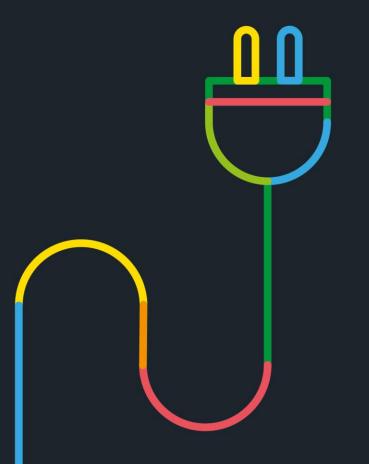
ALDREN Alliance for Deep RENovation in buildings."



ALDREN - GEOTABS public meeting Copenhagen Task 2.3 in ten minutes!



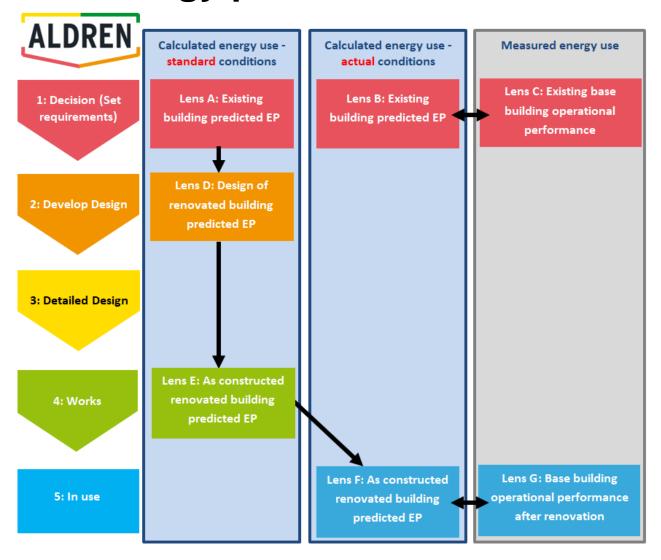


Task 2.3: Energy performance verification

This ALDREN task is about the verification of energy performance and includes:

- A protocol to follow which documents the renovation process on an individual project
- A verification tool to capture monthly predicted and measured performance by energy end-use
- A translation of the verification tool into multiple European languages

Task 2.3: Energy performance verification





Design for testability protocol

1: DECISION (SET REQUIREMENTS)

Stakeholder commitment

EU CEN standard simulation

Energy audit

2: DEVELOP DESIGN

Calibrate model

Agree improvements

Dynamic modelling or QUANTUM

Outline
Description of
Operations

Set performance target

Independent design review

3: DETAILED DESIGN

Final design

Metering plan or application of QUANTUM testbench

Develop
Description of
Operations

4: WORKS

Defend against value engineering

Handover and commissioning

Finalise
Description of
Operations

Calculate asset rating

Intensive fine tuning against Description of Operations 5: IN USE

Track metered against predicted performance or apply QUANTUM testbench

Diagnose and implement improvements

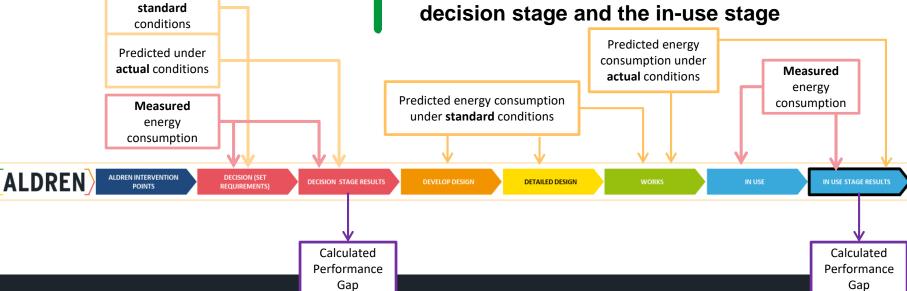




Performance verification tool

Predicted under

- To be used in parallel with the Design for testability protocol
- Tracking tool to signpost and monitor energy performance at multiple stages of the renovation
- Is a repository for predicted and measured energy consumption throughout the ALDREN process
- Calculates the performance gap at the



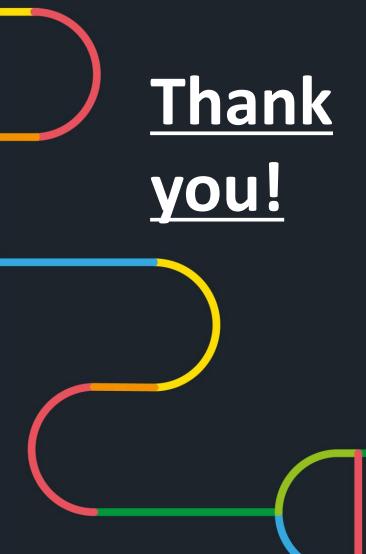




PVT case study illustration

	Heat	Coolth	Equip gas	HVAC Fans	HVAC Pumps	Total lights	Equip electricity	Total electricity
Nov	-21%	-4%	34%	-17%	-1354%	-41%	23%	-6%
Dec	-59%	-235%	36%	-27%	-1448%	-39%	19%	-9%
Jan	-117%	19%	30%	-34%	-1706%	-48%	24%	-9%
Feb	-121%	-250%	28%	-27%	-1960%	-57%	23%	-12%
Mar	-77%	-233%	36%	-34%	-1666%	-75%	21%	-18%
Apr	-71%	26%	34%	-35%	-836%	-115%	13%	-28%
May	-71%	26%	30%	-45%	-367%	-127%	12%	-31%
Jun	-86%	20%	34%	-37%	-205%	-118%	13%	-26%
Jul	-74%	14%	34%	-35%	-160%	-114%	15%	-23%
Aug	31%	12%	34%	-41%	-182%	-121%	13%	-27%
Sep	29%	7%	34%	-34%	-274%	-113%	13%	-25%
Oct	-83%	36%	30%	-41%	-783%	-81%	19%	-21%
Totals	-56%	11%	33%	-34%	-470%	-86%	17%	-20%









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