A broad toolkit to achieve affordable carbon-neutral and energy-efficient housing

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Facts

- In developing countries, we need to accommodate 2.4 billion new urban residents by 2050
- In Europe, most buildings are older than 50 years
- Built before minimum energy efficiency standards were implemented
Existing buildings matter – Example of Switzerland
Facts

- In developing countries, we need to accommodate 2.4 billion new urban residents by 2050
- In Europe, most buildings are older than 50 years
- Built before minimum energy efficiency standards were implemented
- These buildings are often equipped with fossil-based heating systems
Background

- EU countries have committed to reducing domestic GHG emissions until 2030 by at least 55% compared to 1990
- The residential and commercial EU building stock account for around 36% of the total GHG emissions
- Many different building technologies exist to lower energy demand and GHG emissions
Energy poverty is affecting around 11% of Europeans

- 87 million people live in poor-quality dwellings;
- 42 million face arrears on their utility bills;
- 54 million people cannot keep their home adequately warm;
- 161 million face disproportionate housing expenditure.


Gas price surges to a record high in Europe on supply concerns

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KEY POINTS

• November contracts at the Dutch TTF hub — a European benchmark for natural gas — were trading at around 118 euros per megawatt hour (MWH) just after midday in London.

• The front-month contract has risen almost 400% since the start of the year.

• Several British energy suppliers have collapsed amid the gas price crisis. September alone reportedly saw nine companies cease trading.

https://www.cnbc.com/2021/10/05/gas-price-surges-to-a-record-high-in-europe-on-supply-concerns-.html
Energy Saving Pyramid

A comprehensive policy toolkit is needed to make a difference.
What does a successful policy tool kit need to consider?

• Attractiveness of new built compared to renovation (floor plans, ROI, ...)
• Split incentive (Investor-tenant-dilemma)
• Labor costs are high
• Knowledge in the sector is very heterogenous
• Planned maintenance vs. reactive maintenance
• Lack of building related data
• Synergies of a multi-building scale approach not obvious and activated
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