

IEA EBC Annex 71

Building energy performance assessment based on in-situ measurements

Participant

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Overview



Follow-up of IEA EBC Annex 58

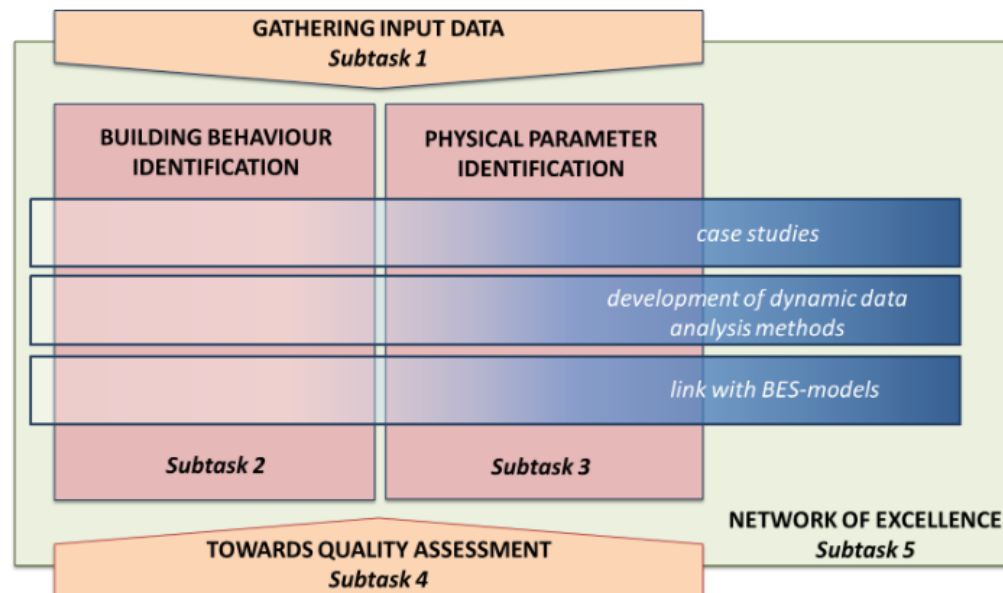
Coordinator: Staf Roels, K.U. Leuven

Objectives

- support the development of replicable characterisation and quality assurance methodologies embedded in a statistical and building physical framework to characterise and assess the actual energy performance of buildings
- disaggregate the building energy use to its three main sources: building fabric, systems and users.

Deliverables

- dynamic data sets that can be used for developing dynamic data analysis procedures and for validation purposes
- a series of reports covering: reliability of input data for onsite building performance assessment, dynamic data analysis methods that can be used to disaggregate occupant influences / fabric and systems at the building level, case studies, guidelines (possibilities and limitations) to apply the methods in quality assessment procedures, etc.
- collaboration with Dynastee, the network of excellence on full scale testing and dynamic data analysis.



Agenda

- October 2016 – Leuven (BE)
- April 2017 – Loughborough (UK)
- October 2017 – Chambéry (FR)
- April 2017 – Brussels (BE)
- October 2018 – Innsbruck (AT)
- April 2019 – Bilbao (ES)
- October 2019 – Rosenheim (DE)
- April 2020 – Trondheim (NO) – **cancelled**

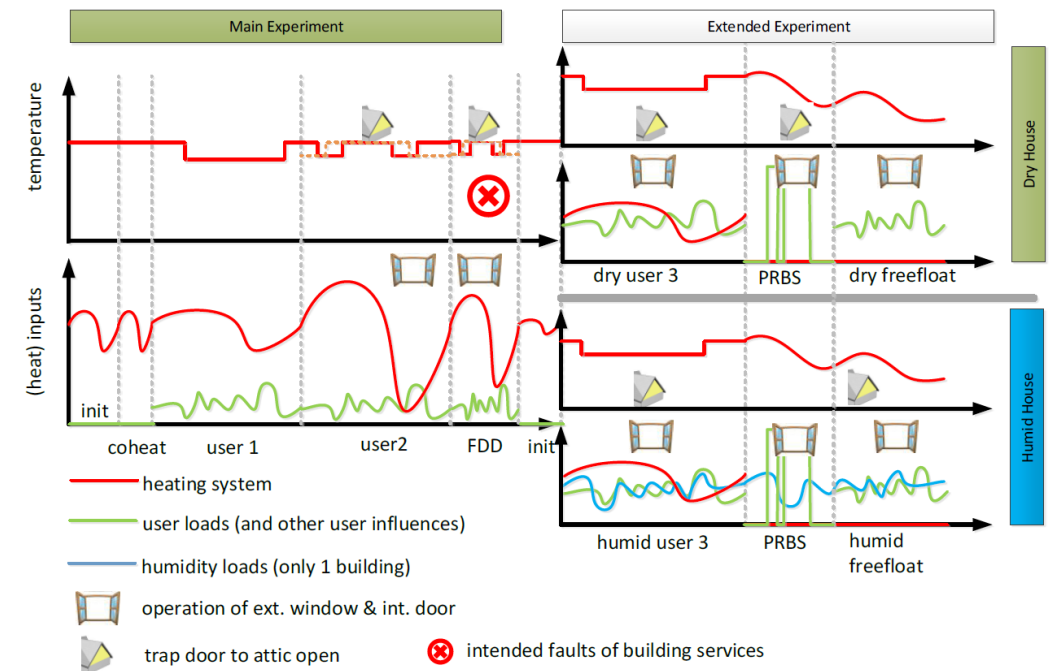
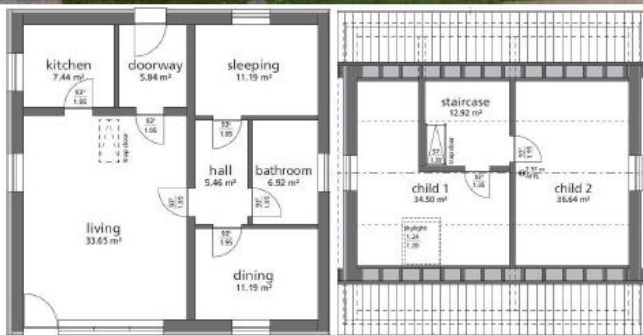
End of the Annex in May 2021

Subtask 1: gathering input data

Monitored occupied houses



Unoccupied test houses with planned experiments

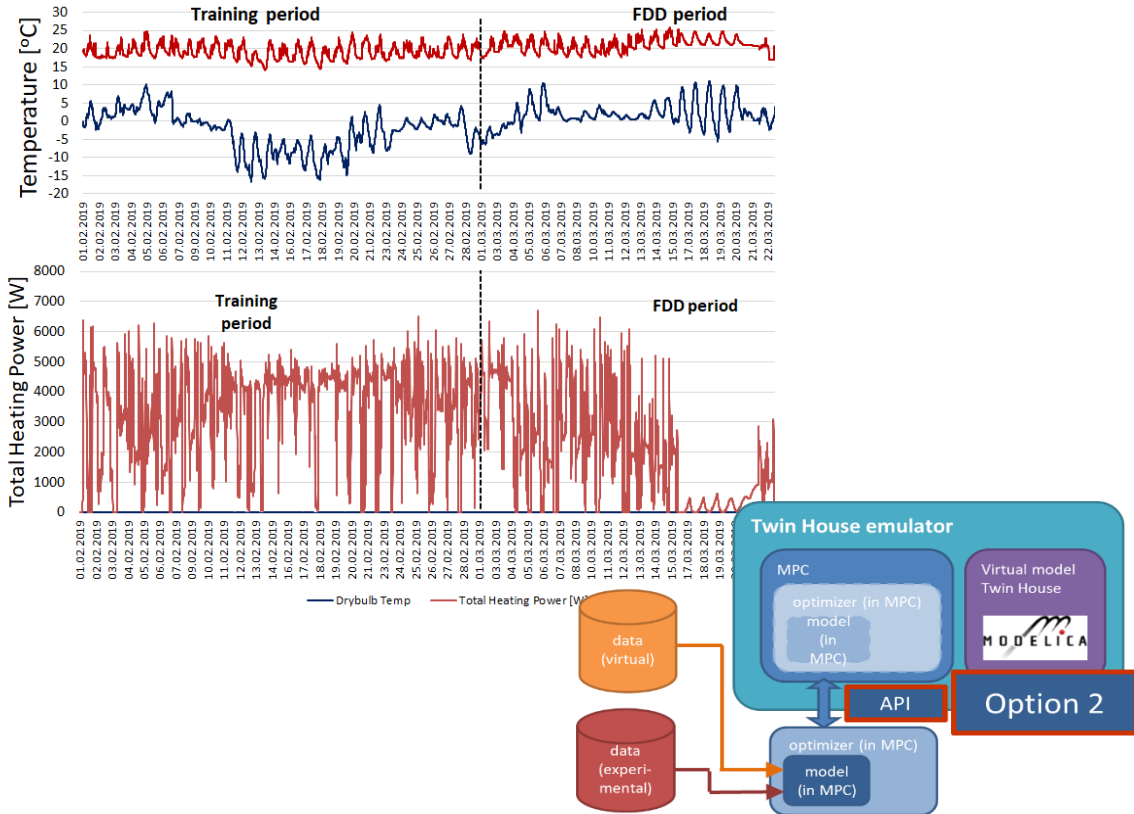


Subtasks 2 and 3

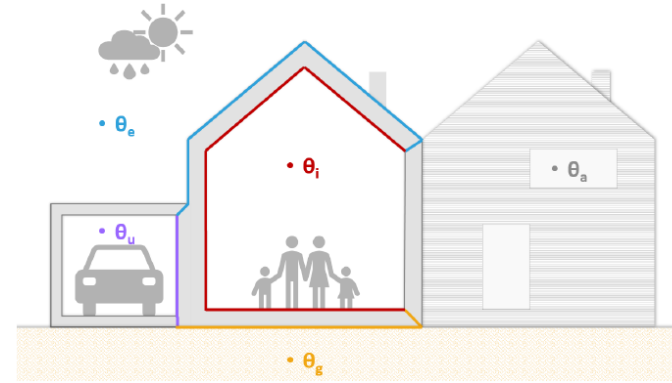
Subtask 2: building behaviour identification

Focus on training predictive models for:

- Fault detection and diagnosis
- Model predictive control

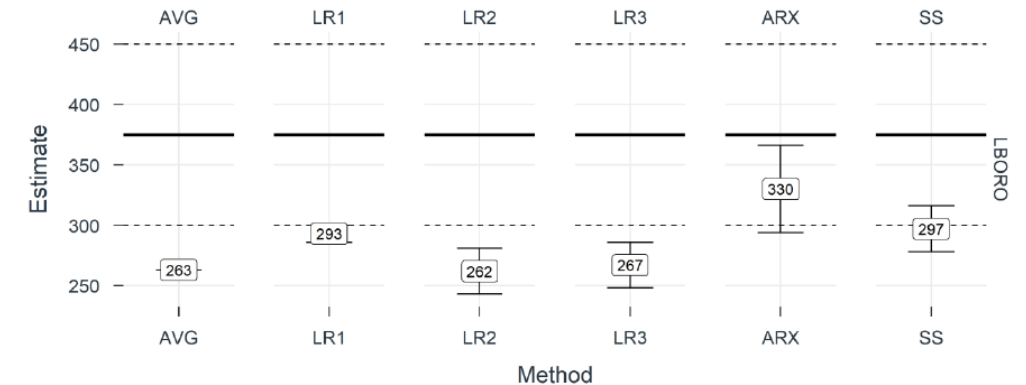


Subtask 3: physical parameter identification



Report includes:

- Building physical framework
- Statistical modelling approaches
- Determination of input variables, impact of different assumptions on the results



Une relation gagnant-gagnant



USMB
Simon Rouchier (MCF)
Sarah Juricic (thèse puis postdoc)
Loïc Raillon (postdoc)

Points forts de la participation à l'Annexe

- Donner de la perspective à notre travail
- Echanges sur les méthodes et les résultats, évaluation mutuelle
- Visibilité internationale
- Complémentarité des compétences, moyens expérimentaux...
- Publications communes

Temps, organisation d'un meeting
Expertise et méthodes
Participation aux exercices
Participation à la rédaction

Données
Expertise et méthodes
Retours
Visibilité et réseau

Points faibles

- Pas de financement, pas de moyens humains propres à l'annexe
- Nécessité de voir plus loin que ses propres projets

Ingrédients nécessaires pour une annexe réussie

- des participants disponibles et motivés pour construire un projet commun en dehors de leurs propres projets

