



Energy Modelling  
Platform for Europe

# EMP-E 2021: Re-Energising Sustainable Transitions in Europe

Energy System Modelling, Methods & Results to  
support the European Green Deal  
26th to 28th October · online

## High resolution time series processing

Leire Astigarraga

26/10/2021- Skills Workshop 2



**goiener**

hosted in cooperation  
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# Introduction

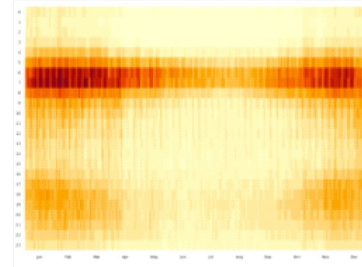
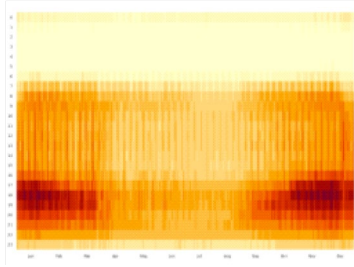
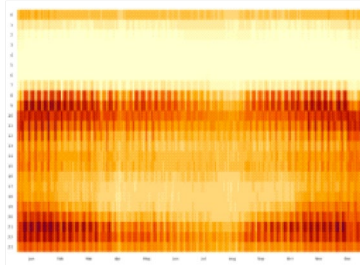
- **Datasets:**
  - *Low Carbon London:* 5,210 time series from households in Greater London (2011-2014)
  - *Irish Social Science Data Archive:* 4,225 time series from households in Ireland (2009-2011)
  - *Goienet & Megara:* 11,840 time series, which may include companies, offices, public institutions, etc. in addition to households (2016-2020, prior to COVID-19 lockdown)
  - *Portugal:* 351 time series from Portugal (2011-2015)
- **Clusters:** 40
- **Objective:** Expert-driven taxonomy and personae description of the 40 clusters

*\*All information was made anonymous before using it to safeguard privacy.*

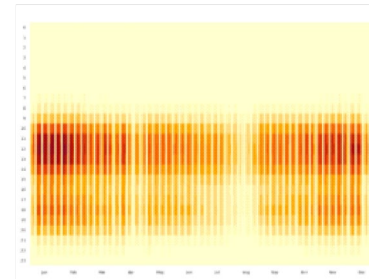
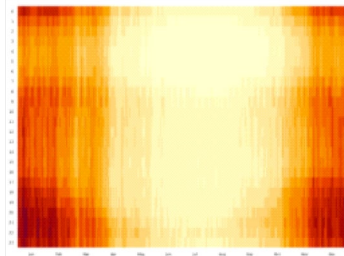
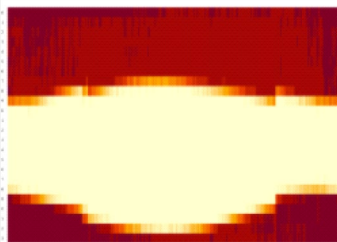
# Expert-driven taxonomy

## STEPS:

1. Understand the heatmaps
2. Write a Personae Description for each heatmap to know what each cluster is doing. 2 main groups will be easily distinguish.
  - Primary residence



- Others

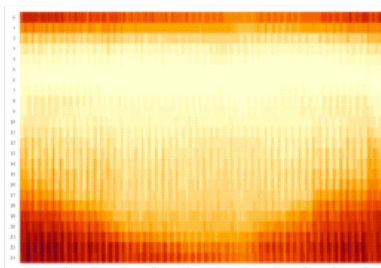


# Expert-driven taxonomy

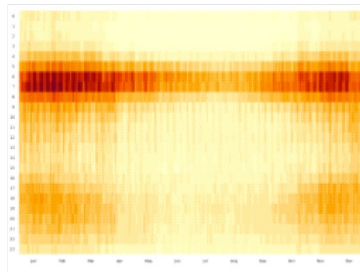
4. Analyse the group of non Primary residence
  - Street lighting
  - Offices or small businesses (Opening hours/days)
  - Secondary residence (weekend/holiday home)
  - Equipment (energy storage/electric heating)
  
5. Analyse the group of the Primary residence
  - Change behaviour at weekend or not?
  - All day at home or not?
  - Electric kitchen hob?
  - Which meals are done at home?

# Expert-driven taxonomy

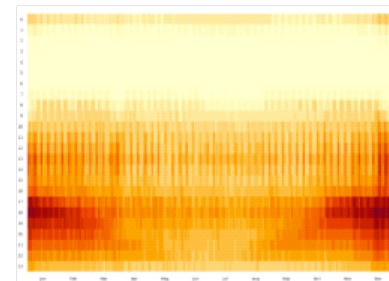
5. With these basic questions, create different subgroups.



*Change behaviour at weekend  
+ not all day at home*



*Change behaviour at weekend  
+ not all day at home+ electric  
kitchen + breakfast*



*No change behaviour at weekend  
+ all day at home+ dinner*

6. Important to have feedback from others

# Personae description

**OBJECTIVE:** The objective is to see who is answering these simple questions, the description of the real person and the personae description written are the same/similar.

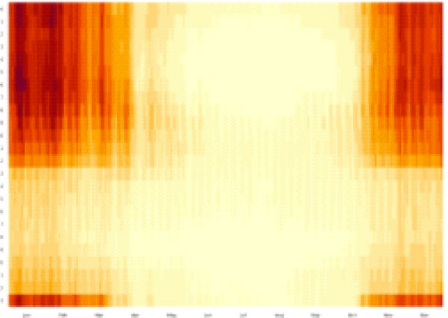
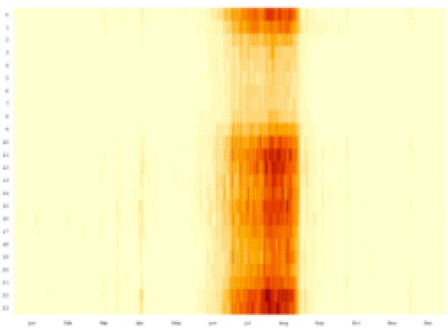
**This will be tested on the future.**



# Personae description

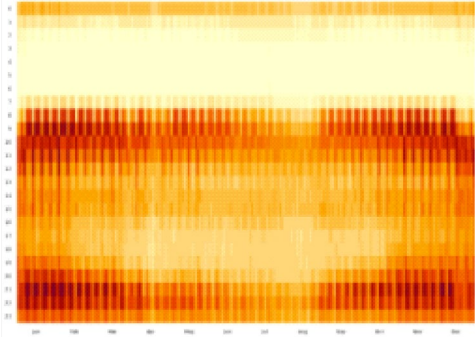
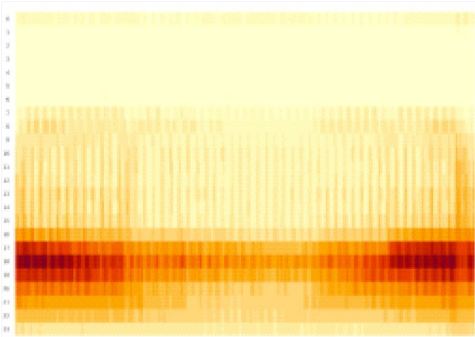
## STEPS:

1. Personae description of non Primary residences

	<p>Mainly programmed off-peak accumulation heaters.</p>
	<p>Summer house, July and August. They do not follow a pattern. Wake up around 8-9 am. They go late to sleep, 2 am. Most of the days lunch and dinner at home. They have air conditioning at home.</p>

# Personae description

## 2. Personae description of Primary residences

	<p>Someone is at home during the mornings. Lunch and dinner at home. Saturday and Sunday mornings at home. Break rhythm in August, but they stay at home.</p>
	<p>Working away from home. Waking up early in the morning and leaving home around 9. Then, coming back at 16h. Weekends for resting. They follow the same pattern in summer holidays.</p>

3. After finishing the taxonomy, read and compare again each one. Especially the description of the Primary residences. Make sure that each of the questions are answered in the description.





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# Thank you



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