

EU HORIZON 2020 CRAVEZERO: Life cycle cost reduction and market acceleration for nearly zero-energy buildings

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Tobias Weiß – AEE INTEC

t.weiss@aee.at



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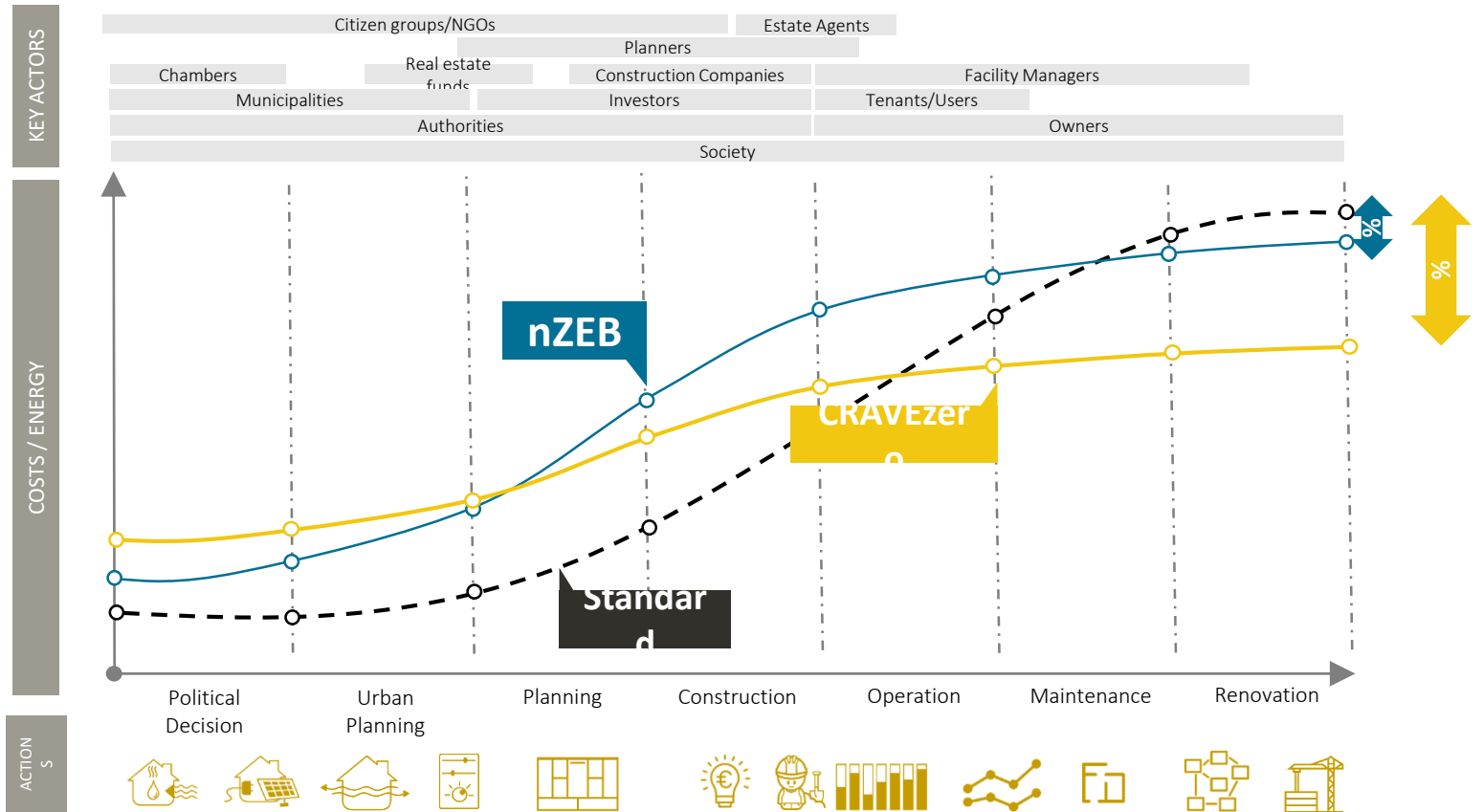
CRAVEzero: Lessons learned from 18 Nearly zero energy buildings



Source: cravezero.eu



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Interactive Process Map

Life Cycle Costs

Technology Costs

Core Studies

Decision Map

Process Management

Business Models

Cost Database

Process Tracker

LCA Tool

Study to CHAS Extra Work

regional planning

national planning

urban planning

infrastructure planning

PROCESS

Efficiency

set up to achieve targets for economic justice

set up to achieve targets for resource justice

set up to achieve targets for integrated planners

set up to achieve targets for environmental planners

political decision and urban planning

regional planning and urban planning

a. National Spatial Development Perspective; b. National Development Council; c. National Development Council; d. National Development Council

High quality nearly zero energy building

Financial

- Additional nZEB costs: 300.00 €/m²
- Funding: 60.00 €/m²
- CapEx capital on bank loan: Early CapEx
- Bank loan duration: 8.00 years
- CO₂ follow-up costs: 40 €/t CO₂e

Energy

- Heating demand: 80.00 kWh/m²/a
- Cooling demand: 0.00 kWh/m²/a
- Electricity demand: 20.00 kWh/m²/a
- On-grid: 20.00 kWh/m²/a
- Pro-grid self-consumption: 80.00 kWh/m²/a

Added Values

- Value reduction due to hq nZEB: 0 %
- Reduced vacancy: 0 %
- Higher rent: 0 %
- Lower rental of building: 0 €/m²/a
- Reduced maintenance costs: 0.00 €/m²/a
- Number of press clippings: 0

Results - nZEB Business Benefits

The top chart displays annual cash flow (€M) from Year 0 to Year 30. The y-axis ranges from -200 to 1200. The bars are stacked with the following series: Additional costs (red), Reduced costs (orange), Additional income (yellow), Reduced income (green), and Net income (light green). The cash flow starts negative in Year 0 and becomes positive from Year 1 onwards, reaching a steady state around 1000 €M per year.

The bottom chart displays the cumulative savings total (€M) from Year 0 to Year 30. The y-axis ranges from -200 to 400. The line graph shows the cumulative savings total starting at -200 €M in Year 0 and increasing steadily to approximately 350 €M by Year 30. The legend indicates: Additional costs (red), Business benefits (orange), and Cumulative savings total (green).

The screenshot displays the LCC Tool interface. On the left is a navigation menu with options: Home, Life Cycle Costs, Designation Calc., Cost Modeling, Process Mapping, Process Management, Business Models, Cost Database, Process Tracker, LCC Tool, and About Us. The main area is titled "LCC Tool" and contains a table of external costs, a summary bar, and a bar chart.

External costs	Unit	Value	Unit	Value	Unit	Value	Unit	Value
External elements fixed to material			0	1.0%		0		
50: Structural elements			0	3.0%		1		
100: Other elements			0	3.0%		1		

Below the table, a blue bar indicates "100% External elements fixed to material".

The bar chart, titled "LIFE-CYCLE COST (per year) (€)", shows the cumulative cost over 10 years. The Y-axis ranges from 0 to 2500. The chart is divided into two series: "Preliminary design & Definition phase" (dark blue bars) and "Construction phase" (light blue bars). The total cost increases steadily over the 10-year period, reaching approximately 2200 € by year 10.

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WWW.CRAVEZERO.EU

nZEB Toolbox: PINBOARD.CRAVEZERO.EU