



10th Baltic Housing Conference, Tallinn, April 17, 2019

Affordability in housing construction across Europe

Alice Pittini, Research director, Housing Europe

About us in brief

The **European federation of cooperative, public and social housing**

45 members in **24 countries** (20 EU Member States)

Network of national and regional housing provider federations

almost **43 thousand housing organisations** on the ground

about **24 and half million homes**

roughly **200 hundred thousand** homes newly provided per year

'We have a vision of a Europe which provides access to decent and affordable housing for all in communities which are socially, economically and environmentally sustainable and where all are enabled to reach their full potential.'



The gap in construction of affordable housing

- We know that...
- **National governments want more housing,**
- **housing providers wish to build,**
- **and people need homes!**
- Why is there such a delay?

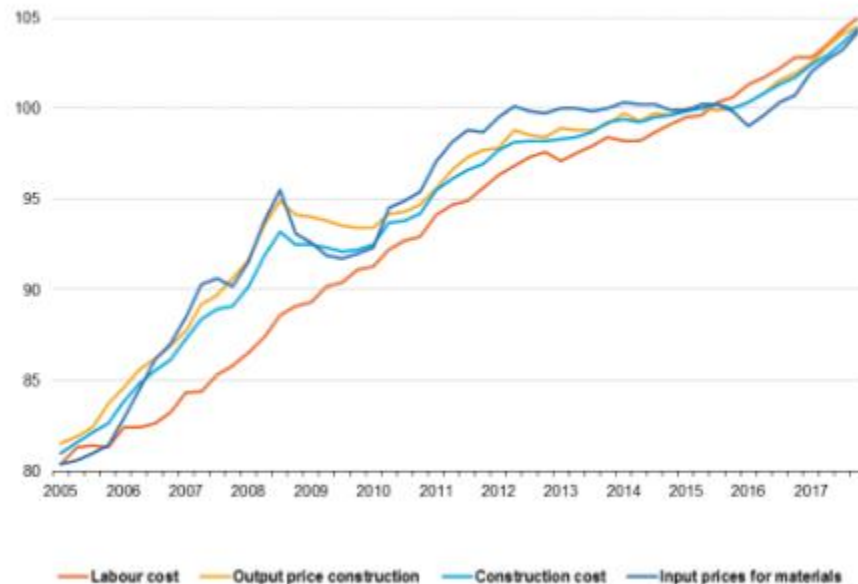


Drivers

- Access to land: cost of buying land, administration burdens, zoning
- Funding (public subsidies)?
- Cost of financing
- Taxation (in particular VAT)
- Cost of construction

Increasing construction costs

EU-28 Construction prices, construction cost and cost components 2005 - 2017, unadjusted data (2015 = 100)



- The lion's share of the cost linked to provision of affordable housing is that of construction costs (from 65 to 85% of the total costs)
- costs are far from being equal across Europe but they're on the rise

Challenges in the construction sector



Economist.com

- productivity growth has generally been low or non-existent
- 20% of (large) projects go over-schedule and 80% overbudget (McKinsey 2016)
- Slow innovation and lack of skills
- The affordable housing gap cannot be filled unless inefficiencies in construction are addressed!

Examples: reaching scale

Netherlands: six housing providers collaborate, e.g. by sharing in the purchasing of elevators and central heating boilers, they were able to bring down costs and make the process speedier and more efficient

French national federation USH has a national catalogue reviewing products and services for social housing providers based on tested quality, performance and price - agreed with suppliers

Swedish federation SABO use framework agreements to speed up procurement: Combo House, a multi-family apartment block “turnkey contract”, that is available in three models varying in size, and with a fixed price per square metre. Construction costs are cut by up to 25% and the time for completion is reduced.

Scaling up and bringing down price of schemes like **Energiesprong** for ‘net zero energy’ renovations (whole house solutions) <https://energiesprong.org/>

Examples: modular & serial construction

German housing federation GdW held a Europe wide call for proposals for high-quality modular and serial housing construction concepts with the following characteristics: single building for residential use, 4 floors, 24 apartments/units (varying in size), no lift/elevator. The winning designs use unconventional processes and materials (e.g. timber and ferroconcrete)

Y:Cube (London **UK**) uses a pre-constructed 'plug and play' modular system which enables the units to stack easily on top or alongside each other. Each unit is constructed from high quality, eco efficient materials (primarily renewable timber). units are 26m² studio-like apartments, they arrive on site as self-contained units and each unit is constructed in the factory with all the services already incorporated



Examples: disruptive technologies

BIM (building information modelling)

Example: App on smartphones/tablets connected to cloud-based control towers
→ immediate, real-time access to all info, materials, docs
→ “a single source of truth” with which to collaborate

Also:

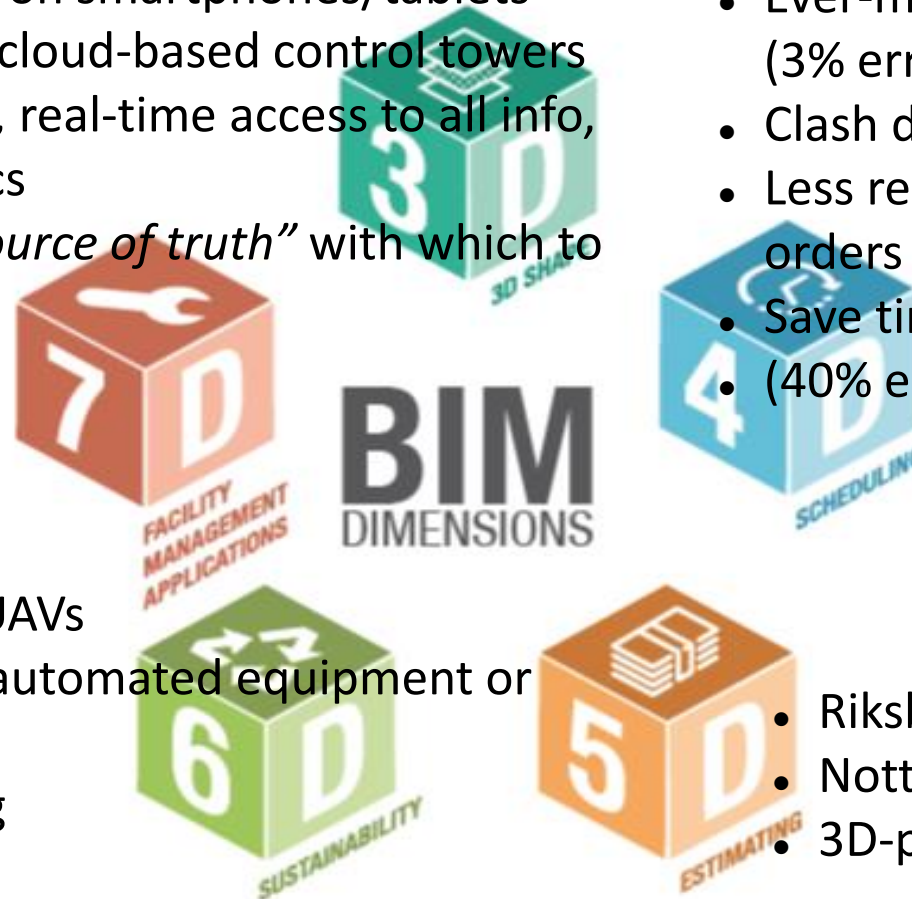
- Drones & UAVs
- Advanced automated equipment or robotics
- 3D-printing
- AR & VR

Savings how?

- Ever-more accurate cost estimation (3% error threshold)
- Clash detection
- Less requests for info & change orders
- Save time on delays
- (40% eradication unforeseen mods)

Examples:












- Riksbyggen
- Nottingham City Homes
- 3D-printing in Nantes



Renovation: next frontiers?

- New construction only 1% of total stock
- Strong focus from EU also in terms of funding
- Innovation through projects!

Home > Our Projects

<p>POWER HOUSE Europe</p>  <p>POWER HOUSE nearly Zero Energy Challenge (nZEC) provides a structure for an exchange between social housing practitioners of the public, cooperative & social housing sector to learn from each other about energy performance of buildings and to inform policy makers of the outcomes of this exchange. →</p>	<p>PROF TRAC</p>  <p>The PROF-TRAC project will create an open education platform for continuous vocational training of building professionals with an inter-disciplinary focus on nZEB design and construction and a strong European dimension across 7 countries. →</p>	<p>ABRACADABRA</p>  <p>The central goals of the project consist of an important reduction of the payback time of the interventions, a strengthening of the key investors' confidence, increasing quality and attractiveness of the existing buildings' stock and, finally, reaching a concrete market acceleration towards the Nearly Zero Energy Buildings target. →</p>	<p>TRANSITION ZERO</p>  <p>TRANSITION ZERO will make Net Zero Energy (EaO) refurbishments a market reality in the UK, France and The Netherlands. Energiesprong brokered a deal between housing associations and builders to refurbish 111,000 houses to EaO levels in the Netherlands of which the roll-out will be further supported. →</p>
<p>HomeLab</p>  <p>HomeLab aims to implement the Social Rental Enterprise (SRE) model in five pilot projects in four Central & Eastern European (CEE) countries (CZ, HU, PL, SK). →</p>	<p>European Energy Poverty Observatory</p>  <p>EPOV is geared at improving the transparency of information and policy by bringing together the disparate sources of data and knowledge that exist in varying degrees across the whole of the EU. →</p>	<p>HEART</p>  <p>Tackling technical, economic and social aspects of energy retrofit. At the center of the project are two buildings managed by social housing providers. One is managed by Est Metropole Habitat with activities nearby Lyon in France and the other one is from ACER and situated around Reggio Emilia in Italy. →</p>	<p>Designing Inclusion</p>  <p>Designing Inclusion is an Erasmus Plus project addressing the interface between urban design & planning education, and the production of inclusive urban spaces. →</p>
<p>HOUSEFUL</p>  <p>The main goal of the HOUSEFUL project is to develop and demonstrate innovative integrated circular services focused on the optimal management and use of water, waste, energy and material resources during all stages of the life cycle of residential buildings (new and existing). These services will be deployed and tested in four residential buildings in Austria and Spain from different building periods. →</p>	<p>ELOSH</p>  <p>The European Core Learning Outcomes for Integration of Support and Housing (ELOSH) is a European project that addresses a need for Continuing Vocational Education & Training on the integration of support and housing for people with support needs. →</p>		<p>Triple A-Reno</p>  <p>To make nZE (nearly Zero Energy) renovations attractive for consumers TripleA.reno wants to come up with clear information and communication on the real energy usage, indoor quality and personal health by developing an open and end-user-centered gamified (application of game-design elements and game principles) platform for decision support, quality validation / proven quality and community building. →</p>

Example: social justice for fair energy transition

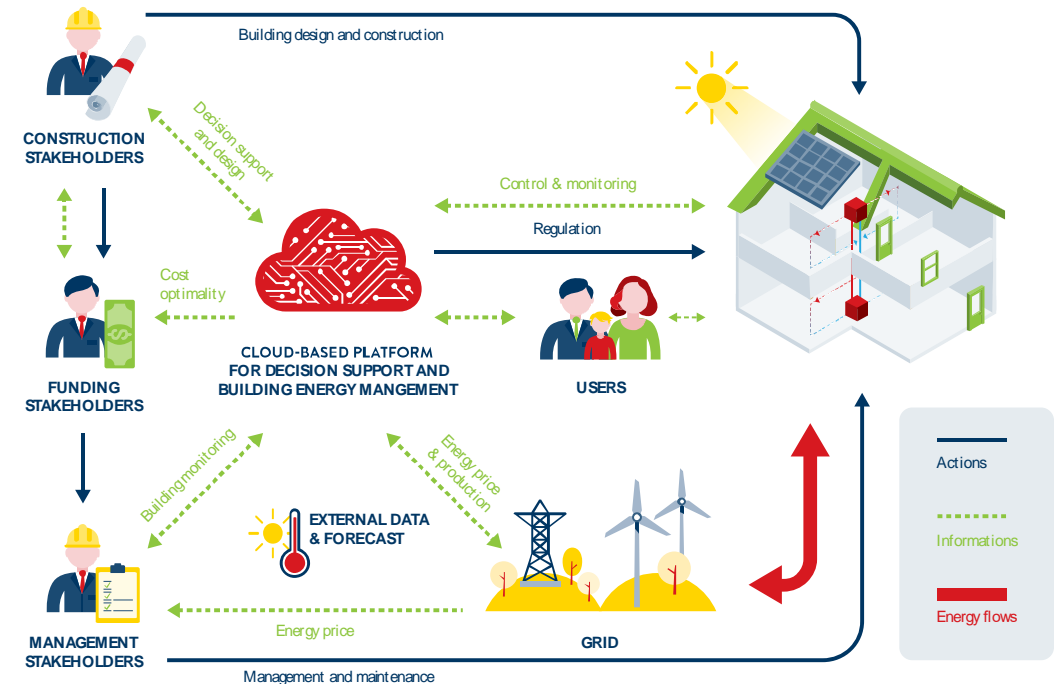
- Focus on End Goals: Social Justice, Well-being, District Approach, Co2 reduction, Larger societal impact not only individual performance of individual buildings (often the approach at EU level)
- **Goedkope Woning from Kortrijk in Belgium was the winner** of the category 'Local Social Sustainability' for their 'Venning Eco-Life', a ground-breaking construction project whose objective was to transform the most disadvantage district in Kortrijk into the most sustainable, not just focusing on energy performance, ecology and CO2 neutrality, but also on a turning Venning into a pleasant place to live, stripping it of its social stigma. The initiative was implemented within the framework of the European Programme Eco-Life.
- A short video about their project. [You may watch it here.](#)



From my bed to the window, it's always 25 degrees. That's the most important thing for me.

Example: Digital advances for renovation & energy management

- HEART (Holistic Energy and Architectural Retrofit Toolkit): multifunctional retrofit toolkit including different components (ICT, BEMS, HVAC, BIPV and envelope technologies) that connect optimally in order to transform existing buildings into smart buildings
- HEART tries to combine solutions of prefabricated insulation with automatized demand response management using Building Energy Management System : the objective is to allow for an optimal balance between energy reduction and production of energy on site (PV, heat pumps).



www.heartproject.eu



HEARTProjectEU



HEARTProjectEU

Example: Circular economy

- Broadening the scope from only energy to bring in circular economy (local materials, shorter supply chains, buildings as material banks) and the perspective of the district and CO2 not only the energy performance of the individual house
- HOUSEFUL project: 4 demo buildings in Austria and Spain - to develop and demonstrate innovative integrated circular services focused on the optimal management and use of **water, waste, energy and material resources** during all stages of the life cycle of residential buildings (new and existing). Material passports integrating BIM



HOUSEFUL

<http://houseful.eu/>



... Thanks for your attention!

alice.pittini@housingeurope.eu