Smart and Sustainable Cities and Territories



Buildings Performance Institute Europe

Eureka Conference- "How can the HVAC-R industry contribute to achieving the Sustainable Development Goals?"

Bruges, 12 June 2019





Buildings in Europe

> 2050





Energy consumption







Breakdown of household energy consumption by end use in the EU

90% OF OUR TIME IS SPENT INDOORS



97% OF EU BUILDINGS IS NOT FUTURE PROOF









New functions of smart buildings

BPIE



Source: BPIE



Mapping a smart-ready built environment



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EU legislation is a complex interaction of initiatives





Clean energy package – is the EPBD 2018 a game changer?

energ)



Strengthened renovation strategies

Building renovation passport

Data from EPCs to be made available

Smartness indicator

Technical building systems

Electric mobility

Revised article on Long-term Renovations Strategies



Highly energy efficient and decarbonised building stock by 2050

Progress indicators & milestones in 2030 and 2040 Actions to contribute to the alleviation of energy poverty

Address the multiple benefits of renovation

National Renovations Strategies – the central tool for Member States to achieve impact

Creating real value for building users







Why do Europeans renovate?





4 key parameters influencing indoor environmental quality BPIE WELLBEING CONFORT **INDOOR AIR** QUALITY NOISE IEQ

LIGHTING

DRO

THERMAL

COMFORT

WEALTH

Smart Readiness Indicator



To foster the transition to smarter buildings, the European Commission will introduce a rating scheme for the "smart readiness" of buildings. It should assess the capabilities of a building to **adapt its operation to the needs of the occupant and the grid, and to improve its energy efficiency and overall performance.**



Smart buildings are better buildings... for whom?





- Larger uptake of renewable energy & electric vehicles
- Decreasing fossil fuel dependency

- Occupants save energy and money
- Healthier + more comfortable living and working environment

Key attention points





Cease the silo thinking

- Align health, energy & other policy agendas
- When appraising building renovation or new construction: include value of health, well-being and performance benefits alongside energy cost savings



More R&D is needed to assess and grasp the full potential

- Gather data and feedback from building users
- Develop business models & financing schemes
- Calculate broad impact for aggregated district renovation programmes



Thank you...

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