

#### Workshop:

### Behavioural Change towards EE by Utilizing ICT Tools

Session 4: Preliminary Result

Presentation

Angelina Katsifaraki





#### **UtilitEE**

 Utility Business Model Transformation through human-centric behavioural interventions and ICT tools for Energy Efficiency



## Ongoing validation activities

**Behavioural Segmentation** of end-users based on questionnaires distributed through the end-user app - *Completed* 

Behavioural Change
Campaign definition based
on the business models
investigated per demo
partner - Ongoing

Campaign result analysis based on specific KPIs – User engagement & response, targeted energy efficiency etc. -Upcoming

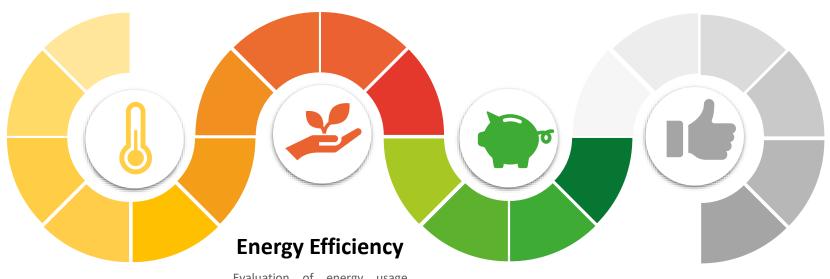


## Campaign definition

- A number of campaigns have been defined by the demo partners at all participating countries
- Both residential and commercial users have been taken into account
- Common business model under focus for all demo partners: *Comfort preserving Energy Efficiency*
- Frequency and phrasing of the recommendations dispatched to the end users depend on multiple factors including: behavioural segmentation of target group, business model under investigation, defined targets.



### **Key Performance Indicators**



#### **Indoor Comfort**

Evaluation of the system capacity to maintain indoor comfort according to the end-user's preferences

Evaluation of energy usage reduction due to the UtilitEE framework

#### **Cost Effectiveness**

Evaluation of the cost effectiveness of the UtilitEE framework

#### **User Acceptance**

Evaluation of user engagement and participation to the behavioural change campaigns



## COVID-19 Crisis: Challenges and Opportunities



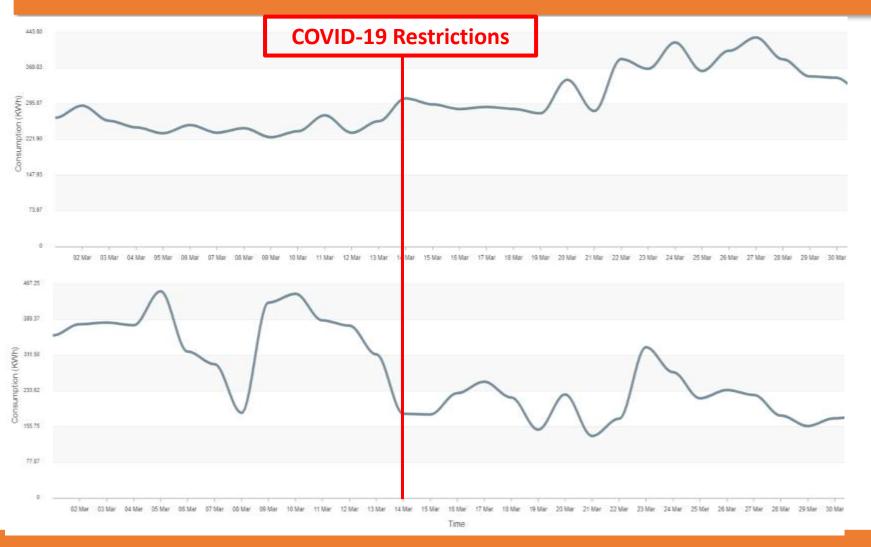
- Difficulty in accessing end-user premises for restoring hardware issues
- Reduced occupation of commercial buildings as working from home is often preferred
- Irregular energy consumption of residential users difficult to interpret the received results

- Opportunity to observe the end-users energy behaviour during times of crisis & investigate persistency of energy efficient habits
- New energy usage habits emerging
- Residential users have more time to interact with the Utilitee Behavioural Change framework





# Portfolio overview - Beginning of COVID-19 crisis



Residential portfolio Spanish pilot

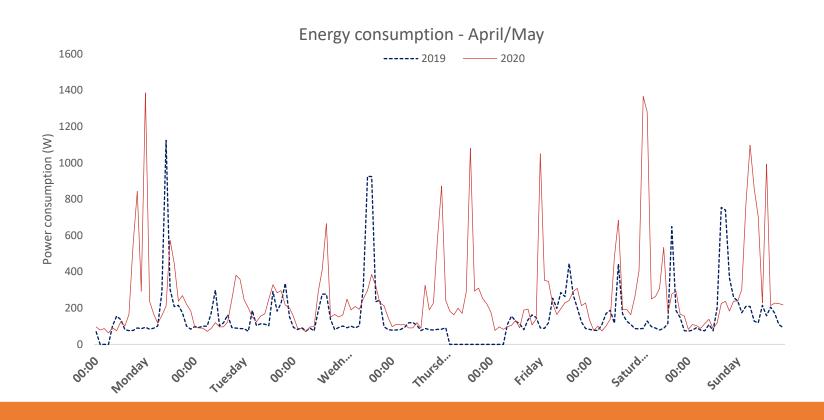
**Commercial portfolio Spanish pilot** 





## New patterns of energy consumption due to COVID-19

**Observation #1:** The power usage in 2020 tends to be higher & more distributed throughout the day





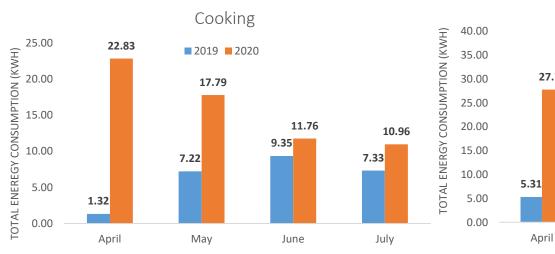


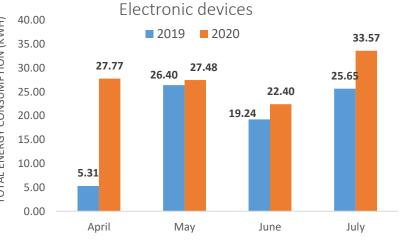
#### New patterns of energy consumption due to COVID-19

**Observation #2:** Tendency to maintain some of the energy consumption habits regarding specific activities/categories formed during the COVID-19 lockdown especially in family households

Devices under these activities/categories:

- Cooking: Stove kitchen
- **Electronic devices:** Laptop/TV/tablet
- Cleaning: Washing Machine Dishwasher



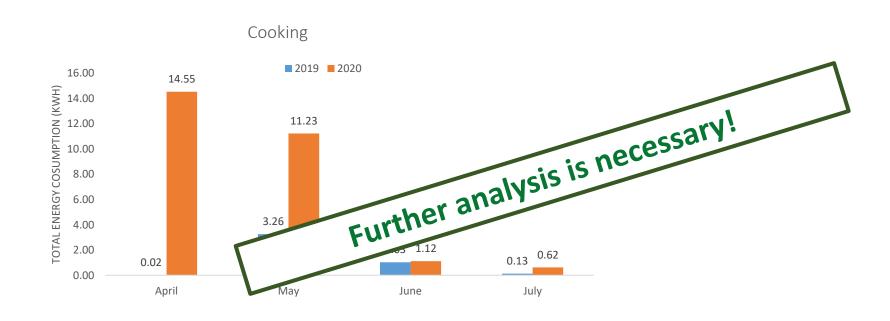


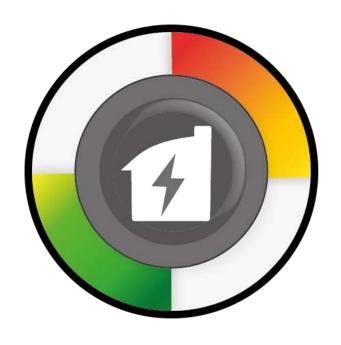




### New patterns of energy consumption due to COVID-19

**Observation #3:** Tendency of smaller households (1-2 residents) to resume the consumption habits of the period preceding the lockdown, or remain unaffected by the crisis situation





# Thank you!

www.utilitee.eu







in. UtilitEE

Call: H2020-EE-2016-2017 *Topic: EE-07-2016-2017* 

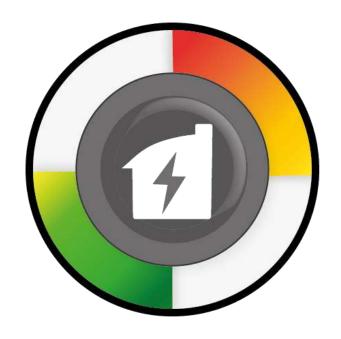
*Duration: Nov 2017 – Oct 2020 (36 months)* 

**Project Coordinator** 

Antonis Papanikolaou HYPERTECH S.A. a.papanikolaou@hypertech.gr **Project Manager** 

Evangelos Zacharis, PhD HYPERTECH S.A. e.zacharis@hypertech.gr





#### **Partners**























#### **UtilitEE**

 Utility Business Model Transformation through human-centric behavioural interventions and ICT tools for Energy Efficiency