



European
Commission



SUSTAINABLE ENERGY
WEEK 24 - 28 JUNE 2013

EU SUSTAINABLE ENERGY WEEK 24-28 JUNE 2013



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26 June 2013

Energy

BEEM-UP Objectives

- BEEM-UP Stands for “Building energy efficiency for massive market uptake”.
- Main objective: to demonstrate the economic, social and technical feasibility of retrofitting to drastically reduce energy consumption in existing buildings, and lay the ground for market uptake.
- 3 demonstration buildings, 340 dwellings.
- Goal: 75% energy demand reduction.



BEEM-UP Common methodology for retrofitting

- Analysis of Status Quo: Passive and active systems.
- Input from Building owners: Restrictions, KPIs, objectives...
- Development of reasonable measures: Energy savings vs investment costs.
- Setting up scenarios/combination of measures.
- Evaluation of the Scenarios
- Optimization and planning.

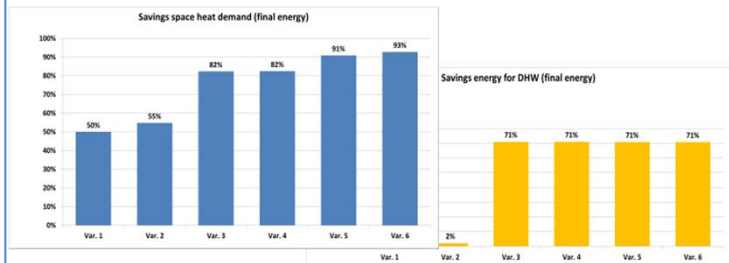


BEEM-UP Common methodology for retrofitting

- Evaluation of the Scenarios: Paris demo example

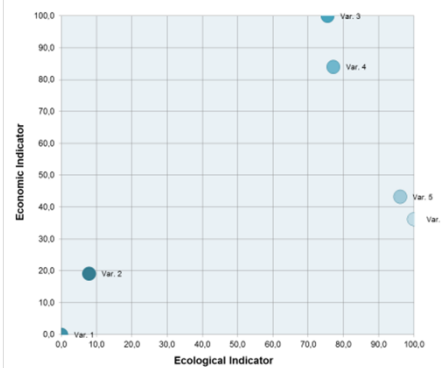
Energy savings

Paris



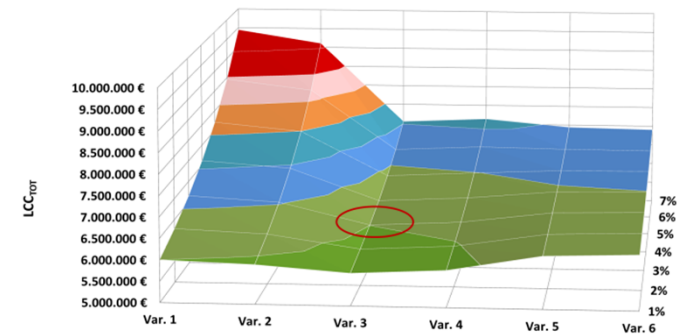
Eco efficiency

Tradeoff Assessment LCC / CED



Life cycle costs

Sensitivity analysis for energy price increase



BEEM-UP Common methodology for retrofitting

- Optimization and planning: Paris demo example

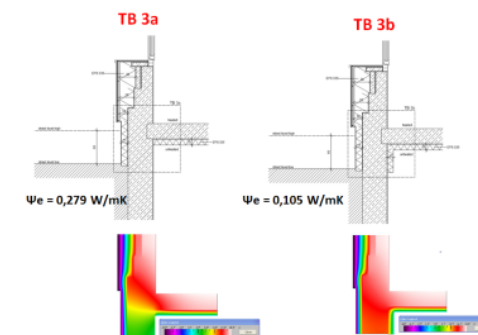
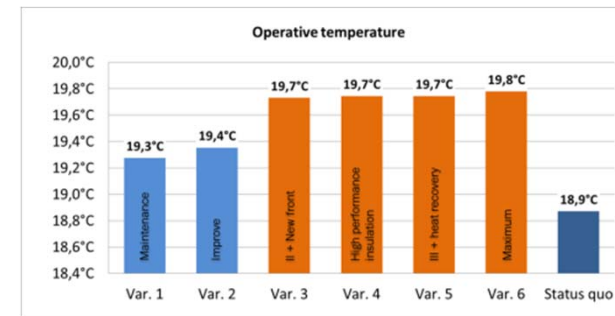
Paris

SUMMER VENTILATION

Building: ICF - Rue du Cotentin 97 Building Type/Use: Residential Building
 Location: Paris Building Volume: 10880 m³

Description	Day OF		Night OF		m/s
	50%	50%	80%	80%	
Fraction of Opening Duration	4	4	1	1	
Climate Boundary Conditions					
Temperature (Difference - Exterior)	1	1	0	0	K
Wind Velocity	1	1	0	0	m/s
Window Group 1					
Quantity	10	100	10	100	
Clear Width	0,84	0,84	0,84	0,84	m
Clear Height	1,92	1,92	1,92	1,92	m
Tilting Windows?	x	x	x		
Opening Width (for tilting windows)	0,050	0,050	0,050	0,050	m
Window Group 2 (Cross Ventilation)					
Quantity			30		
Clear Width			1,30		m
Clear Height			1,80		m
Tilting Windows?			x		
Opening Width (for Tilting Windows)			0,050		m
Distance in Height to Window 1			0,00		m
Single-Sided Ventilation 1 - Airflow Volume	362	3623	177	29680	0
Single-Sided Ventilation 2 - Airflow Volume	0	0	0	585	0
Cross Ventilation Airflow Volume	362	3623	177	50246	0
Contribution to Air Change Rate	0,02	0,17	0,01	2,22	0,00

Summary of Summer Ventilation Distribution		Daily Average Air Change Rate
Decision Ventilation Type		2,24 1/h
Nighttime Window Ventilation		0,18 1/h
Daytime Window Ventilation		1/h



BEEM-UP Success stories up to date

Swedish demo:

- Passive House Standards followed
- Saving numbers;
 - ✓ 8 apartment types.
 - ✓ Average demand reduction; 89%.
- Works:
 - 42 flats ready, 21 under construction
 - 66 to go.
- Monthly updates on retrofit processes



Brogården
Alingsås,
Sweden

- Built in the 1970s
- Owner:
Alingsåshem

BEEM-UP Success stories up to date

French demo:

- Number of dwellings: 87 before, 82 after retrofitting
- Estimated duration of work: 14 months (start 04/13)
- Expected savings; 83% energy demand reduction.



Cotentin Falguière Paris, France

- Built in the 1950s
- 87 apartments
- Owner: ICF Novedis



BEEM-UP Success stories up to date

Dutch demo:

- 6 apartment types.
- Self decision options:
 - Eg: Solar or condensing boiler
 - Rent increase from 5 to 55€/month
- Average 76% demand reduction.
- Free energy display offer



- Van der Lelijstraat**
Delft, Netherlands
- Built in the 1950s
 - 108 apartments
 - Owner:
Woonbron



BEEM-UP Tenants' involvement

Goal: To find out what level of tenant involvement is practical and affordable in renovation projects.

SWEDEN

- Open houses in.
- Individual discussions
- Newsletter
- Union of tenants

FRANCE

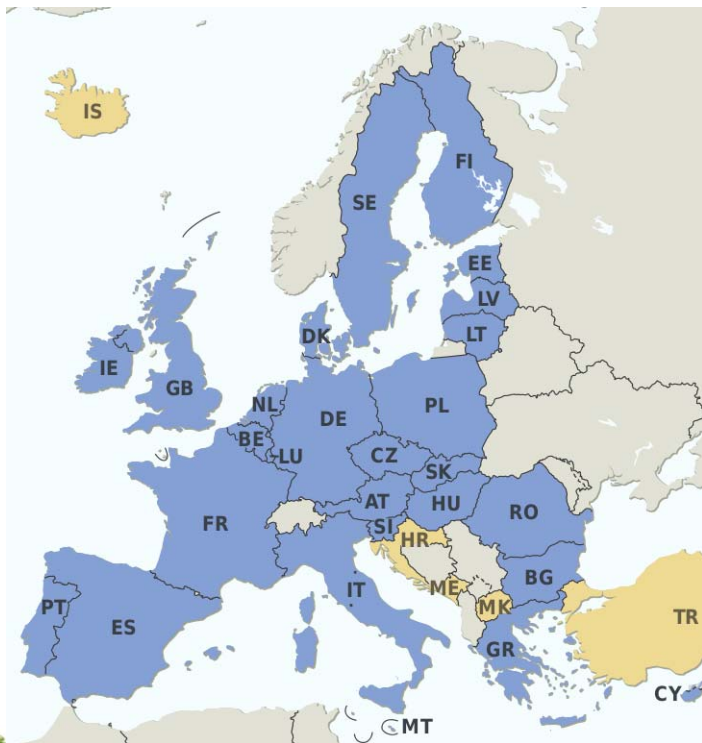
- Identify tenants' targets and expectations.
- Involve tenants from the beginning.

HOLLAND

- Group has build own website
- Sinterklaas (Dutch Santa Clause) and Christmas party are being organized

Expected impact

First version of the exploitation plan ready



- EU 27
- EU 27 "Eastern Europe"
- Candidate countries



The collage features several documents from Alingsåshem, a real estate agency. It includes a newspaper clipping from 'Brogårdsbladet' with the headline 'Hyror och lediga lägenheter i maj 25'. Below the clipping is a table listing rental properties with columns for 'Lgh.Nr', 'Lgh.Nr', 'Adress', 'Vån.', 'Kv.', 'Balk.', and 'Vårskatt'. The table contains several rows of data, such as '2.Rok 8148 27 A 0 80 1.500 444'.