

Efficiency:

A Global Dataset on Building
Code Effectiveness and
Compliance

The World Bank 1818 H Street NW Washington DC 20433 Telephone 202-473-1000

www.worldbank.org

imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges and immunities of

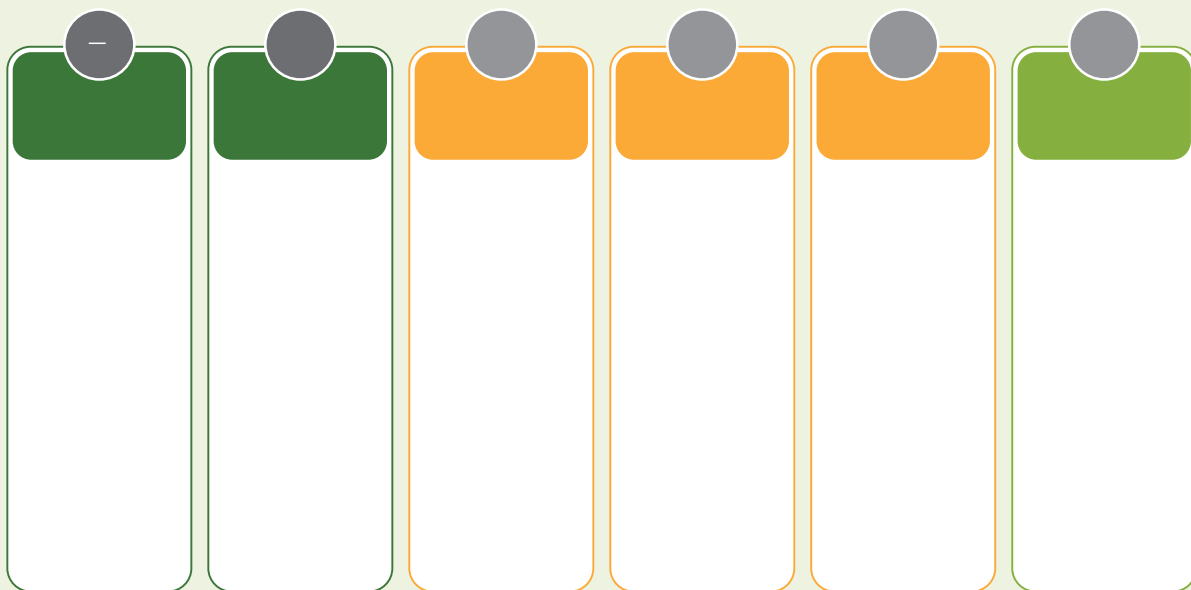
1. Why create this new data set?

responsible for 37 percent of emissions.¹ Half of all buildings that will exist in 2060 have not yet been built. The African continent alone will need to build 88 billion square meters to accommodate the estimated population growth during this time span. Two nations—China and India—will account for another 50 billion and 44 billion square meters of newly constructed buildings.²

Dataset developed by the Global Indicators Group and funded by the Knowledge for Change Program. The dataset includes quantitative and comparable measures on building energy codes, systems and levels of compliance in 88 countries across the world. The data collected covers key

the building once in use.

Figure 1 // Building energy efficiency elements measured in the dataset



The data collected addresses an important knowledge gap in developing countries and responds to the pressing need to leverage legal and institutional frameworks to mitigate and adapt to climate change. Building energy codes play a central role in decarbonizing the built environment.

try to incorporate a dimension of sustainability into every building. Progress is achieved when building energy codes are forward-looking and focus on aspects of building design that achieve energy savings in a cost-effective manner. Successful building energy codes also balance the

engineers to propose ways of reducing the environmental impact of structures through a com-

Figure 3 // Building Energy Codes and Standards – Prevalence varies by income group

Source: DECIG Building Energy Efficiency Standards Global Dataset, 2024.

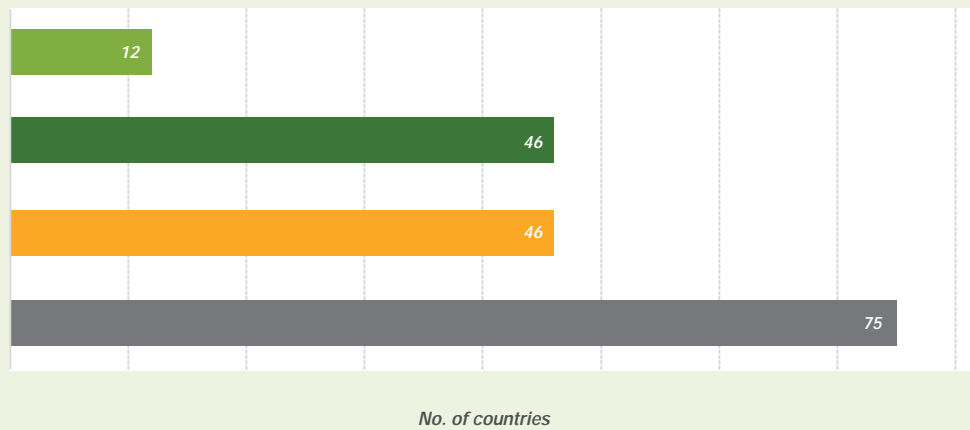
Figure 4 // Building Energy Codes and Standards – Prevalence varies by region



Source: DECIG Building Energy Efficiency Standards Global Dataset, 2024.

countries impose requirements for entirely new buildings. Most of them also have requirements for existing buildings. Codes in 21 countries are also exclusively geared toward commercial buildings and

Figure 5 // BECs and standards – type of construction covered



Source: DECIG Building Energy Efficiency Standards Global Dataset, 2024.

2.3 COMPREHENSIVE BUILDING ENERGY CODES:

Detailed standards are usually necessary to guide the construction industry toward more ener-

their construction community to comply with ever more stringent standards later. Once the indus-

approaches where tradeoffs are allowed and where the overall energy performance of a building is evaluated rather than each of its component parts. The data collected reveals that countries

per00470053

REHIW)RExBGSDMPP(ER TFPMGpBx0pBx0 BpBBpBAGI(0@

PMJGMRSSMREYBPEXIRVQ
TOMREWIHWVWZSWMTPI ERETIPMIGWO-ERSW/HVPI
WVIH4CEIO\$OEIOCIOP3xpDD7WpWMBRSDCE

Figure 6 // Building envelope – How stringent are the building codes?



Source: DECIG Building Energy Efficiency Standards Global Dataset, 2024.

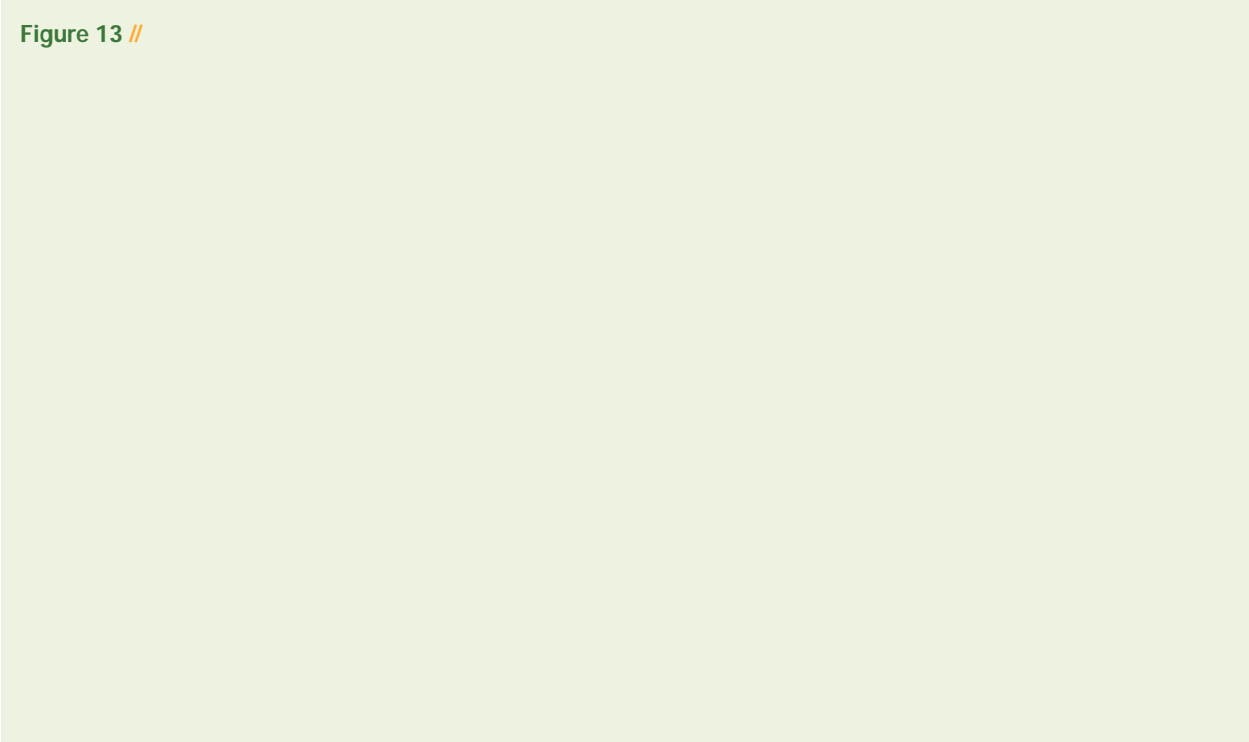
2.4.2 Technology Requirements in Building Energy Codes and Standards

the adoption of electrical water heaters. Certain types of equipment with the highest abatement

—



Figure 13 //



– **3.** Using the dataset

Decarbonizing the building sector requires a multifaceted approach that addresses both new
