The European Affordable Housing Plan

ECEC – Affordable Housing MCDA

*Roberto Orvieto – **ECEC** Vice-President*

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EU is responding to the housing crisis with « The European Affordable Housing Plan »

across Europe, there is a palpable feeling of injustice for unaffordability and unavailability of housing



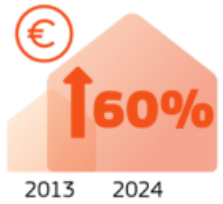
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EU is responding to the housing crisis with « The European Affordable Housing Plan »

"A home is not just four walls and a roof. It is safety, warmth, a place for family and friends. It is belonging. But for too many Europeans today, home has become a source of anxiety. It can mean debt or uncertainty."

– President von der Leyen, 2025 State of the Union address

the key indicators:



Increase in **house prices** since 2013 across the EU, faster than household income.



Growth of **average rents** with new rents growing significantly more.



Residential building permits since 2021.



Dwellings unoccupied.

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EU is responding to the housing crisis with « The European Affordable Housing Plan »

INVESTMENTS in HOUSING SUPPLY markedly declined over the last decade

SUPPLY has not kept up with strong evolving DEMAND due to

- higher construction costs
- innovation deficits
- shortages of skilled labour and
- excessive red tape

the **European Affordable Housing Plan** is **based on 4 pillars**

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The European Affordable Housing Plan is based on 4 pillars



Boosting housing supply

Removing barriers and **enhancing efficiency within the construction sector** to meet housing demands: Strengthening the productivity and innovation in construction; Cutting red tape to accelerate housing supply; **Combining affordability, sustainability and quality in housing**



Mobilising investment

Encourage both public and private investments to address the housing investment gap to make **housing more affordable and sustainable**



Enabling immediate support while driving reforms

Initiate immediate support mechanisms while paving the way for comprehensive reforms in spatial planning, social housing, and detaxation, **reducing complexity** to **enhancing housing supply**



Protecting the most affected

Implement focused initiatives to **safeguard vulnerable groups** and improve their **access to stable housing**: Housing for young people, Preventing and addressing homelessness, Expand social housing and **support people in vulnerable situations**

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The European Affordable Housing Plan
held and coming in 2026 -2027



summit where experts, policymakers, and stakeholders gather to share insights, drive discussions, and establish actionable solutions for housing challenges across the EU



housing Alliance will convene stakeholders and facilitate the exchange of successful strategies and collaborative solutions for housing policy implementation

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The European Affordable Housing Plan coming in 2026 – Housing Summit

in response to this, ECEC and ECCE published a policy paper:

ECEC AND ECCE POLICY PAPER

A European Engineering Vision for Affordable, Safe and Sustainable Housing



The Organizations call for a coordinated approach to the housing deficit, based on an innovative-driven European strategy — one that empowers engineers, architects and urban planners to deliver sustainable, industrialized and affordable housing solutions at scale

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The European Affordable Housing Plan
ECEC - ECCE POLICY PAPER

financing mechanisms should explicitly reward projects that

- Demonstrate resilience over a 50 to 100 – year design life.
- Prioritise adaptive reuse rather than new construction.
- Apply digital traceability (digital passports) to ensure transparency in life-cycle carbon and maintenance budgets.
- Use Sustainable Structural Design (SSD) to minimise carbon footprint and increase resilience.

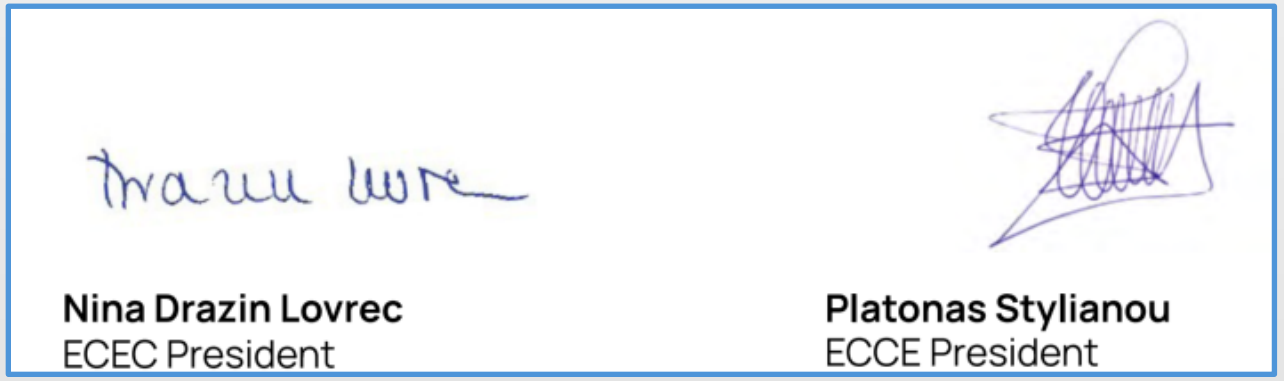
Both organisations also propose an EU-level incentive for maintenance investment, recognising that well-maintained buildings reduce long-term costs and enhance both housing safety and healthy living conditions.

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the key message

> “ Europe must deliver housing
> that is affordable for its citizens
> and engineered to be
> **Safe, Resilient and Sustainable.**”



Nina Drazin Lovrec
ECEC President

Platonas Stylianou
ECCE President

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What Makes Housing Affordable?



DEFINITION OF HOUSING AFFORDABILITY

accepted across EU Member States:

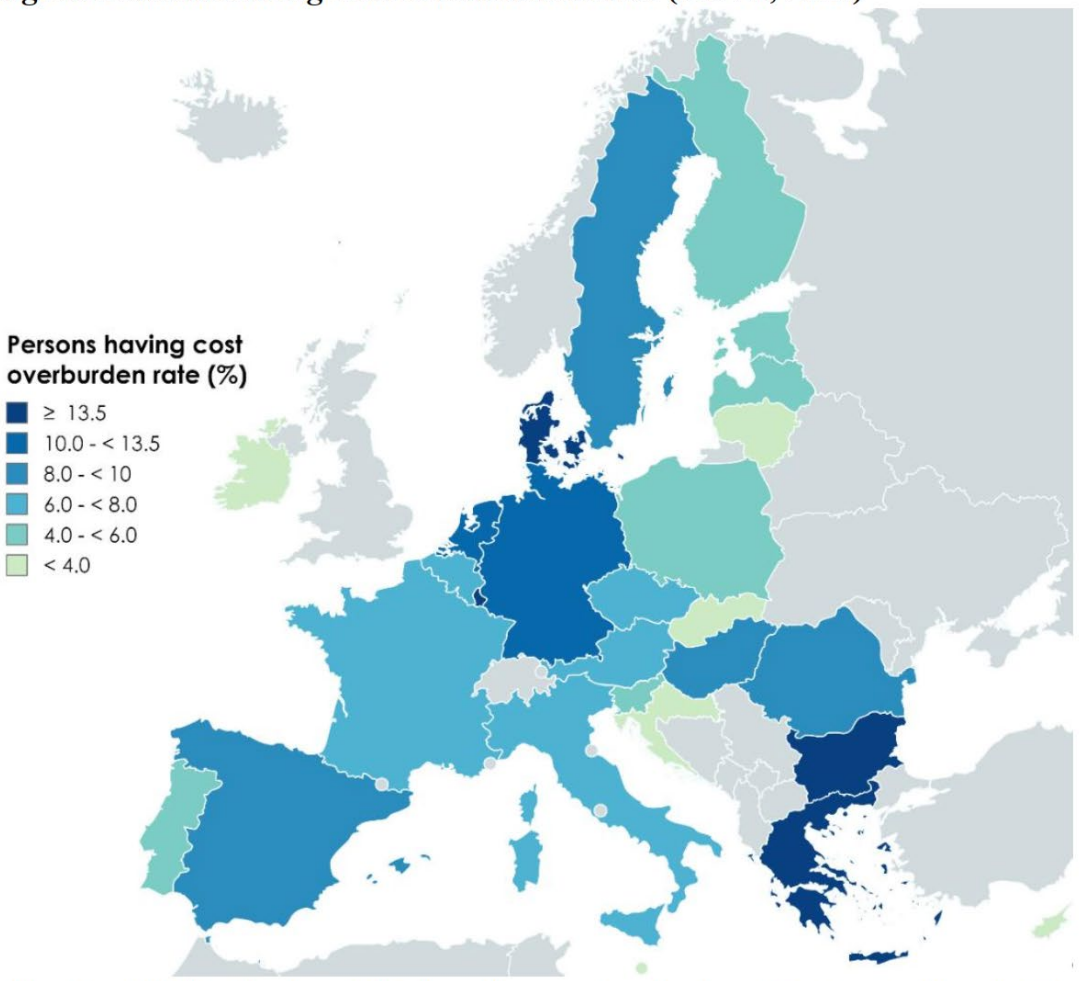
"the cost of housing services and shelter relative to a given individual's or household's disposable income"

A more operationalised definition proposed by the UN Human Settlements Programme (UN-Habitat) describes affordable housing as:

"housing that is priced at or below market rate, whilst considering the average household income of the area so that the net monthly expenditure on housing cost doesn't exceed 30% of the total monthly income of the household"

Percentage of Person Having Housing Cost Overburden Rate in EU

Figure 5. Percentage of Persons Having Cost Overburden Rate (EU-27, 2022)



Source: *own elaboration, CASE based on Eurostat database, Housing cost overburden rate by age, sex and poverty status - EU-SILC survey.*

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Strategic alignment of
The European Affordable Housing Plan

The European Affordable Housing Plan envisages an alignment with

- **New European Bauhaus / European Green Deal**
- **European Strategy for Housing Construction**

a performance-based approach can translate the objectives of Affordability, Sustainability, Quality, Safety, Resilience and Inclusivity into verifiable indicators, with a direct impact on the financial part

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a performance-based evaluation framework for Multi-Criteria Decision Analysis

connecting design quality with financial outcomes

Based on 5 pillars
+ 1 Strategic Driver (Zero Land Cons./Reuse)

design decisions are continuously evaluated against measurable performance targets

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Framework Architecture

5 Core Pillars
+ 1 Priority Driver

A. 💰 MCGJ<9: ADAQ

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Each pillar has quantitative KPIs, performance thresholds, weighted score

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Framework Architecture

Rating Score

$$Score = \sum_{i=1}^{5} w_i \cdot I_i + ZLC\ Bonus$$

I_i = Pillar score (0–100)

w_i = weight (∑ = 1)

Output:

- Total Score (0 – 100+)
- Class (AAA – C)
- Risk profile (Low - High)

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Performance based logic

Leveled weights

$$w_A = 0.20,\ w_S = 0.20,\ w_H = 0.20,\ w_E = 0.20,\ w_I = 0.20$$

Gating (minimum constraints)

if $H < 0,60$ **o** $S < 0,60$ **o** $E < 0,60$ ⇒ **"ineligibile" project**

it's possible to adjust the weights :
Investors → **increase A**
Public → **increase I and E**
(driven by different perspectives)

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Performance based logic
Rating Scale (Mobilising Investment)

Score	Class	Meaning
≥85	**AAA**	**Excellent EU** (ESG premium, suitable for green/social bonds, funding)
70–84	**AA**	**Strong** / low-risk (investment grade sostenibile)
55–69	**A**	**Acceptable** baseline
40–54	**B**	**Weak** (High-risk)
<40	**C**	**Non-viable** / non-investable

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Performance based logic

A. 💰 Affordability

KPI	Metric	A-Level Target
Housing Cost Ratio	% income	≤25% (EU consider 30%)
CAPEX (capital investment)	€/m²	≤ local benchmark -15%
OPEX (energy + maintenance)	€/year	≤ benchmark -20%
Lifecycle Cost (30 yrs)	€/m²	optimized
Construction time	months	reduced (industrialization)

Design impact:

- **choose prefab. / modular**
- **reduce surface inefficiencies**
- **prioritize durable materials**

→ Core idea: Total cost of living, not just construction cost

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Performance based logic

S. 🛡️ Safety (safety + fire safety) & Resilience

KPI	A-Level
Climate risk adaptation	verified
Structural safety / Seismic	above code
Fire safety	Enhanced
Flexibility	≥2 functional reconfigurations
Durability	≥50 years

→ 👉 **required by EU engineers**

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Performance based logic

H. 🫁 Health & Comfort Aligned with **New European Bauhaus**

KPI	A-Level
Indoor air quality	CO_2 < 800 ppm
Daylight	>2% DF
Thermal comfort	adaptive comfort
Acoustic comfort	<35 dB
Overheating risk	<5% hours

Design implications:
- **cross ventilation**
- **façade optimization**
- **passive cooling**

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E. 🌱 Environmental sustainability

KPI	A-Level
Energy demand	≤30 kWh/m²·yr
Operational CO_2	near zero
Embodied carbon	≤400 $kgCO_2/m^2$
Recycled materials	≥30%
Water efficiency	≥40% reduction

→ **Aligned with European Green Deal**

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Performance based logic

I. 🤝 Inclusivity

KPI	A-Level
Universal accessibility	100% units
Social mix	balanced
Proximity services	<500m
Shared spaces	≥15%
Affordability tiers	multi-income

→ **Aligned with New European Bauhaus**

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Performance based logic

+ ♻ Zero Land Consumption (ZLC) / Building Reuse

Strategy	Score Impact
Deep retrofit	+20
Adaptive reuse	+25
Brownfield regeneration	+30
Greenfield	capped at AA

this is not optional, it's strategic!

→ **Aligned with New European Bauhaus**

European Strategy for Housing Construction

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Design Decision Engine

The tool is not just evaluative — it's iterative

Decision Feedback Loop:

Examples:

→ **If affordability score drops:**

- suggest: **reduce structural complexity**
- suggest: **modular construction**

→ **If sustainability is weak:**

- suggest: **retrofit instead of rebuild**
- suggest: **passive design strategies**

→ **If inclusivity is weak:**

- suggest: **unit mix redesign**

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The main work of the research

THE MAIN WORK OF THE RESEARCH CONSISTED of:

attempt to gathering together and overlap ALL the indicators from European construction programs

NEB, GREEN DEAL, NZEB program,.. and all others EU criteria

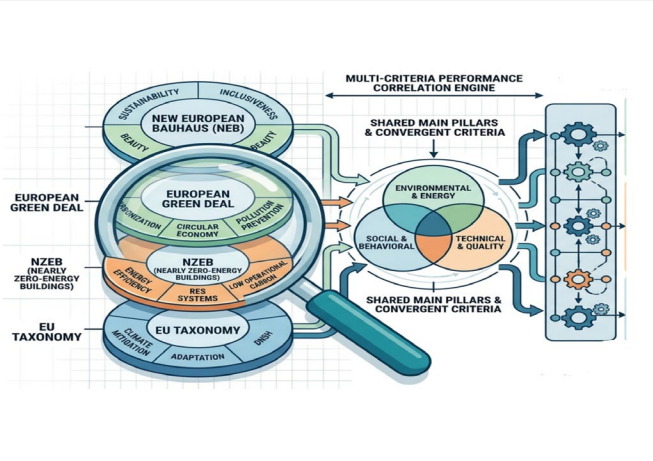
identifying the main pillars many of which converge

finding a performance criterion to correlate them

assigning weights to each pillar and

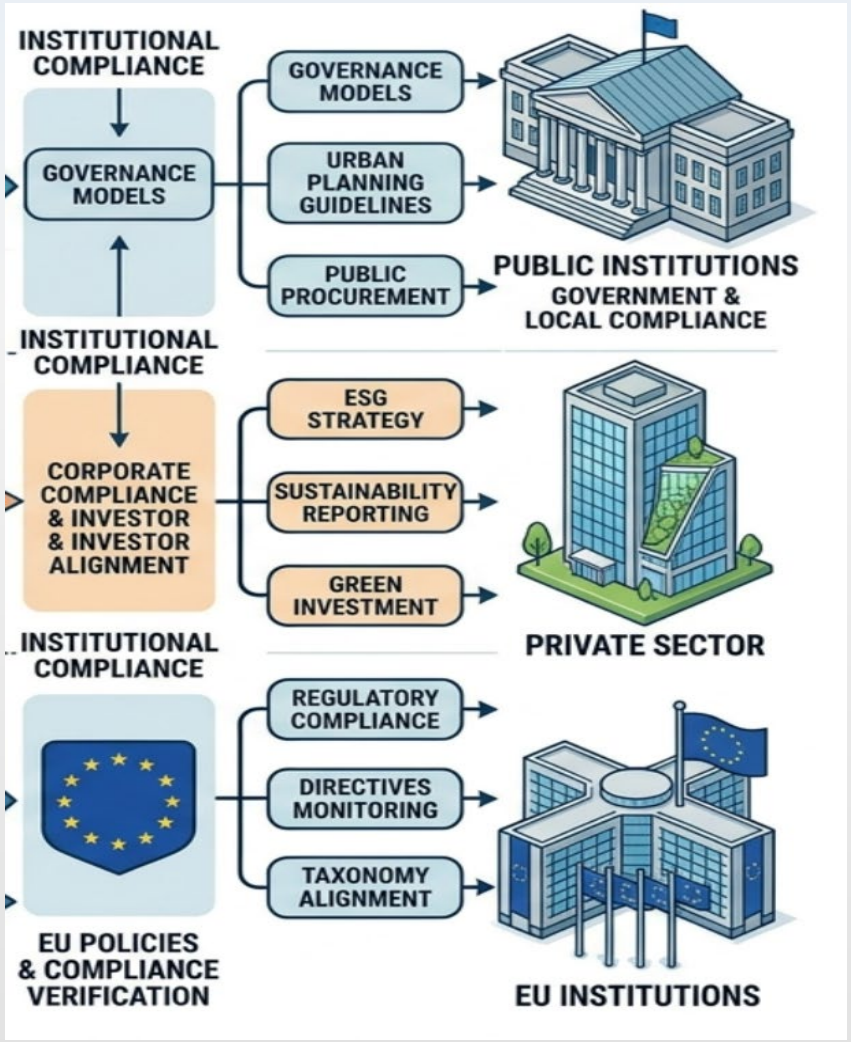
identifying key performance indicators for each

assigning index values and thresholds



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ECEC Affordable Housing MCDA forms the foundation of an engineering approach that can be adapted to various scenarios of constructions and is suitable for Public, Private, and EU Institutions



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THANK YOU FOR YOUR ATTENTION!

For simplicity, the presentation doesn't contain all formulas for determining the score, but only mentions the algorithm.

Roberto Orvieto – *ECEC* Vice-President

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