



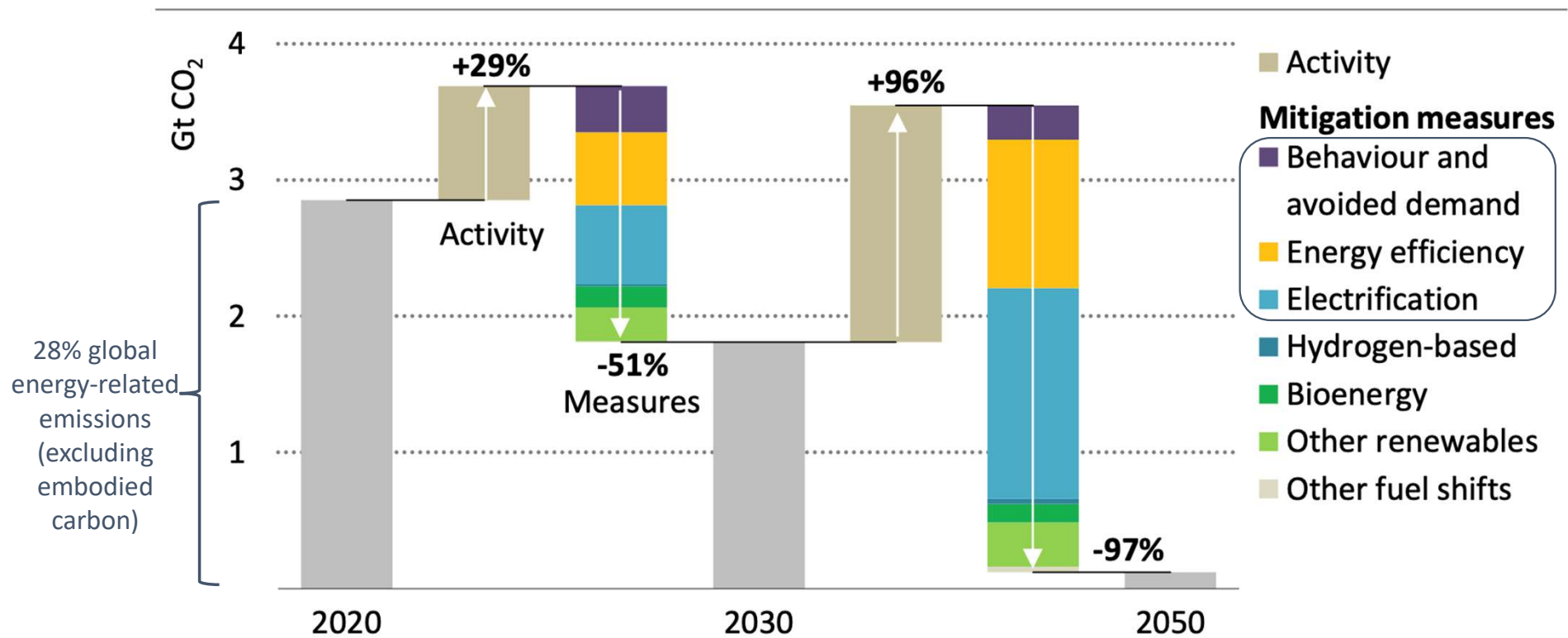
What next for buildings?

Melanie Slade, Senior Programme Manager, Energy Efficiency in Emerging Economies

ANGAN 16th September 2022

Modernising Energy Efficiency in Buildings

Global direct CO2 emissions reductions by mitigation in buildings in the NZE



Electrification and energy efficiency account for nearly 70% of buildings-related emissions reductions through to 2050

Future Proofing Buildings



- Key policy recommendations of decarbonisation Roadmaps
 - Improve energy efficiency of building envelopes and appliances through a policy package approach (regulation, information, incentives)
 - Require state of art Building Energy Management Systems
 - Ensure use of on-site renewables and electric vehicle charging
 - Develop ways for distributed energy resources to interact with the grid commercially
 - Use digital technologies to increase electricity demand flexibility

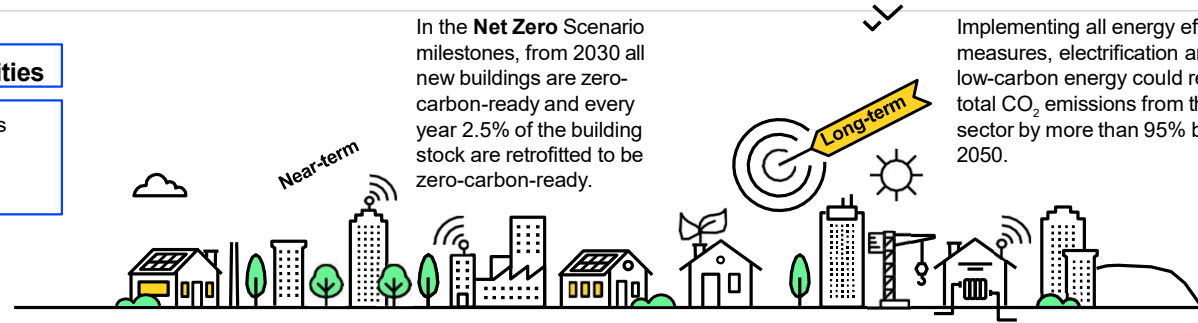
Buildings Energy Efficiency Policy Package

Immediate opportunities

Replacing fossil fuel boilers with high efficiency heat pumps can reduce energy use by up to 75%.

In the **Net Zero** Scenario milestones, from 2030 all new buildings are zero-carbon-ready and every year 2.5% of the building stock are retrofitted to be zero-carbon-ready.

Implementing all energy efficient measures, electrification and low-carbon energy could reduce total CO₂ emissions from the sector by more than 95% by 2050.



REGULATION

- **Targets for energy efficiency** in buildings, including for renovation rates, fosters market growth and facilitates long-term investment decisions.
- **Building energy codes** for new buildings and retrofits are essential to accelerate the transition to zero-carbon-ready buildings.
- **Minimum energy efficiency requirements** for renovation help guarantee performance and accelerate the process of renovation through instruments such as the standardisation of services.
- **Regulations** ensure that buildings can become “demand response ready” to enable future flexibility.



INFORMATION

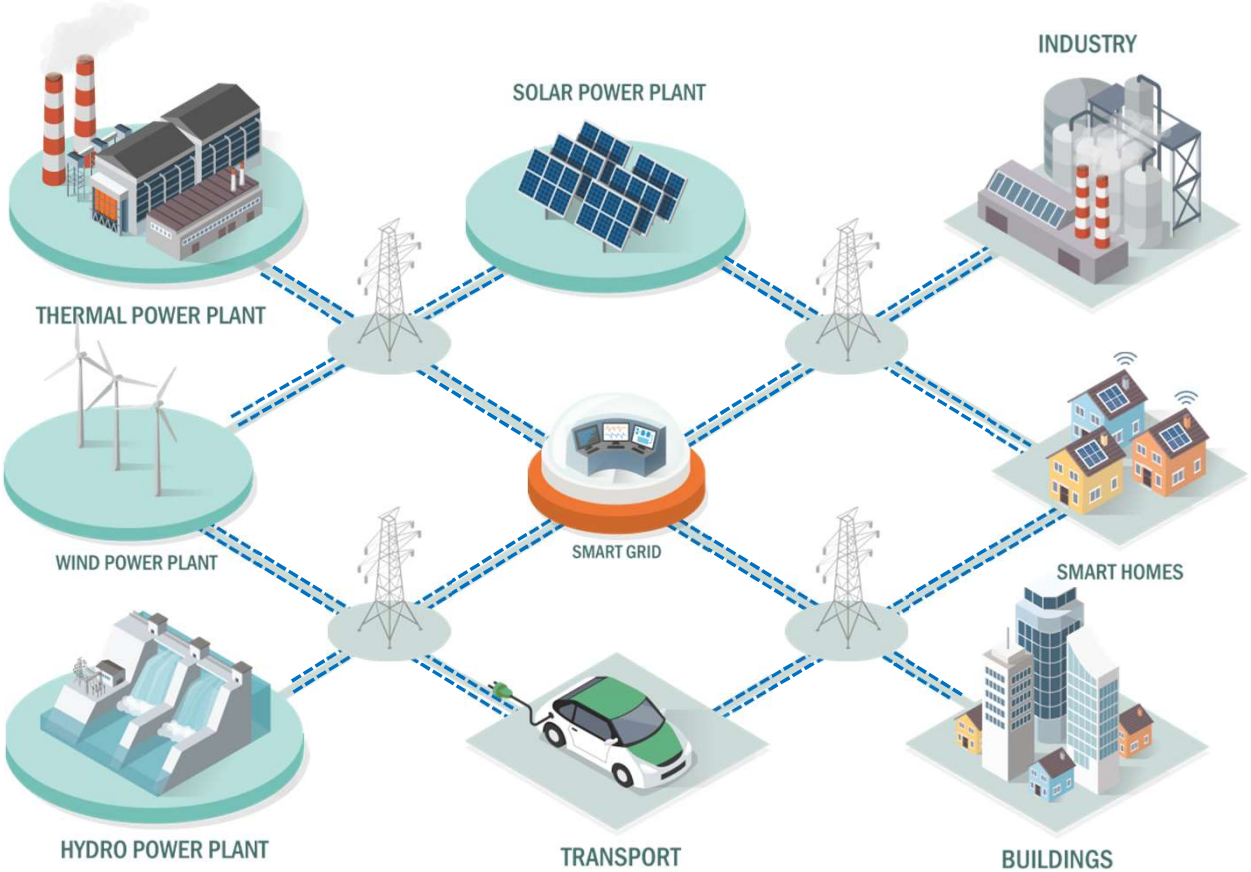
- **Information on building performance** allows consumers to identify the most efficient options when buying or renovating buildings. Examples include energy performance certificates, disclosure programmes, one-stop shops for upgrades and renovation passports.
- **Smart interactive technologies** can show real-time energy performance and help adjust occupants' behaviour.
- **Training and education programmes** for building sector workers are important to ensure a suitably skilled work force.
- **Public awareness campaigns** designed to include behavioural insights encourage low-cost actions, such as thermostat adjustment.



INCENTIVES

- **Financial incentives** such as green mortgages, energy performance-based preferential loans and tax rebates and grants can motivate consumers and developers to increase investment in energy efficient solutions.
- **Expedited administrative procedures**, including accelerated permitting, targeted at high performing new build or retrofit projects, encourage the implementation of energy efficient measures.
- **Award and recognition programmes** encourage the development of highly energy efficient buildings.

Modernising energy efficiency in buildings



led