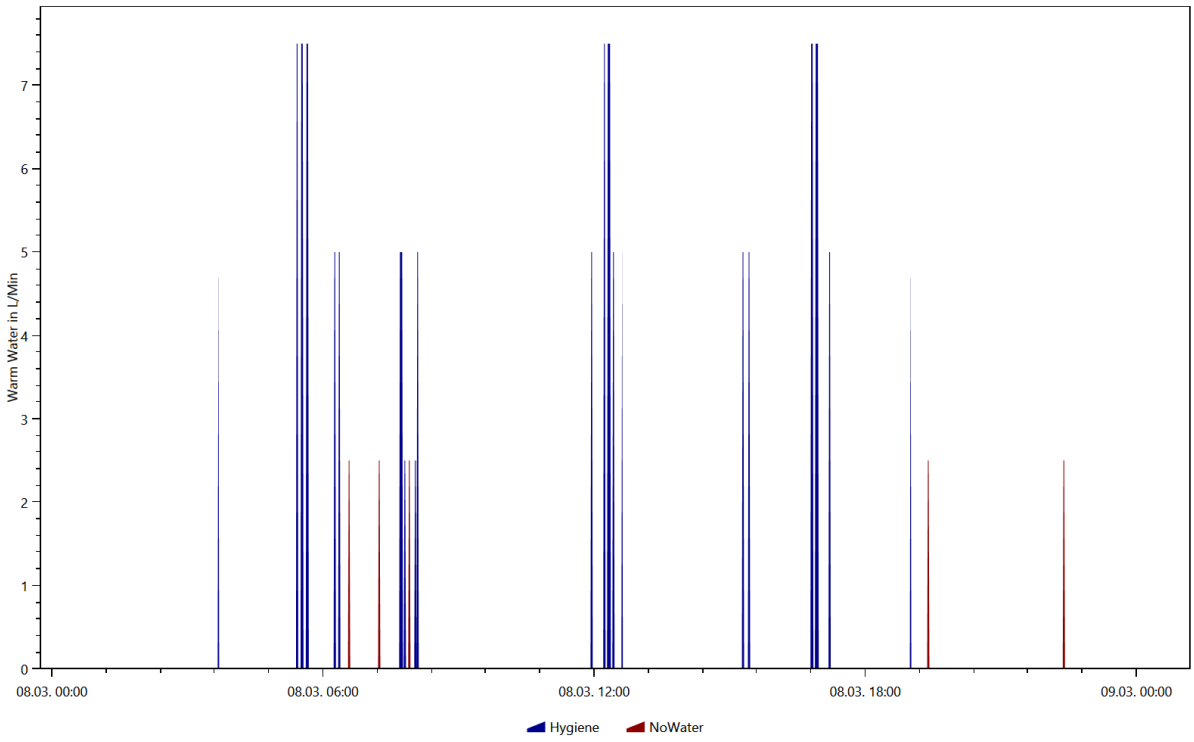
Warm Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.2.19



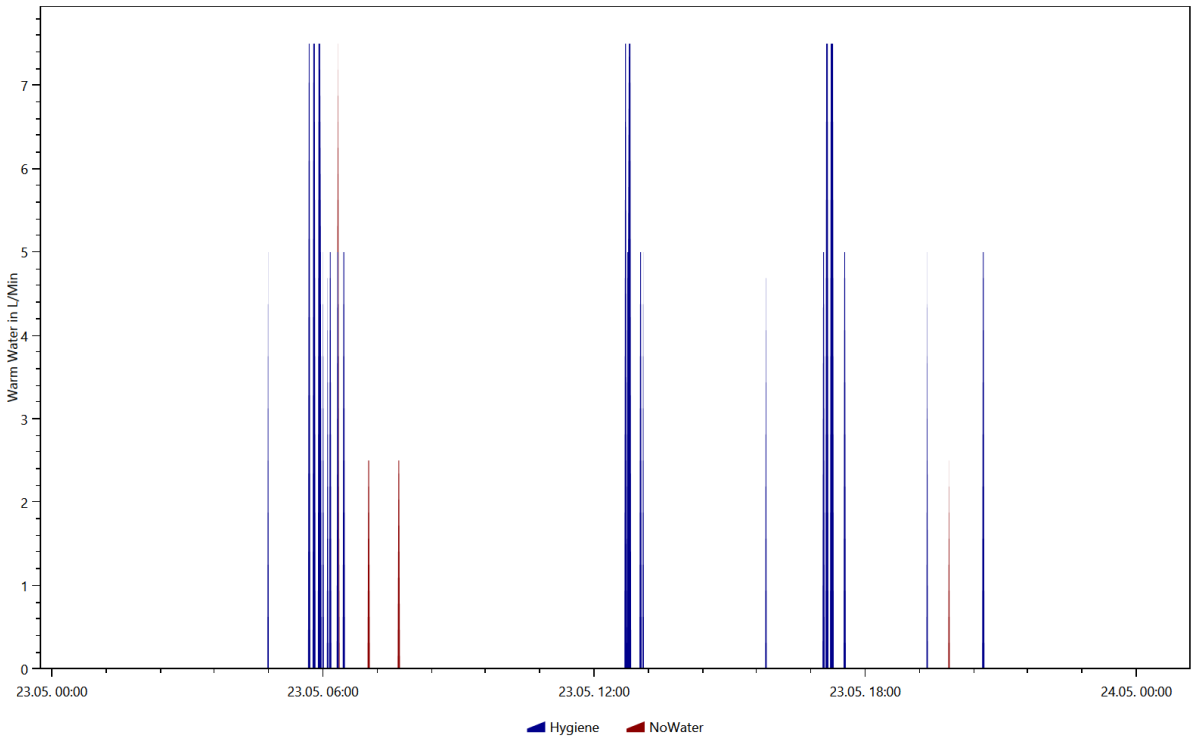
Warm Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.3.10



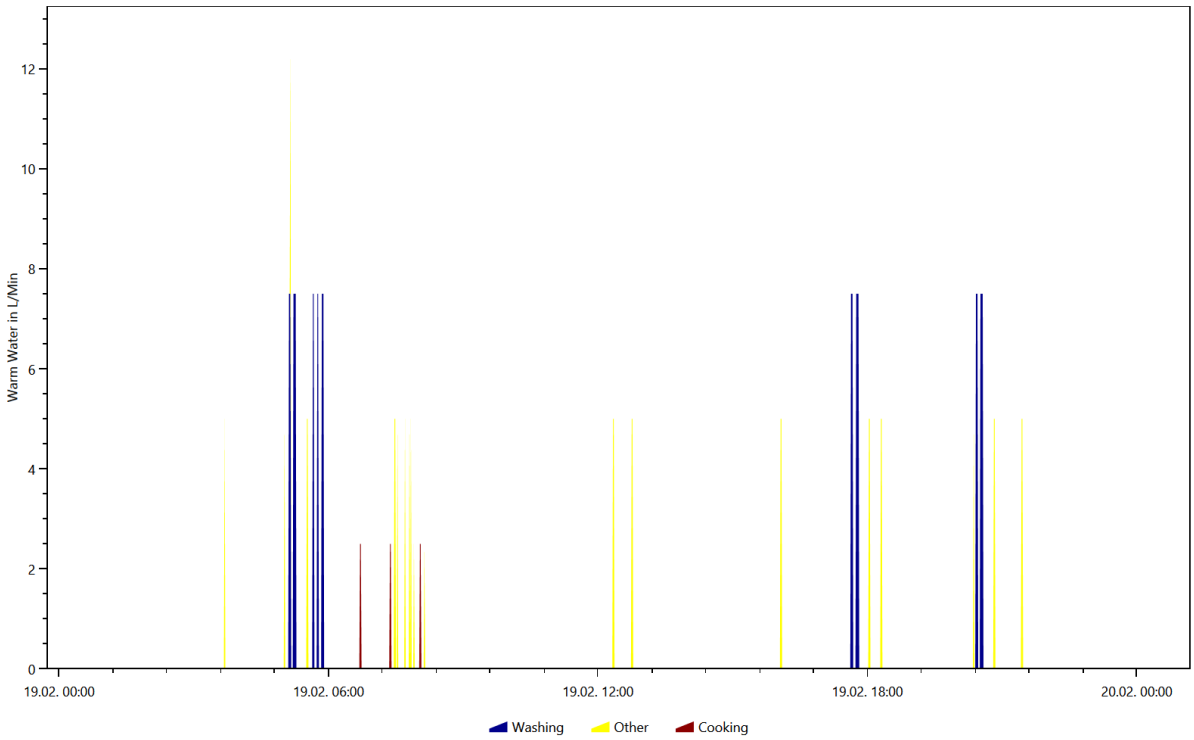
Warm Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.3.8



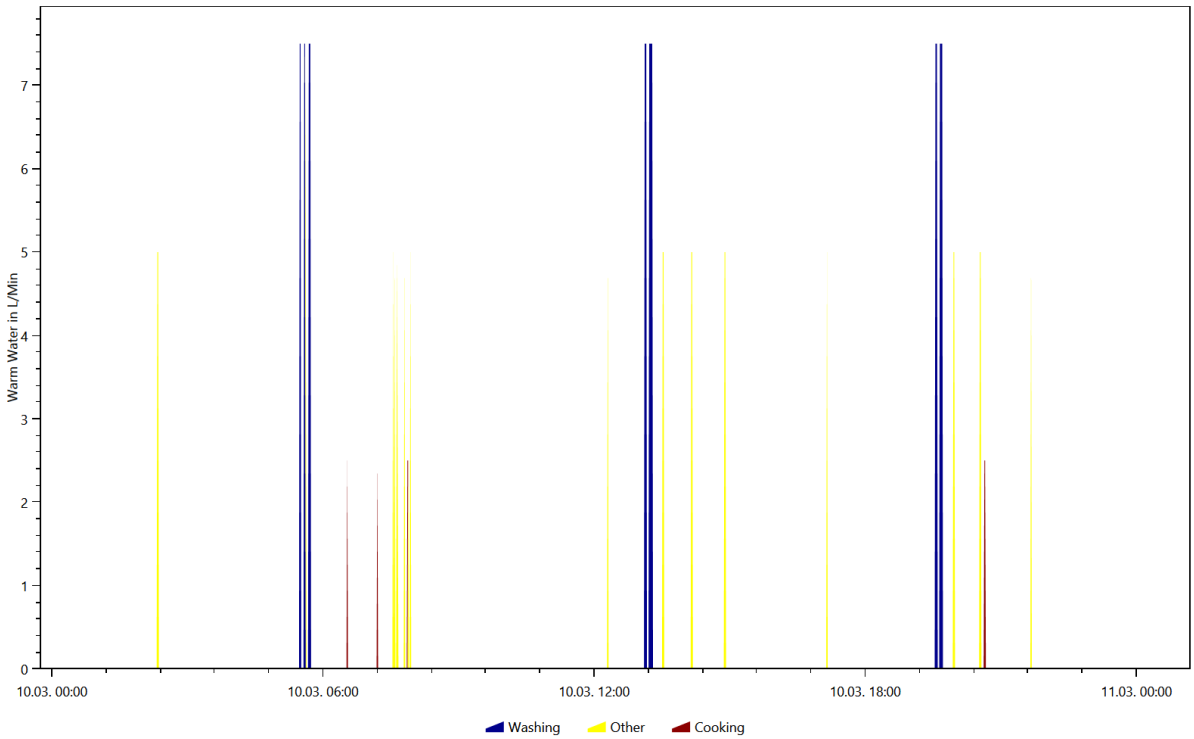
Warm Water, Coloring Scheme: Destatis Water Usage Statistics, Date 2016.5.23



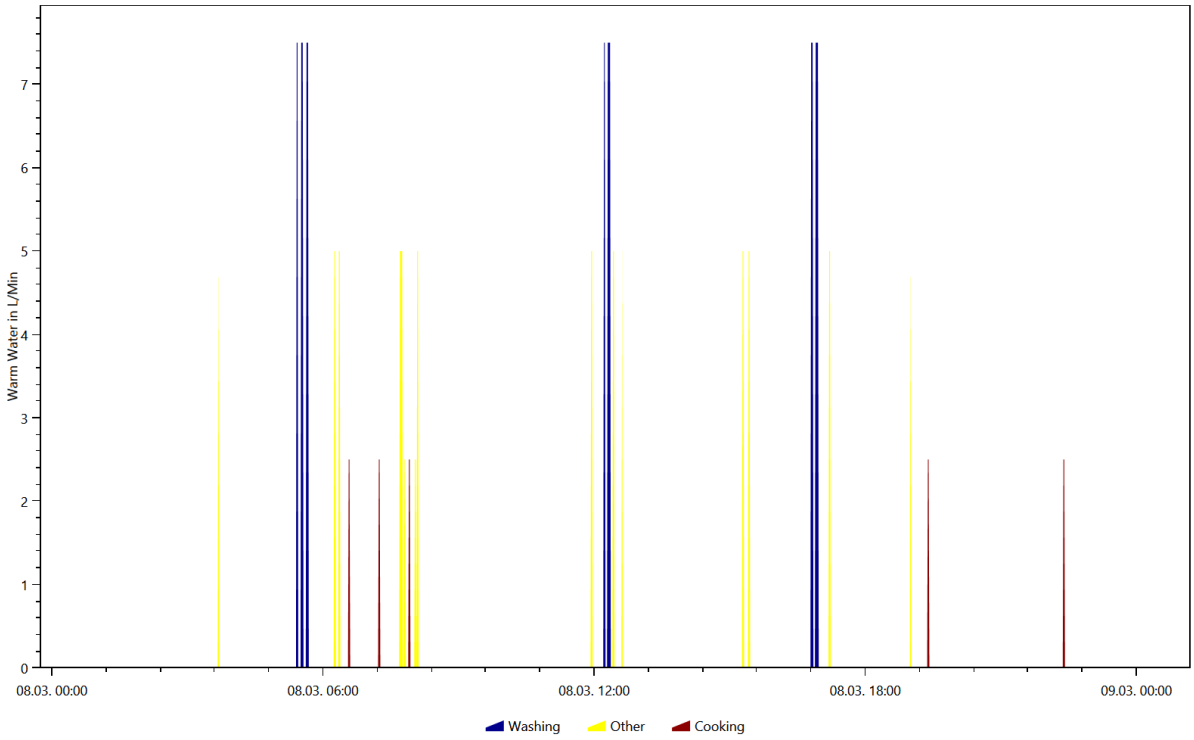
Warm Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.2.19



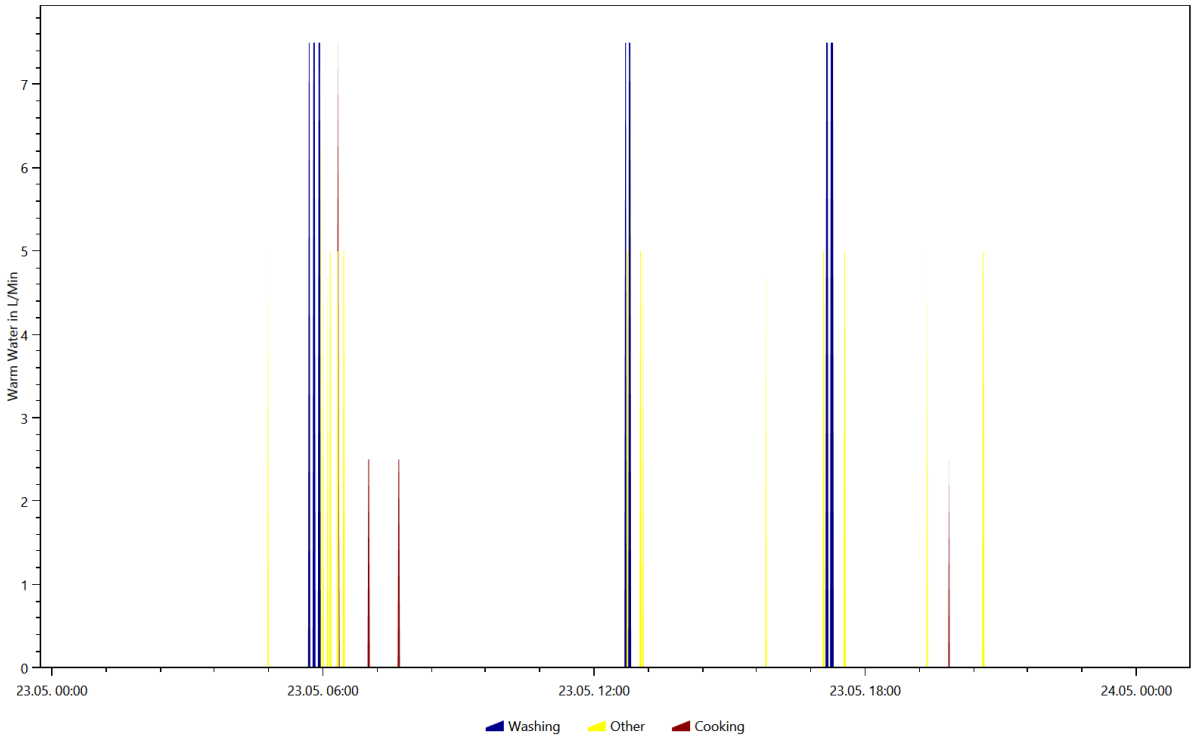
Warm Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.3.10



Warm Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.3.8



Warm Water, Coloring Scheme: Energieagentur.NRW Tags, Date 2016.5.23

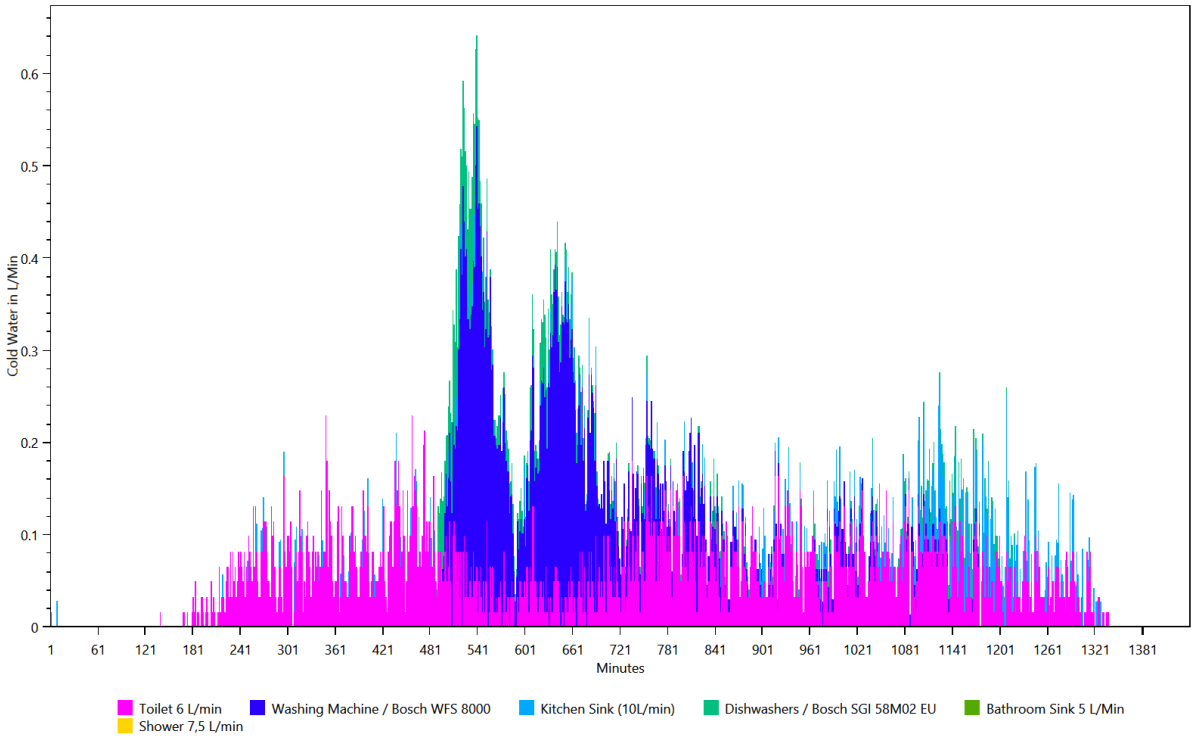


Overview of the time and power of the use per load type per device

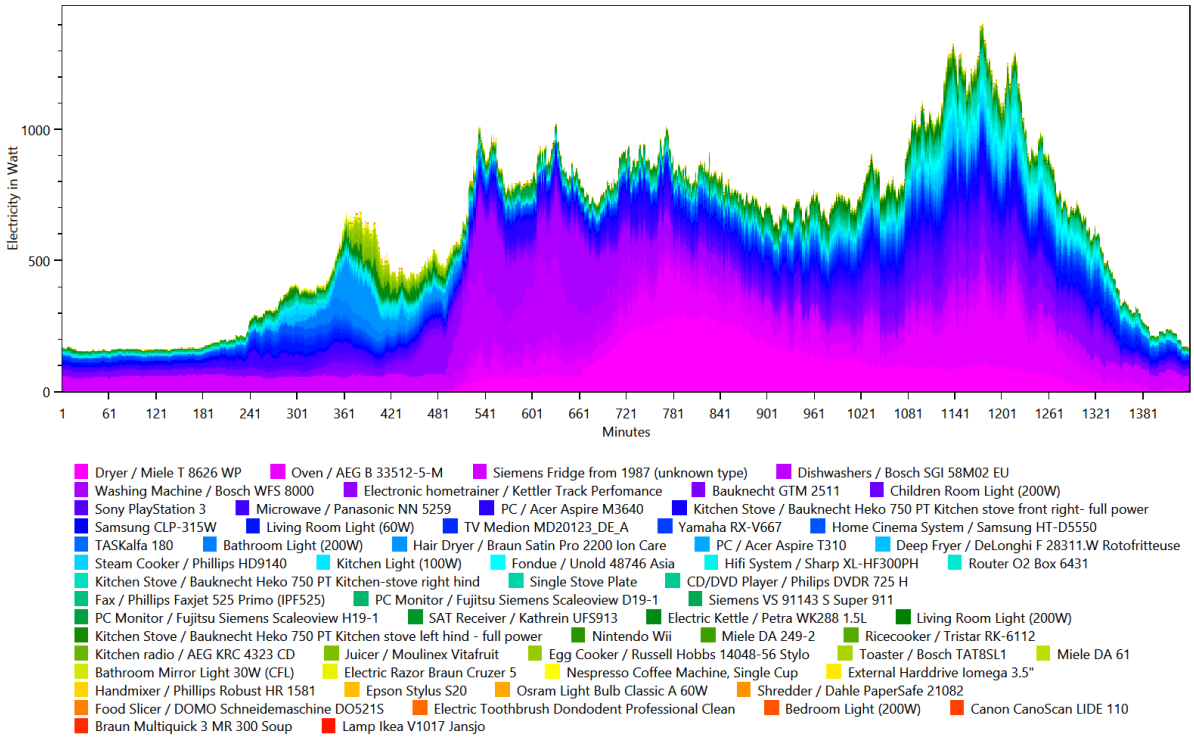
This is made from the files starting with: TimeOfUseEnergyProfiles

The time of use energy profiles show when each device was used and how much power it used.

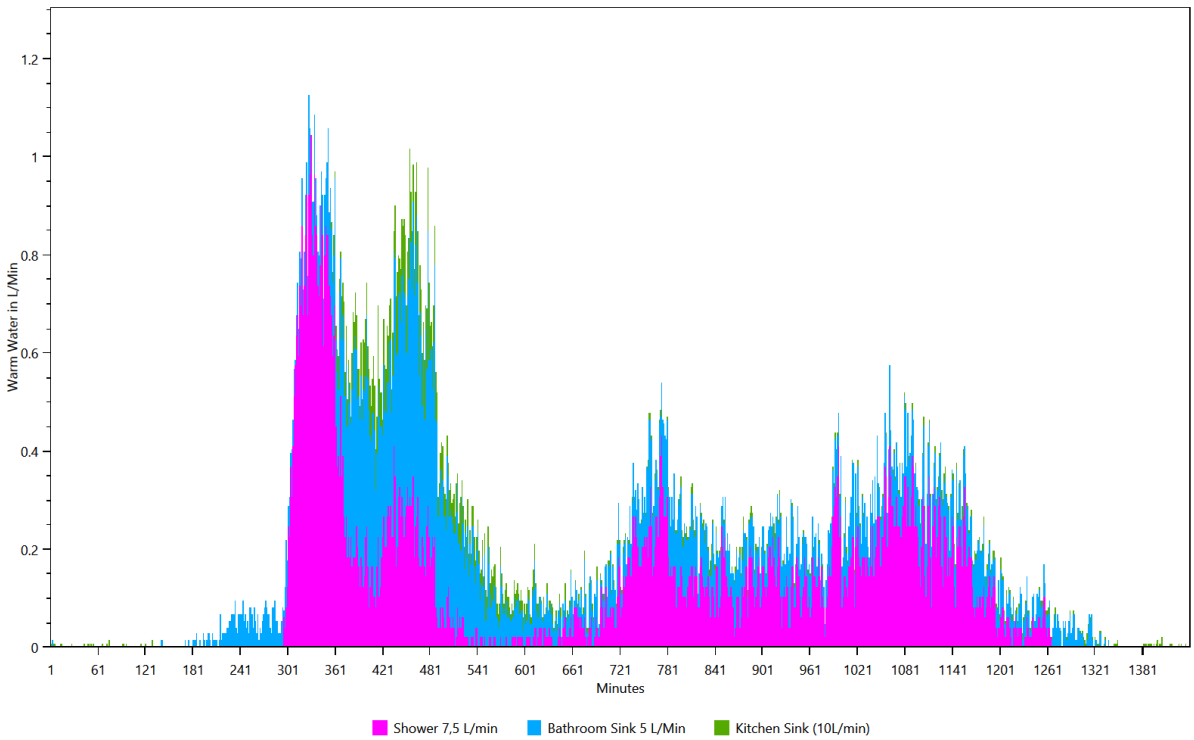
Cold Water



Electricity



Warm Water

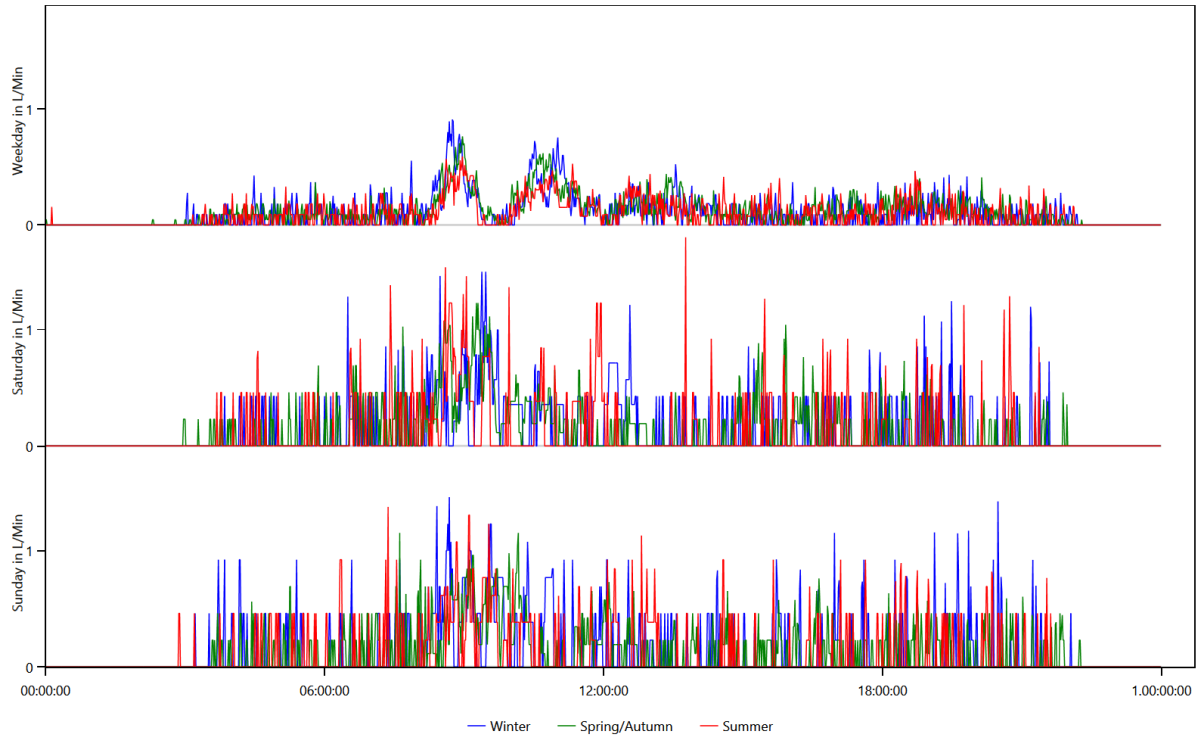


Energy use per load type during different seasons, split by weekday/saturday/sunday

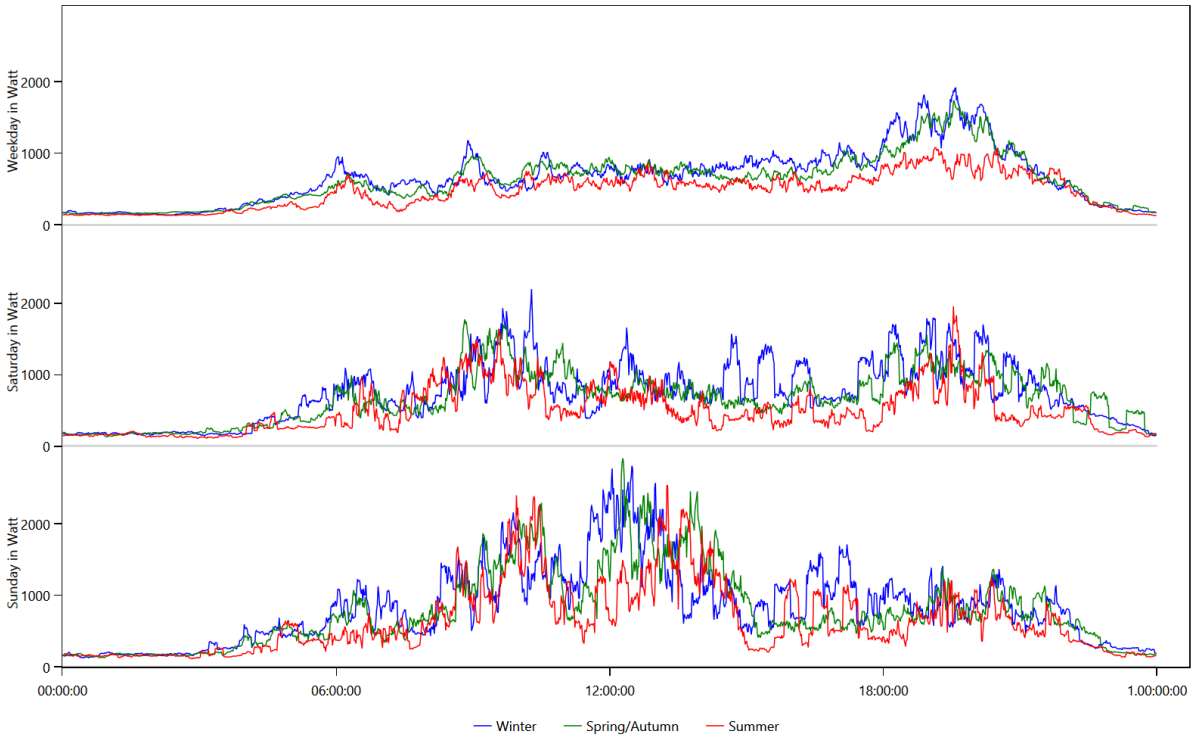
This is made from the files starting with: WeekdayProfiles

This graph shows for each load type the average power consumption per day grouped byseason and weekday/saturday/sunday.

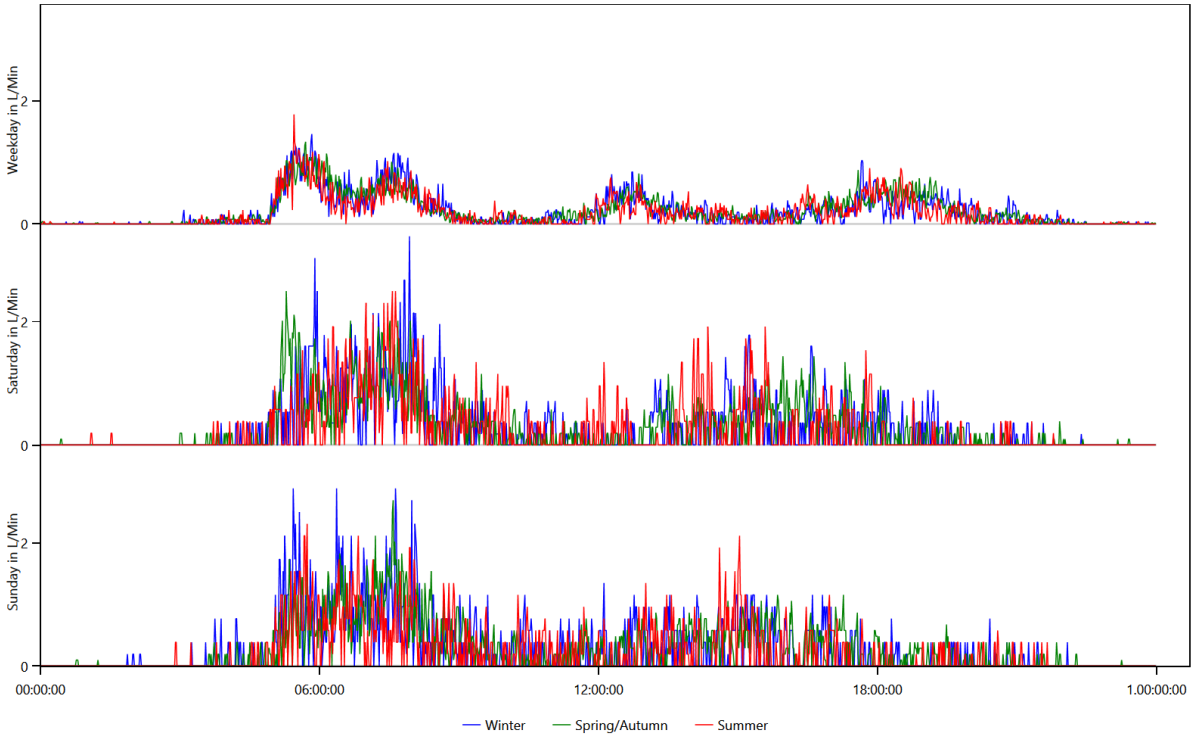
Cold Water



Electricity



Warm Water

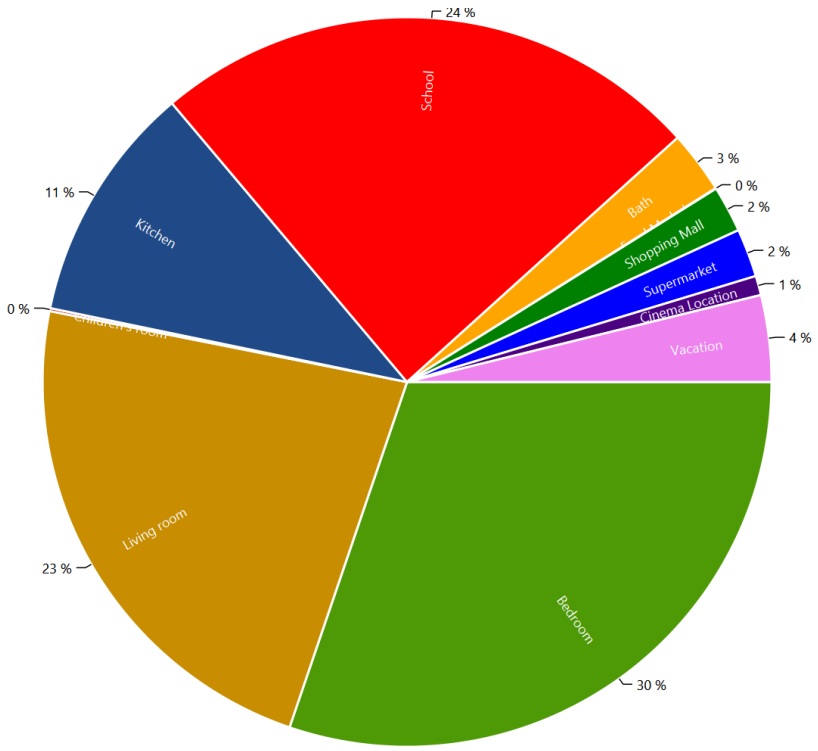


Location Distribution per Person

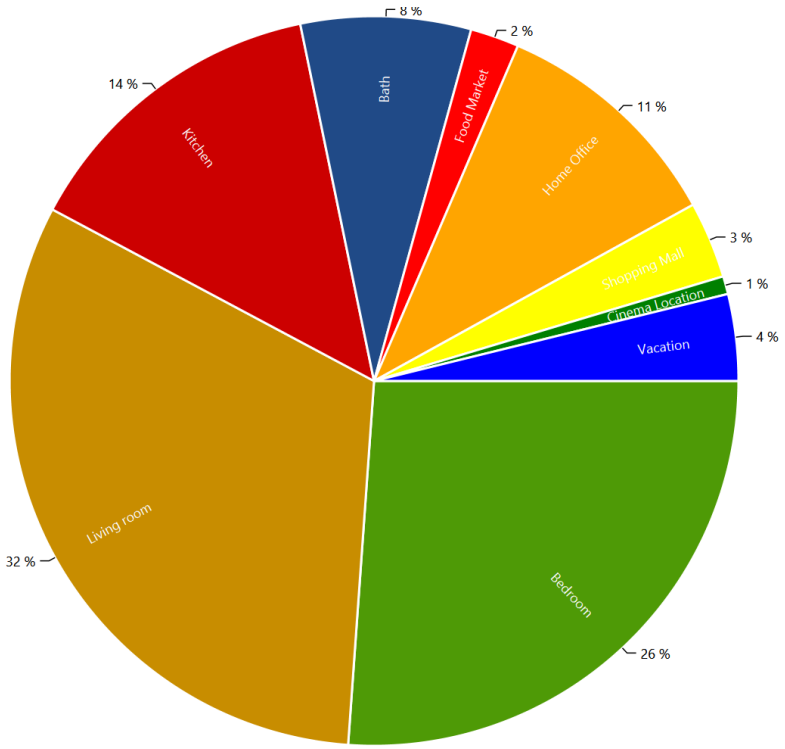
This is made from the files starting with: LocationStatistics

These charts show where the persons spend their time.

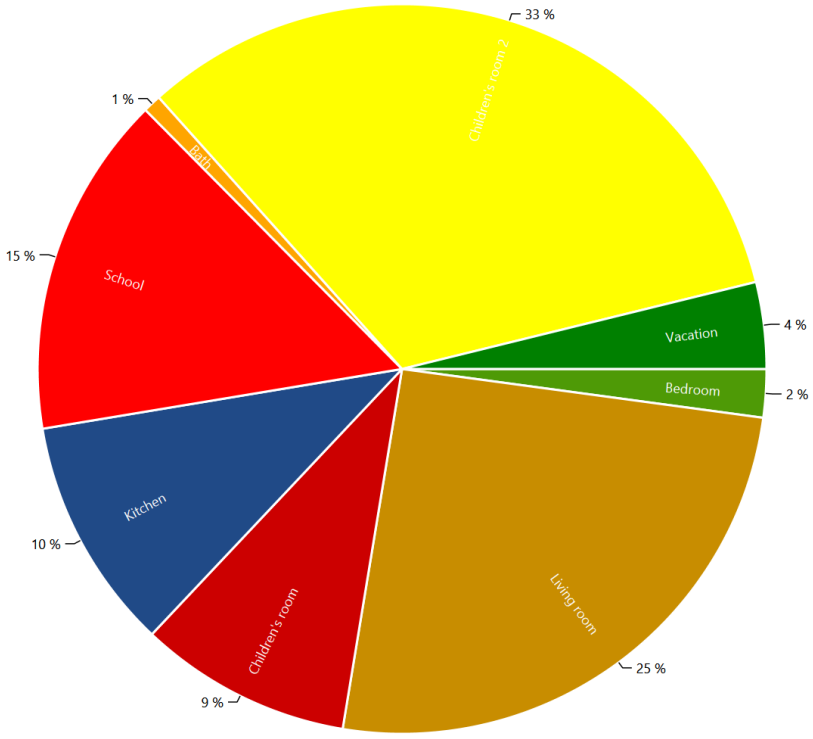
CHR20 Arthur (45 Male)



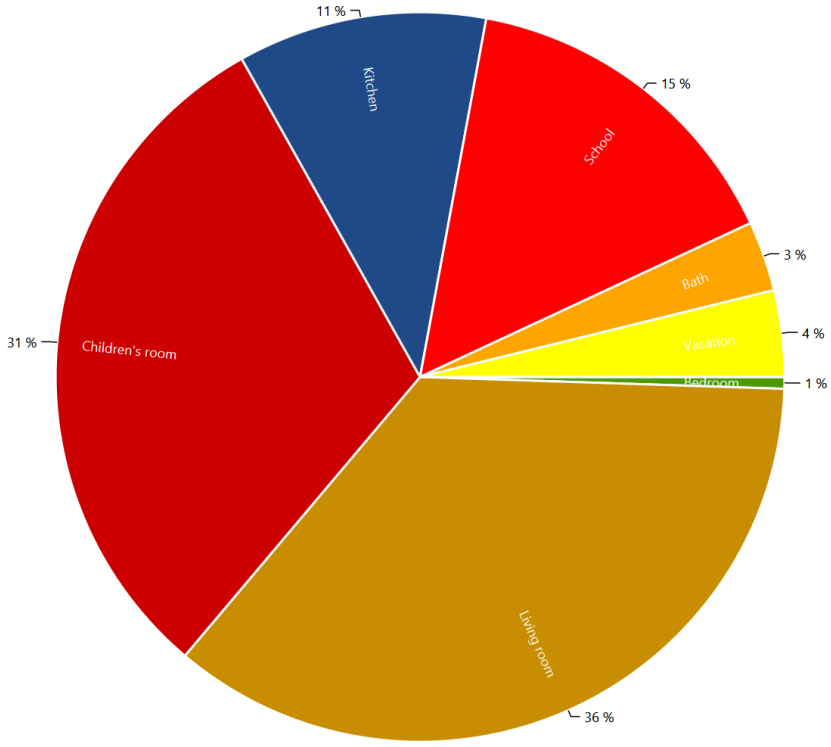
CHR20 Cassie (40 Female)



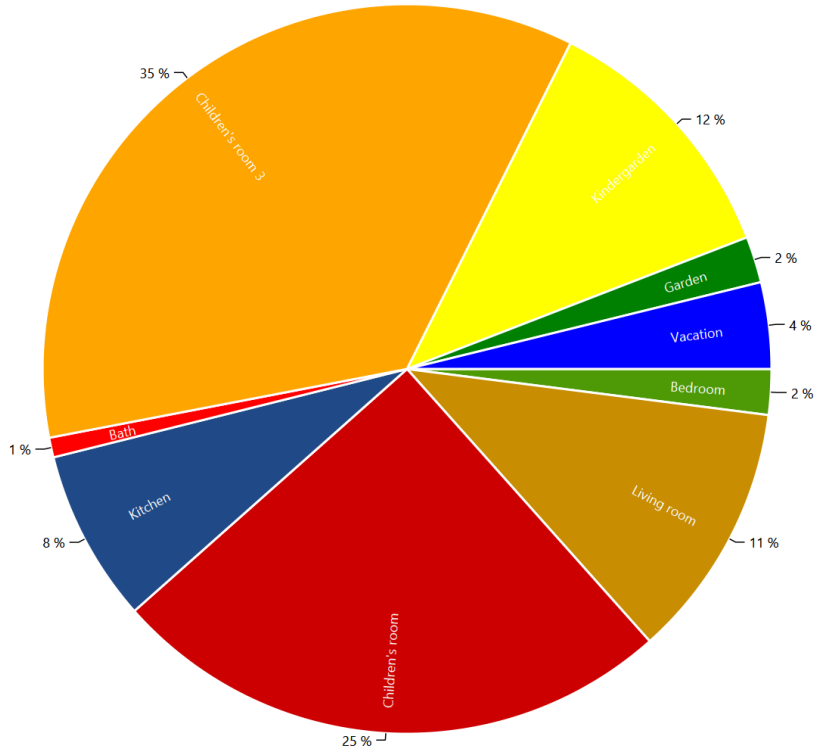
CHR20 Garreth (8 Male)



CHR20 George (12 Male)



CHR20 Gregor (4 Male)



Actions.csv

This is made from the files starting with: Actions

These files show the actions of each person in the household. The content looks like this:

Actions.HH0.csv

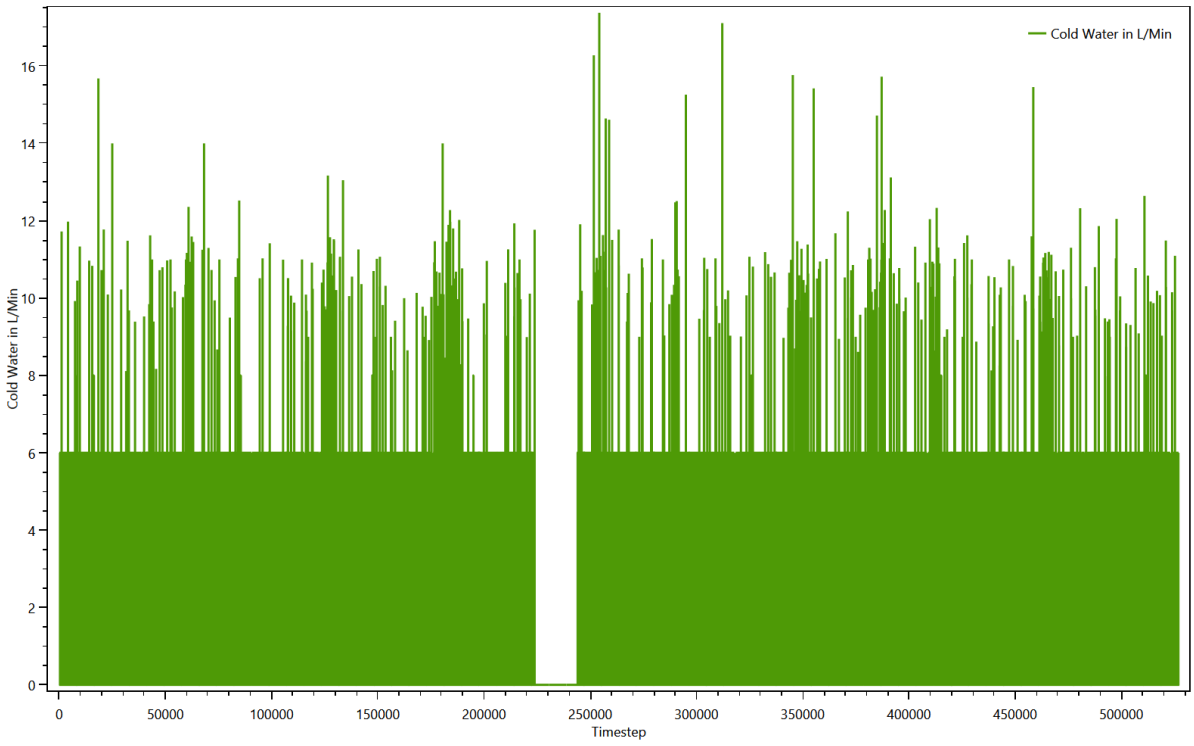
Time step;Calendertime;Person;Selected affordance;Affordance Category;Is Sick
0;01.01.2016 00:00;CHR20 Arthur (45/Male);sleep bed 08 (08 h);sleep;False;
0;01.01.2016 00:00;CHR20 Cassie (40/Female);sleep bed 02 (06 h);sleep;False;
0;01.01.2016 00:00;CHR20 Garreth (8/Male);sleep bed 04 (10 h) Child;sleep;False;
0;01.01.2016 00:00;CHR20 George (12/Male);sleep bed 03 (08 h) Child;sleep;False;
0;01.01.2016 00:00;CHR20 Gregor (4/Male);sleep bed 05 (12 h) Child;sleep;True;
271;01.01.2016 04:31;CHR20 Cassie (40/Female);play Wii;Passive Entertainment (TV etc.);False;
300;01.01.2016 05:00;CHR20 George (12/Male);play with toys (1.5 h);Offline Entertainment;False;
326;01.01.2016 05:26;CHR20 Cassie (40/Female);play board games (1 h);Offline Entertainment;False;
353;01.01.2016 05:53;CHR20 Garreth (8/Male);watch a movie for 1 h 30 min with home cinema system;Passive Entertainment (TV etc.);False;
385;01.01.2016 06:25;CHR20 Cassie (40/Female);eat breakfast (1 h);cooking;False;
390;01.01.2016 06:30;CHR20 George (12/Male);go to grammer school ;school;False;
392;01.01.2016 06:32;CHR20 Arthur (45/Male);go to the toilet;hygiene;False;
396;01.01.2016 06:36;CHR20 Garreth (8/Male);eat a cooked meal (interrupting) (eat breakfast (1 h));cooking;False;
396;01.01.2016 06:36;CHR20 Gregor (4/Male);eat a cooked meal (interrupting) (eat breakfast (1 h));cooking;True;
397;01.01.2016 06:37;CHR20 Arthur (45/Male);get ready in the morning (men);hygiene;False;
408;01.01.2016 06:48;CHR20 Arthur (45/Male);eat a cooked meal (interrupting) (eat breakfast (1 h));cooking;False;
460;01.01.2016 07:40;CHR20 Arthur (45/Male);take a shower (men);hygiene;False;
460;01.01.2016 07:40;CHR20 Cassie (40/Female);go shopping for food on the market (2 h);shopping;False;
460;01.01.2016 07:40;CHR20 Garreth (8/Male);go to primary school ;school;False;

Sum Profiles

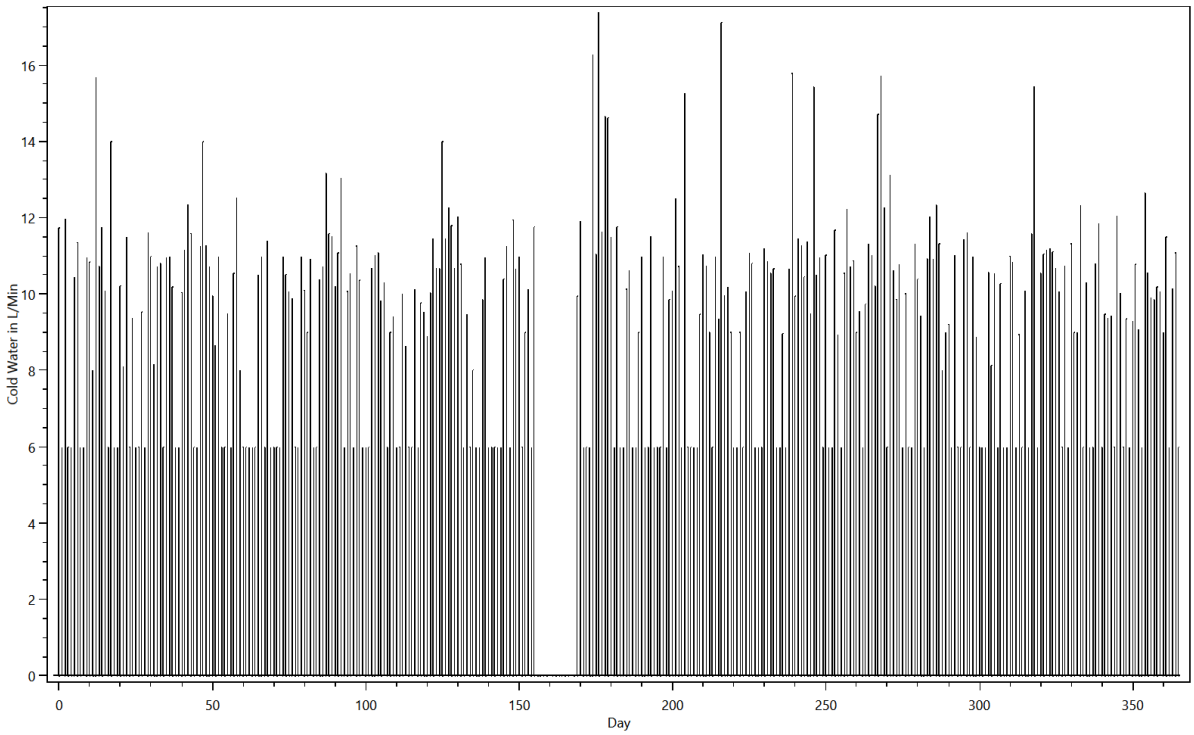
This is made from the files starting with: SumProfiles

This shows the energy use during the simulation.

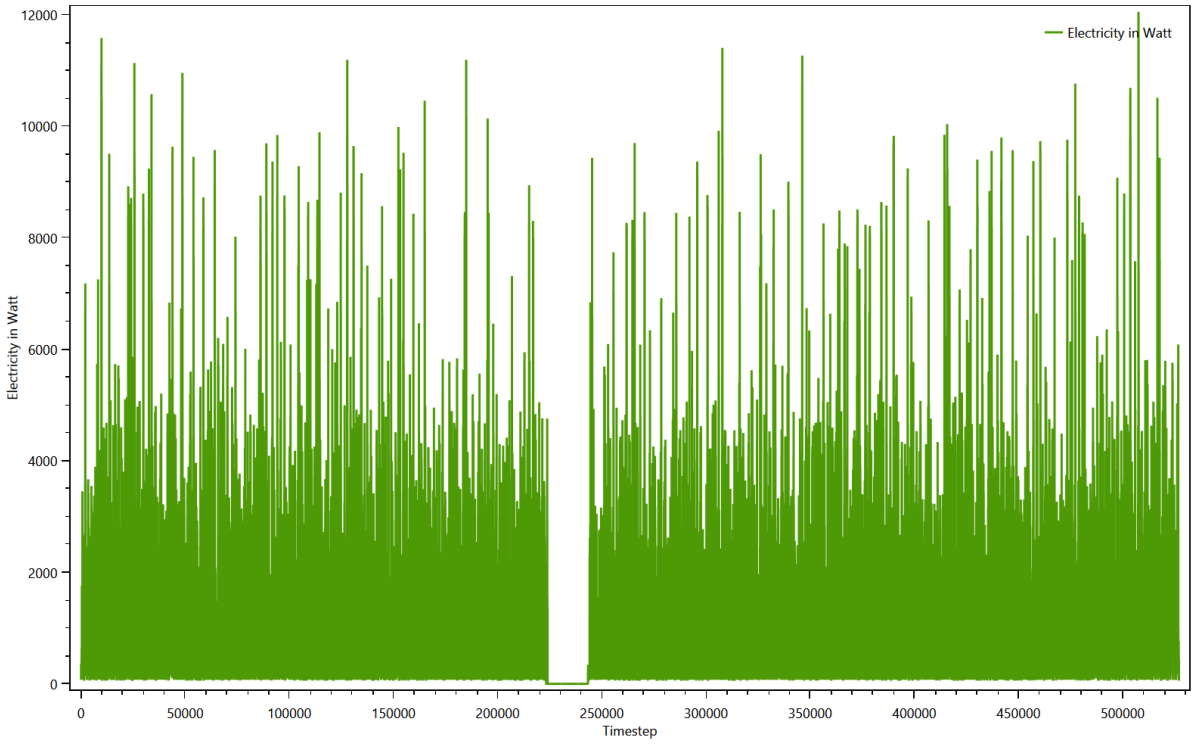
Summed up curve for Cold Water from SumProfiles.Cold Water.png



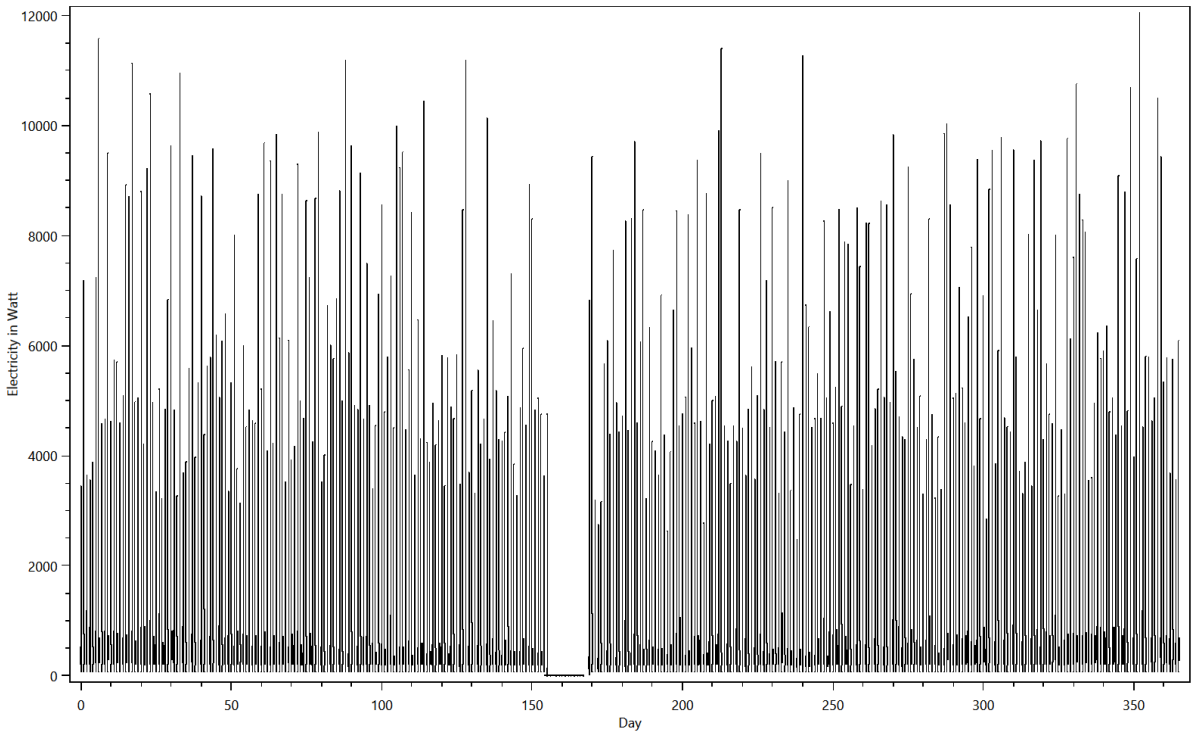
Summed up curve for Cold WaterMinMax from SumProfiles.Cold WaterMinMax..png



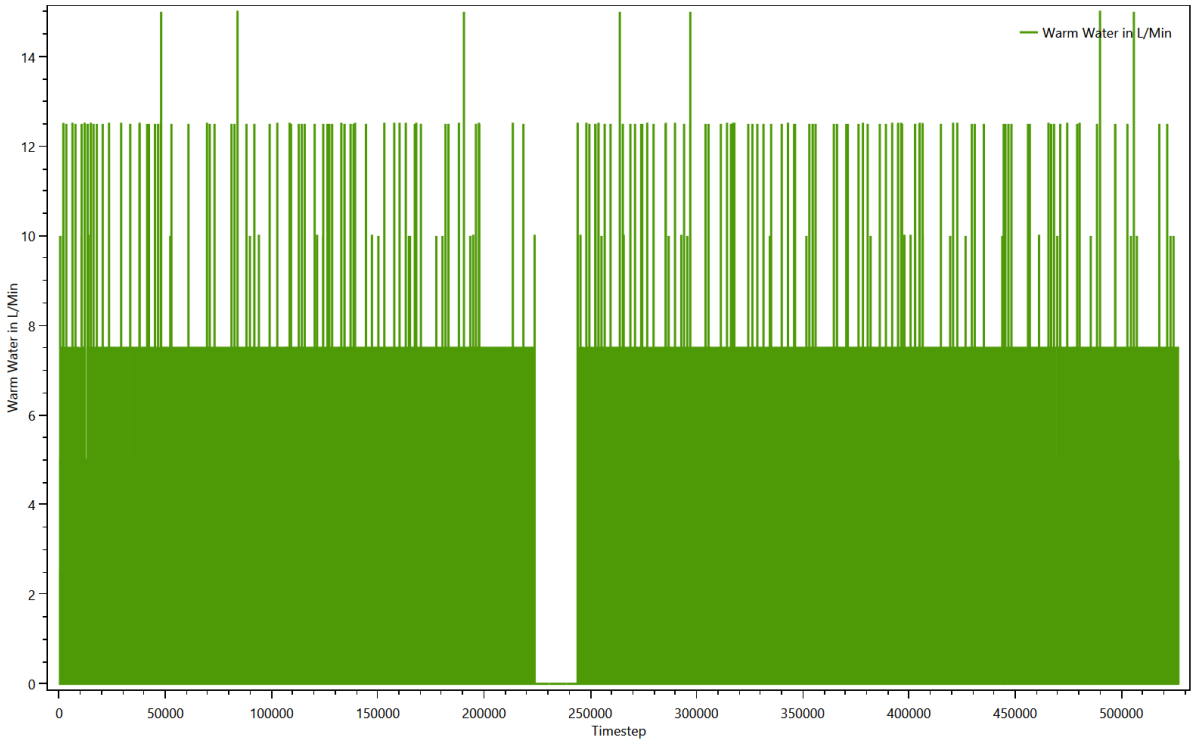
Summed up curve for Electricity from SumProfiles.Electricity.png



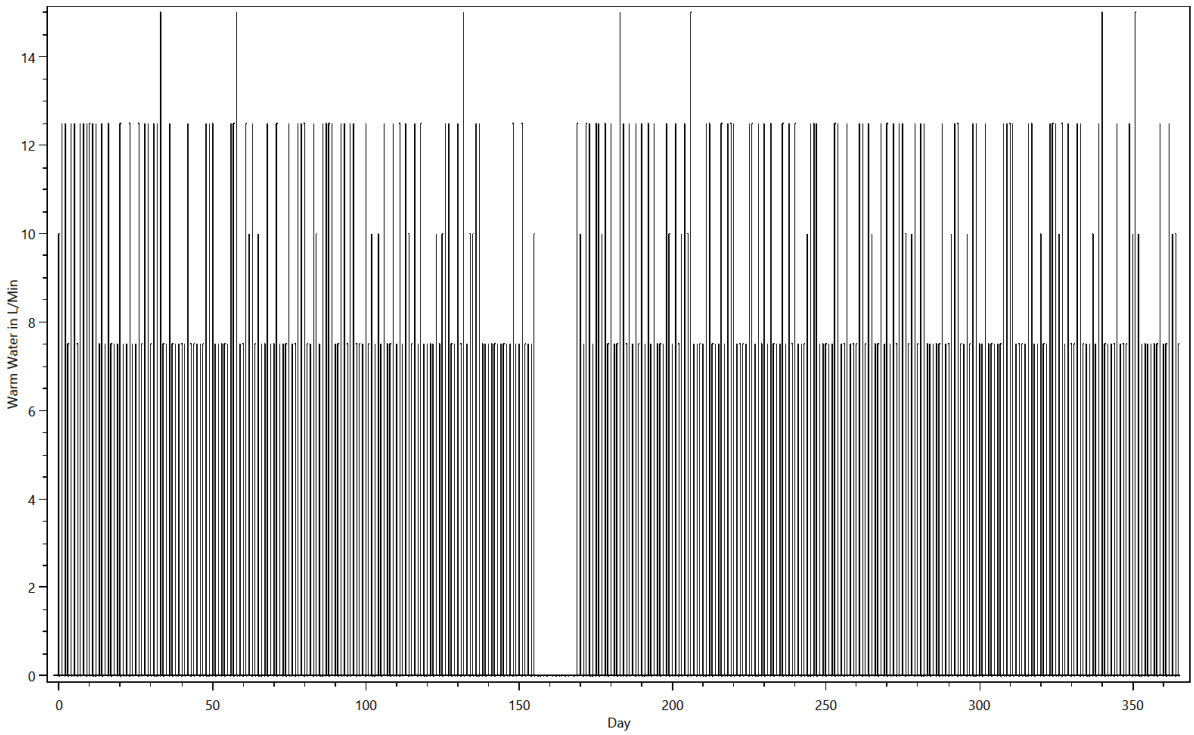
Summed up curve for ElectricityMinMax from SumProfiles.ElectricityMinMax..png



Summed up curve for Warm Water from SumProfiles.Warm Water.png



Summed up curve for Warm WaterMinMax from SumProfiles.Warm WaterMinMax..png



Time Profiles

This is made from the files starting with: Time Profiles

These files show which time profiles were used for each device and how often. The content looks like this:

TimeProfiles.HH0.CHR20 one at work, one work home, 3 children 0.txt

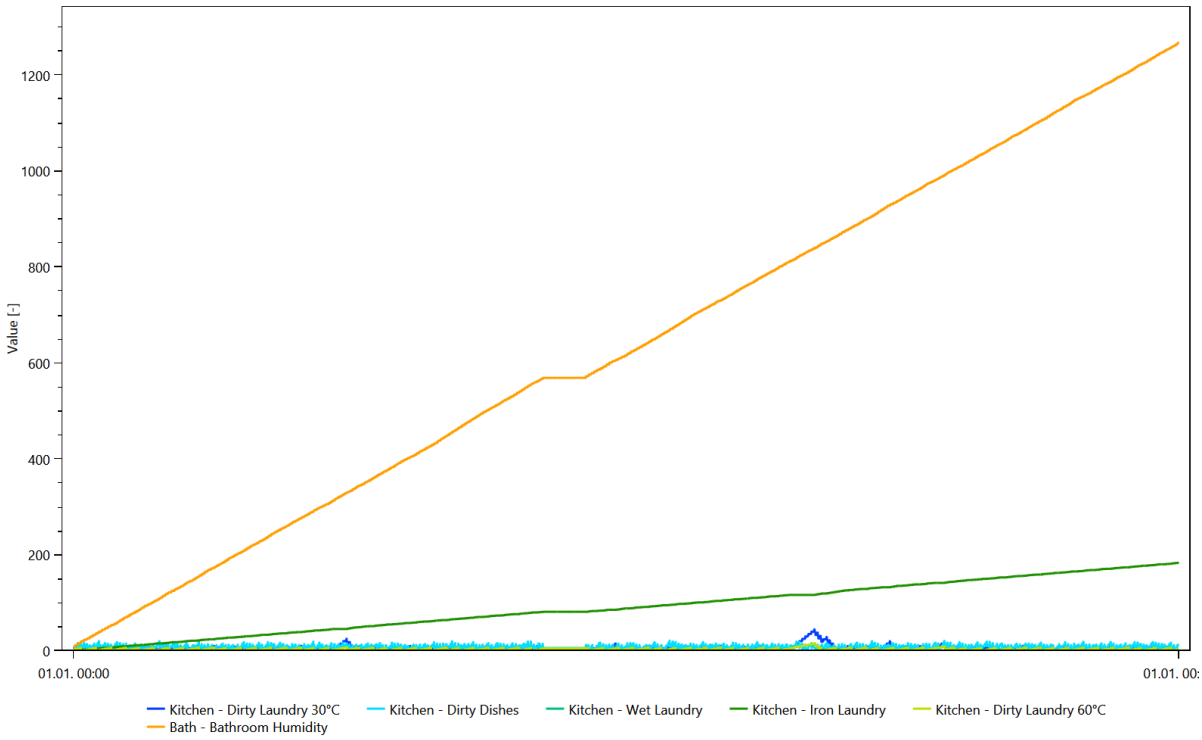
Device;Load Type;Profile;Number of Activations
Bathroom Light (200W);Electricity;Bath - light [Synthetic for Light Device];1586
Bathroom Mirror Light 30W (CFL);Electricity;Bath - light [Synthetic for Light Device];1586
Bathroom Sink 5 L/Min;Warm Water;0 h 01 min 100% [Synthetic];6250
Bathroom Sink 5 L/Min;Warm Water;0 h 01 min 50% [Synthetic];494
Bauknecht GTM 2511;Electricity;0 h 01 min 100% [Synthetic];236
Bauknecht GTM 2511;Electricity;05 h 0 min Fridge, 1h 100%, 4h 0% [Synthetic];1706
Bed 2;None;06 h 0 min 100% [Synthetic];353
Bed 3 (Children);None;08 h 0 min 100% [Synthetic];355
Bed 4;None;10 h 0 min 100% [Synthetic];355
Bed 5;None;10 h 0 min 100% [Synthetic];303
Bed 5;None;12h 0 min 100% [Synthetic];52
Bed 8;None;08 h 0 min 100% [Synthetic];351
Bedroom Light (200W);Electricity;Bedroom - light [Synthetic for Light Device];5
Board Games;None;01 h 0 min 100% [Synthetic];365
Book;None;01 h 0 min 100% [Synthetic];50
Braun Multiquick 3 MR 300 Soup;Electricity;0 h 01 min 100% [Synthetic];31
CD/DVD Player / Philips DVDR 725 H;Electricity;01 h 30 min 100% [Synthetic];734
CD/DVD Player / Philips DVDR 725 H;Electricity;02 h 0 min 100% [Synthetic];86
CD/DVD Player / Philips DVDR 725 H;Electricity;Standby TV / Receiver 1 h 0 min 3% [Synthetic];8432

Variables

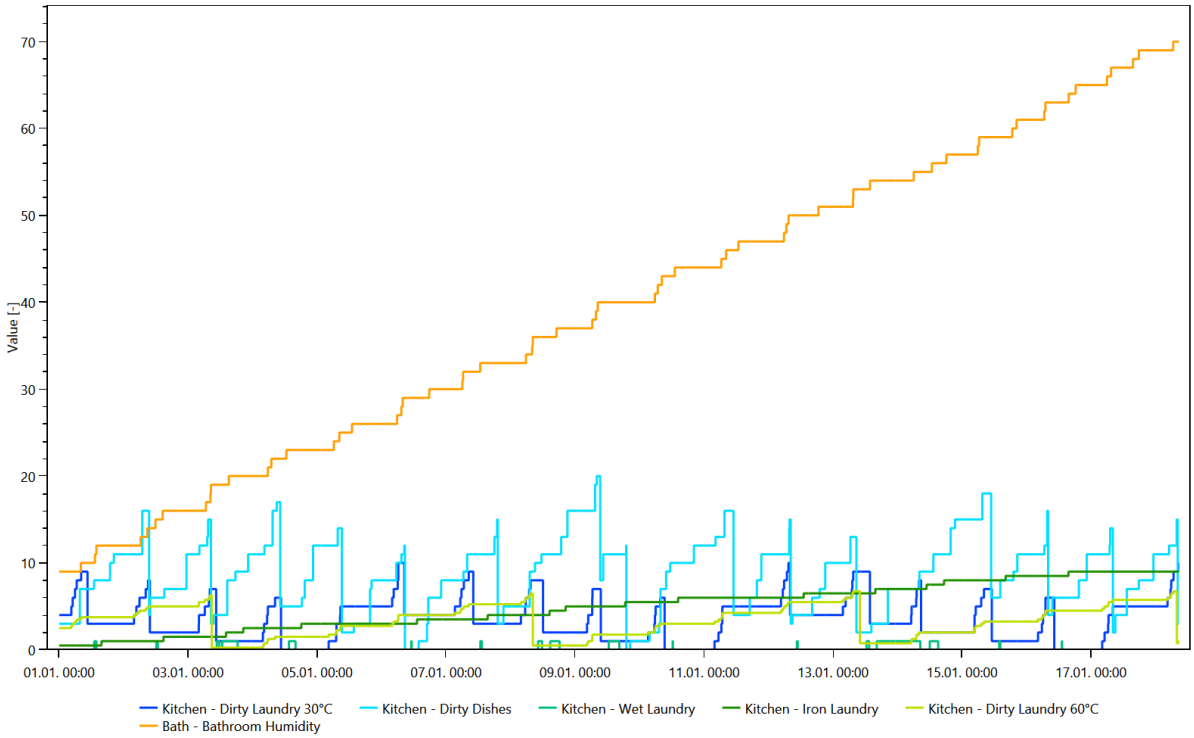
This is made from the files starting with: Variablelogfile

The variables are used to keep track of things like dirty laundry, dirty dishes and the amount of laundry to iron. They are used to ensure that for example the dishwasher is only turned on if there are sufficient dirty dishes. One chart shows the first 25000 timesteps of the contents of all variables, the other shows the entire time span.

Variables



Variables


70
60
50
40
30
20
10
0
Value [-]
01.01. 00:00
03.01. 00:00
05.01. 00:00
07.01. 00:00
09.01. 00:00
11.01. 00:00
13.01. 00:00
15.01. 00:00
17.01. 00:00
Kitchen - Dirty Laundry 30°C
Kitchen - Dirty Dishes
Kitchen - Wet Laundry
Kitchen - Iron Laundry
Kitchen - Dirty Laundry 60°C
Bath - Bathroom Humidity