

Modernising Building Energy Codes

Buildings consume more than 40% of primary energy in most countries. Cost effective policy intervention by governments can substantially reduce this consumption, typically by 30-80%, while simultaneously increasing energy security and improving the health and welfare of building occupants.

Evidence gathered by the International Energy Agency has identified six critical factors to guide policy makers in realising potential savings in both new and existing buildings through the modernisation of building energy codes.

Policy pathway to improving building energy performance by modernising energy codes:

- ▶ Require all new buildings and buildings undergoing renovation to be covered by energy codes and meet minimum energy performance standards (MEPs) that minimise life-cycle costs.
- ▶ Regularly update the MEPS to accelerate the deployment of best available technologies and construction materials.
- ▶ Develop a roadmap to guide updates of building energy codes and standards including future targets for very low or zero-energy new buildings.
- ▶ Implement transparent compliance and enforcement processes in support of regulated building energy codes and standards.
- ▶ Ensure that policies for land-use, building renovation, renewable energy, building certification and appliance labelling are aligned to reduce the amount of energy needed to operate and maintain a building.
- ▶ Establish capacity building programmes to ensure that those involved in the planning, construction and management of buildings understand building energy codes and their practical application.

The full Policy Pathway offers guidance on how to modernise energy codes and provides case studies from around the world. The report can be downloaded from www.iea.com

Checklist to successfully deliver Modernised Building Codes

PLAN: Define the purpose of the building codes within the overall buildings energy policy framework. Develop the associated objectives and success indicators. Design the critical mechanisms to support effective implementation and compliance-checking.

- 1 Define the objectives, scope and performance thresholds/norms. Formulate the process to revise requirements as technologies improve.
- 2 Create clear governance structures and institutional arrangements, compliance and evaluation methodologies, and identify financial resources.
- 3 Aligned policies for land-use, renewable energy, building renovation, building certification and appliance labelling.

IMPLEMENT: Develop stakeholder understanding of the purpose and benefits of building energy codes, and the obligations they place on each stakeholder group.

- 4 Undertake awareness campaigns informing industry of code requirements and building users on the value of label information.
- 5 Focus training on educating construction professionals and develop software to assist with code compliance.
- 6 Develop necessary tools for compliance-checking and tracking at all stages (design, construction, completion and post occupancy).

MONITOR: Measure the levels of compliance and the penetration of key technologies and techniques. Communicating results to stakeholders to improve understanding of code requirements.

- 7 Analyse compliance trends at the local level to ensure consistent code application, but measure against standardised national criteria to enable comparison.
- 8 Openly communicate compliance results and reasons for enforcement actions taken.

EVALUATE: Establish the overall effectiveness of the programme in meeting policy goals and adapt the programme to improve impact.

- 9 Assess implementation mechanisms and compliance levels for each programme element against indicators set at the planning stage.
- 10 Update building energy codes regularly based on lessons learned from the evaluation and as new technologies emerge.