Linking Policy and Data

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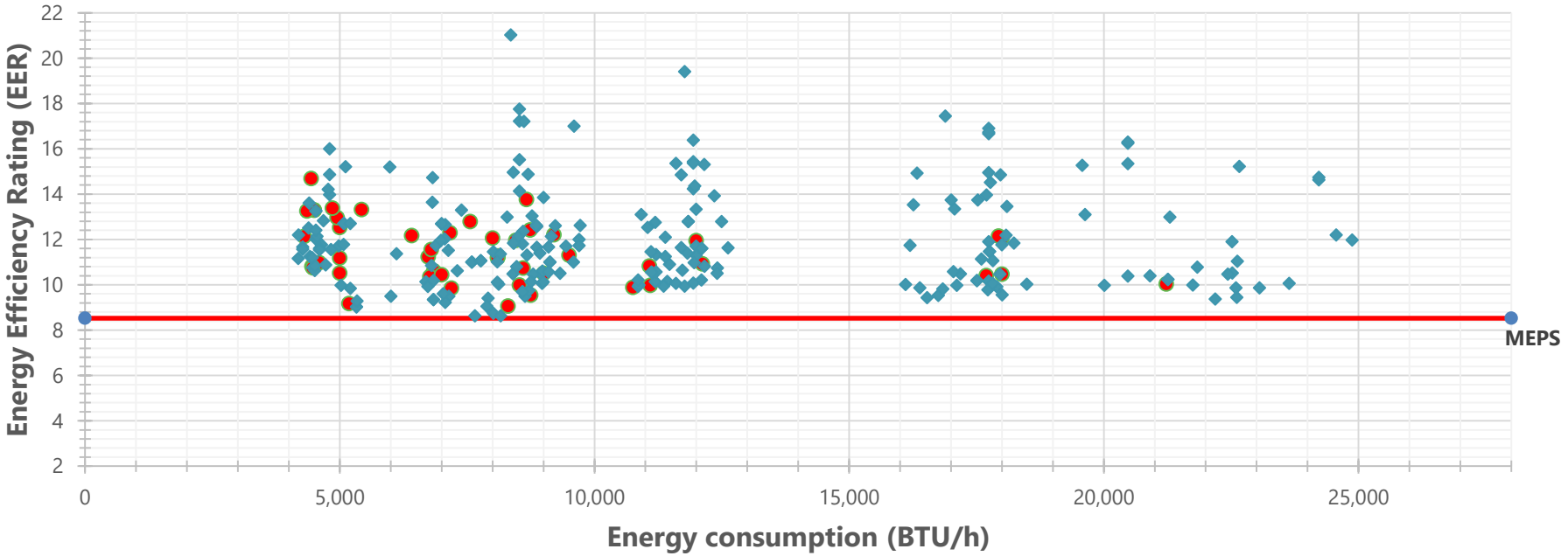
Mexico, September 26, 2018

IEA

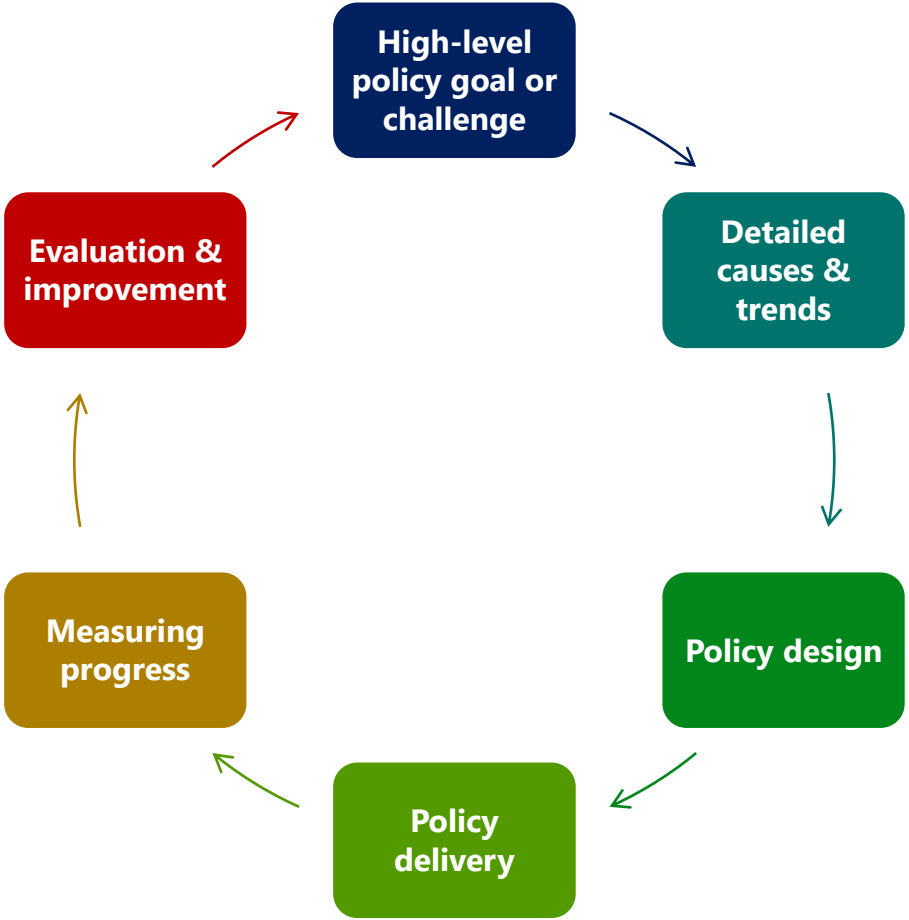
Effective policy relies on good data

Efficiency rating of selected air conditioners in national/regional market – data collected after MEPS

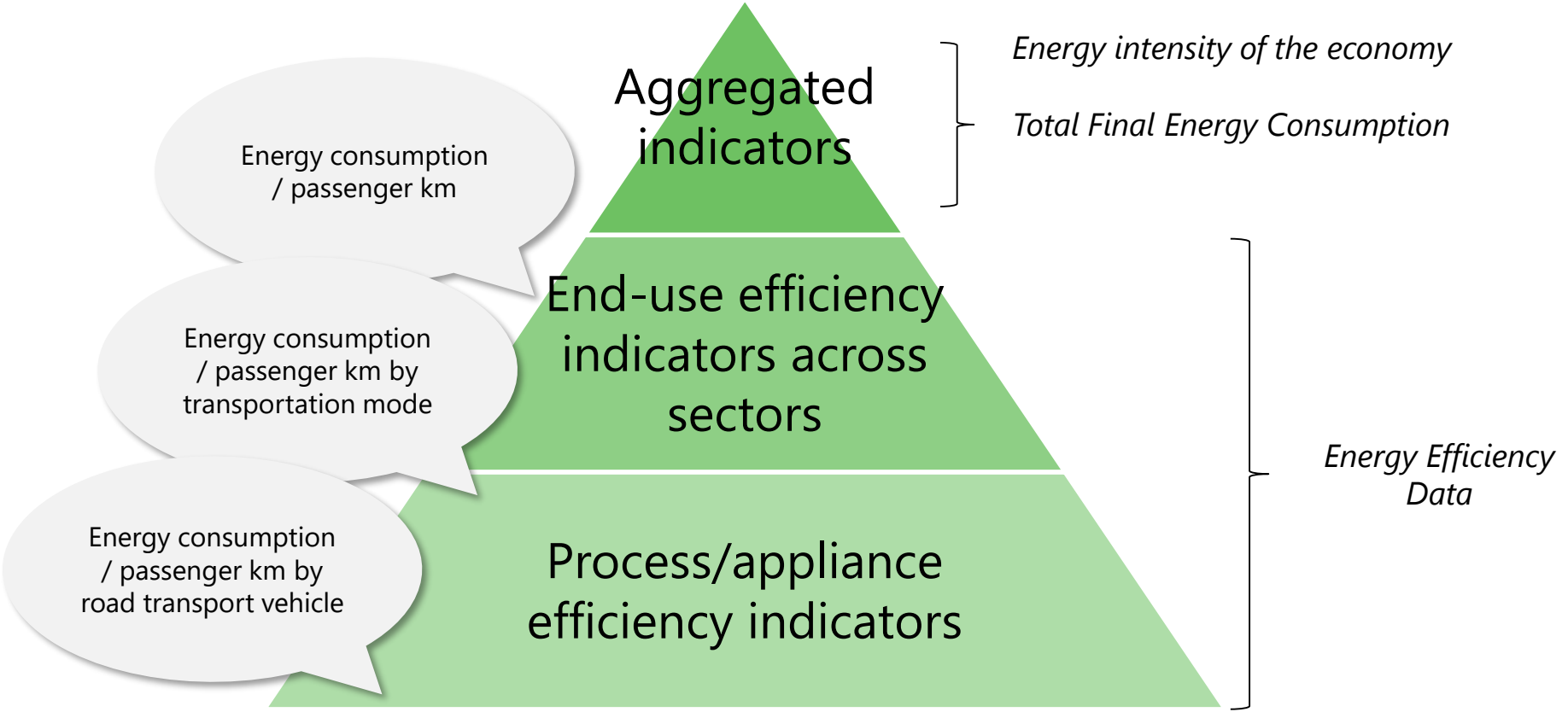


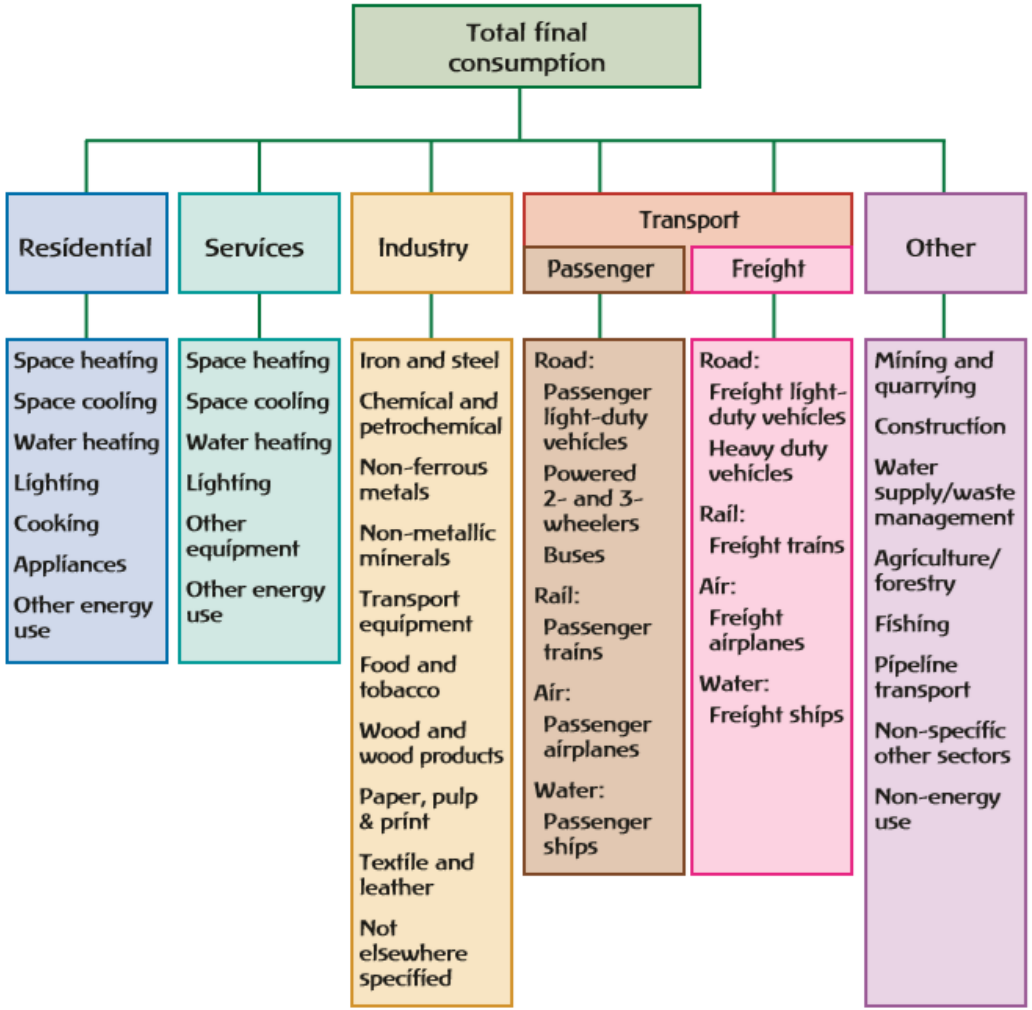
Without appropriate data,
minimum energy performance levels were set too low to impact the market

Data are necessary at all stages of the policy cycle



IEA indicators “pyramid”



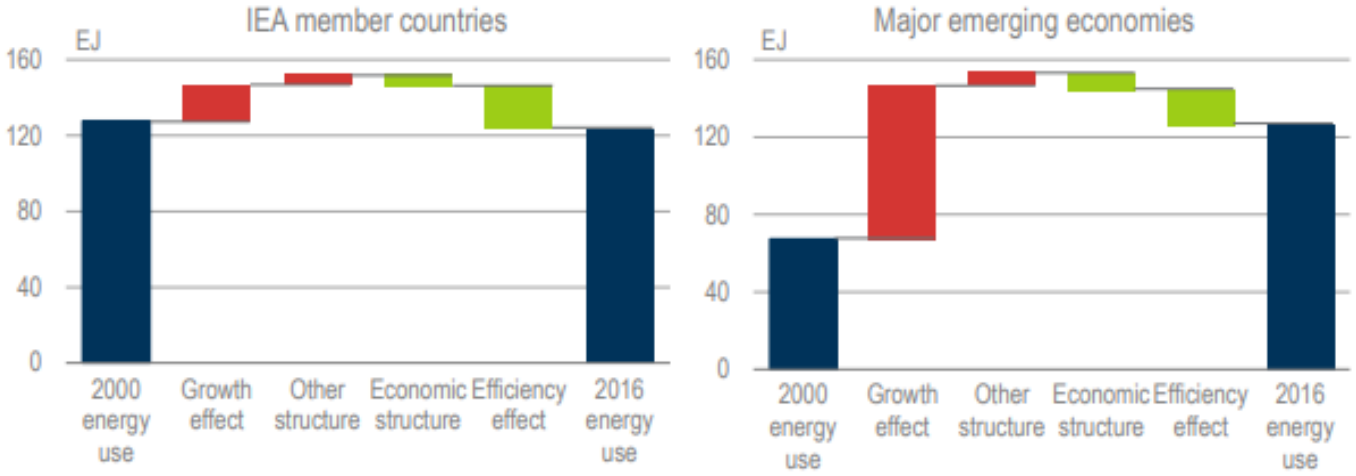


Note: Services include the commercial and public service sectors.

IEA, Energy Efficiency Indicators: Fundamentals on Statistics, 2014

End-use data help quantify efficiency impacts from across sectors

Figure 1.8 Decomposition of final energy use in IEA member countries and major emerging economies

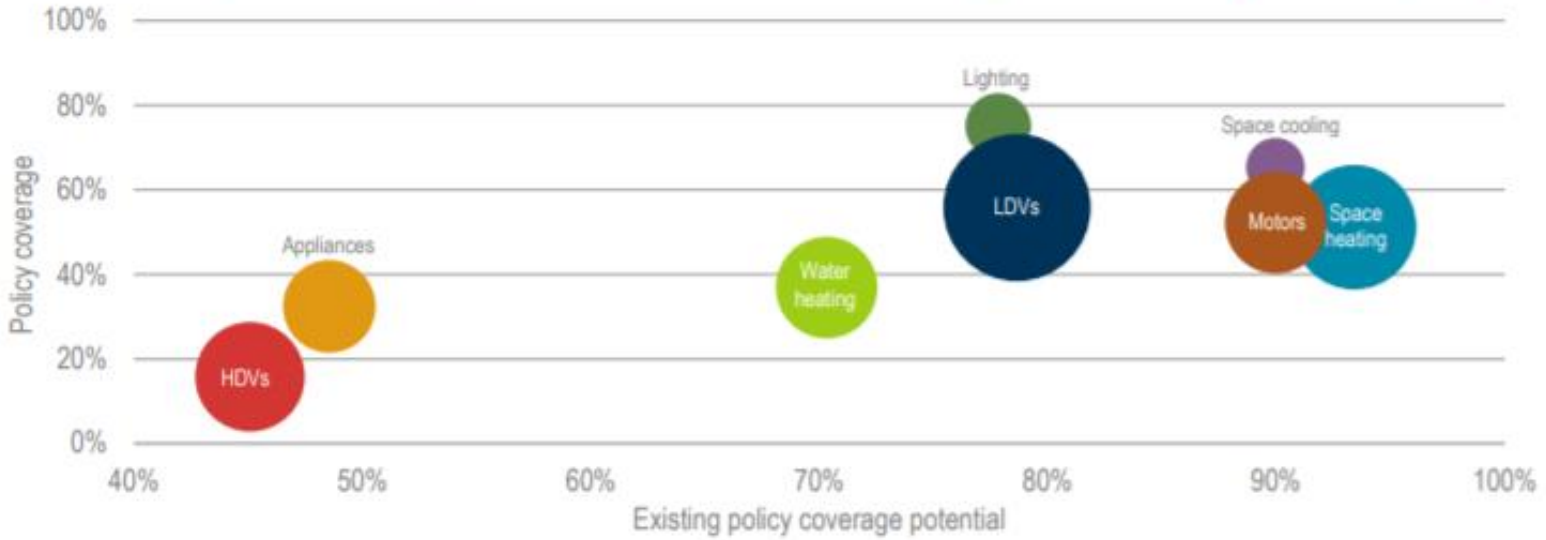


Source: IEA, Energy Efficiency 2017

End-use analysis: a tool to assess overall energy efficiency progress

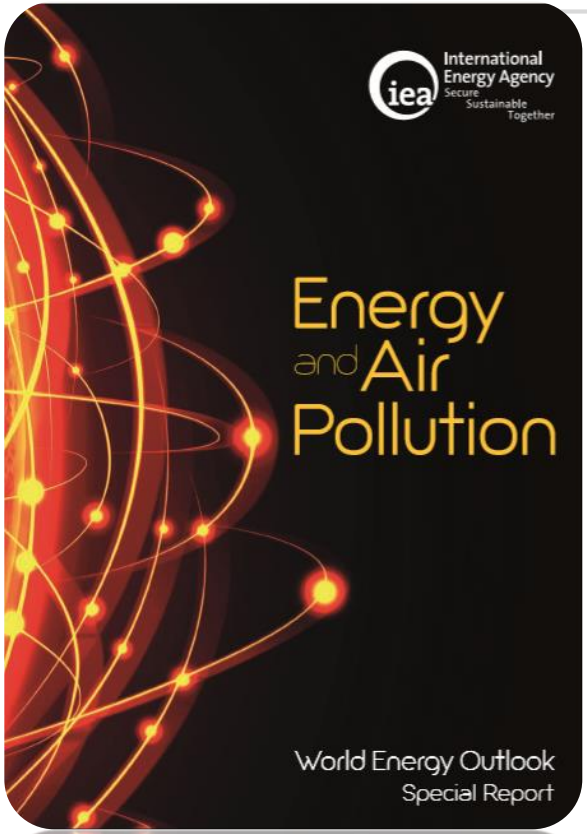
Determining policy coverage

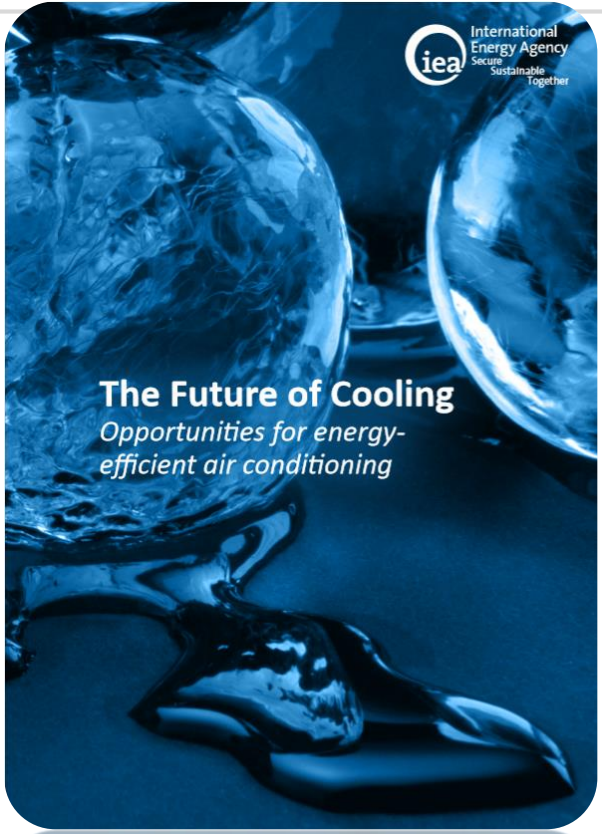
Figure 2.4 Policy coverage and coverage potential of existing mandatory codes and standards by end-use, 2016 (size of bubble indicates share of global final energy consumption)

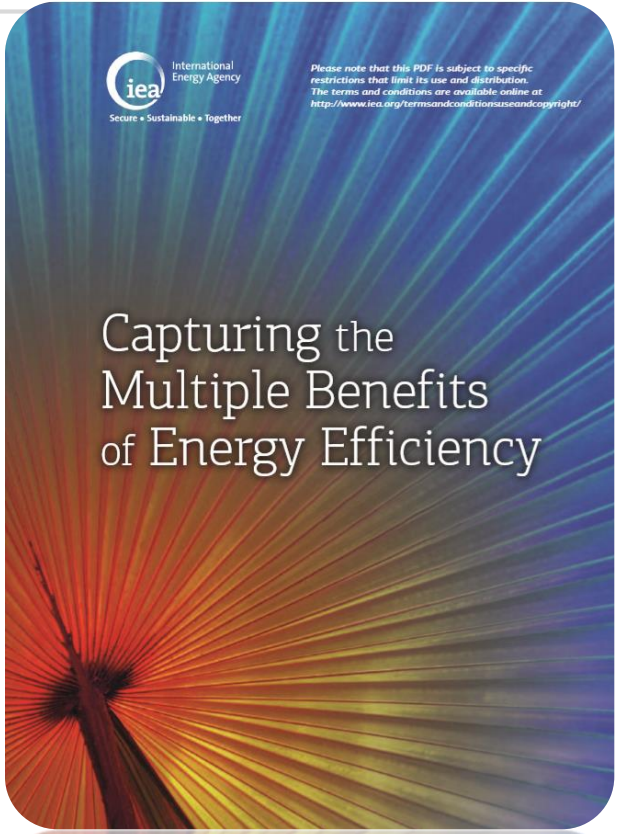


Source: IEA Energy Efficiency Market Report, 2017

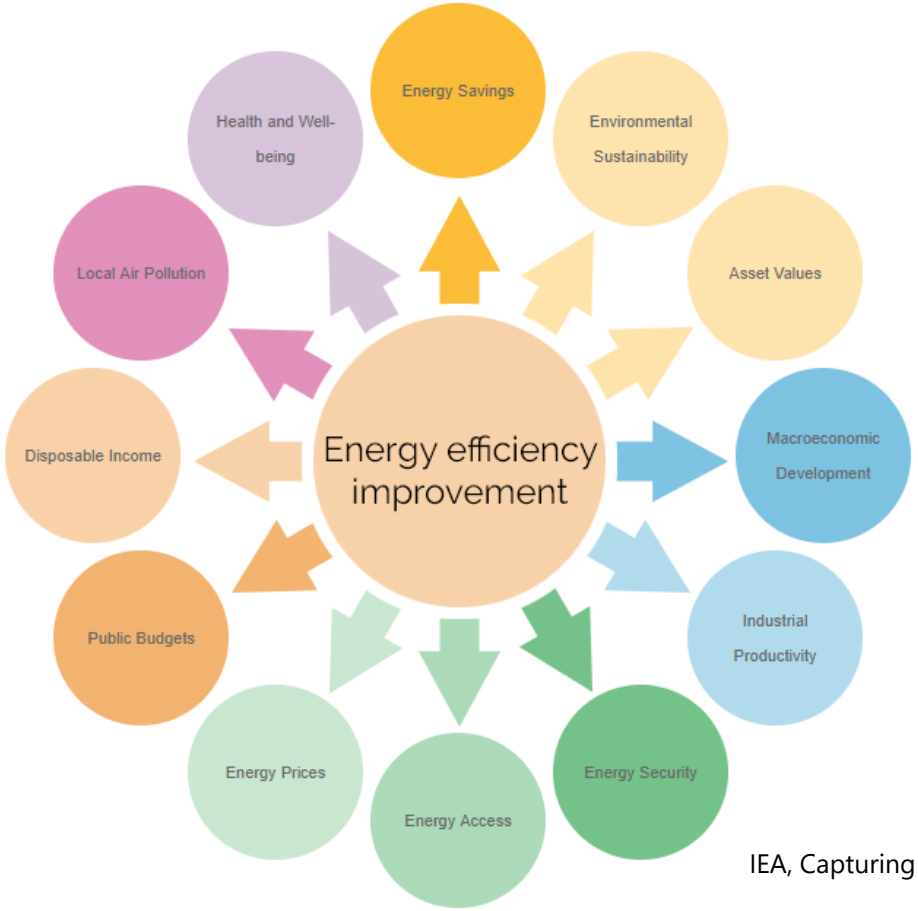
What proportion of end-uses in each sector is covered by a <u>mandatory</u> policy?







IEA's framework for characterizing multiple benefits of energy efficiency



Health and well-being

Energy security & reliability

Macroeconomic development

Environmental sustainability

IEA, Capturing the Multiple Benefits of Energy Efficiency, 2014

Measuring EE's benefits at the global scale

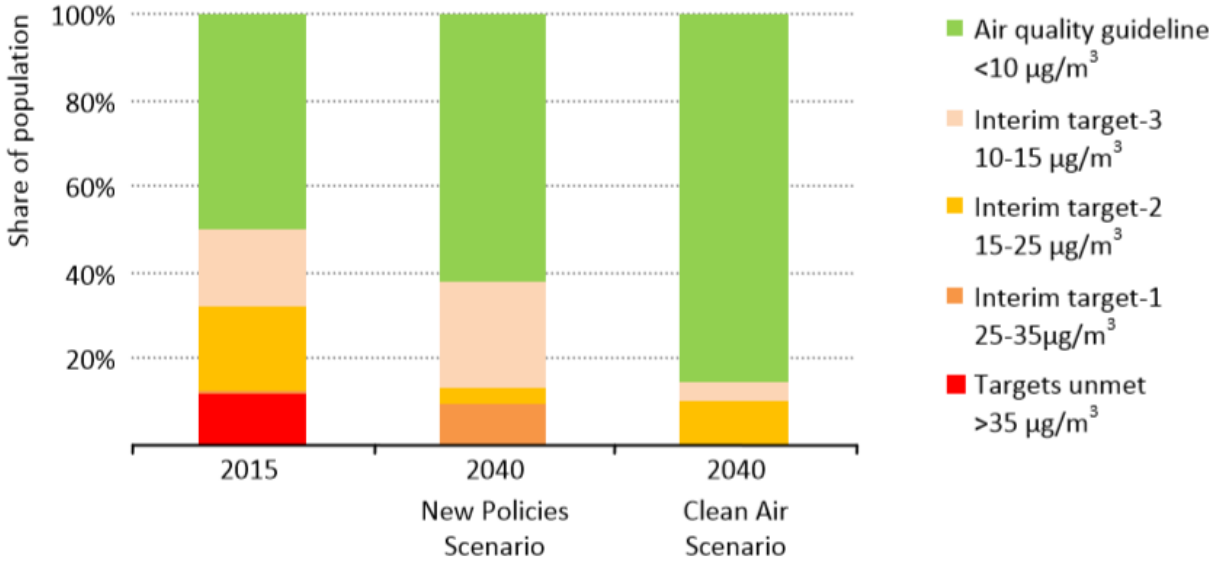
- Health & well-being: SDG1, SDG3, SDG11
- Energy access, energy savings: SDG7
- Macro-economic development: SDG8
- Energy security: SDG9
- Disposable income: SDG10
- Environmental sustainability: SDG12

Air Quality

IEA, Energy and Air Pollution, World Energy Outlook Special Report, 2016

Combining air quality data with energy end-use data

Figure 5.6 ▷ **Population in Mexico exposed to different $PM_{2.5}$ concentration levels according to WHO targets, by scenario**

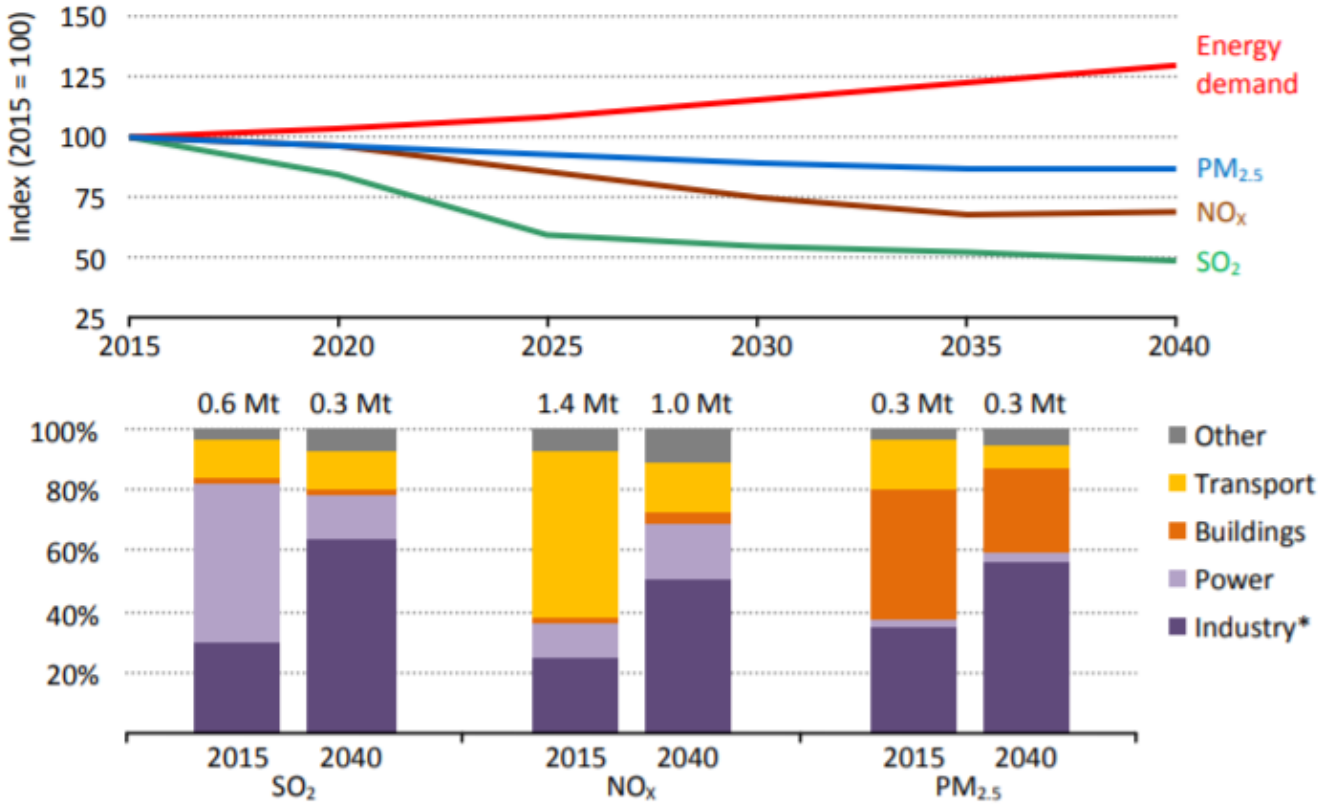


Source: IIASA.

IEA, World Energy Outlook Special Report, Energy and Air Pollution, 2016

Projecting the effect of planned polices and even greater ambition to 2040

Emissions by air pollutant and by energy sector in the New Policies Scenario

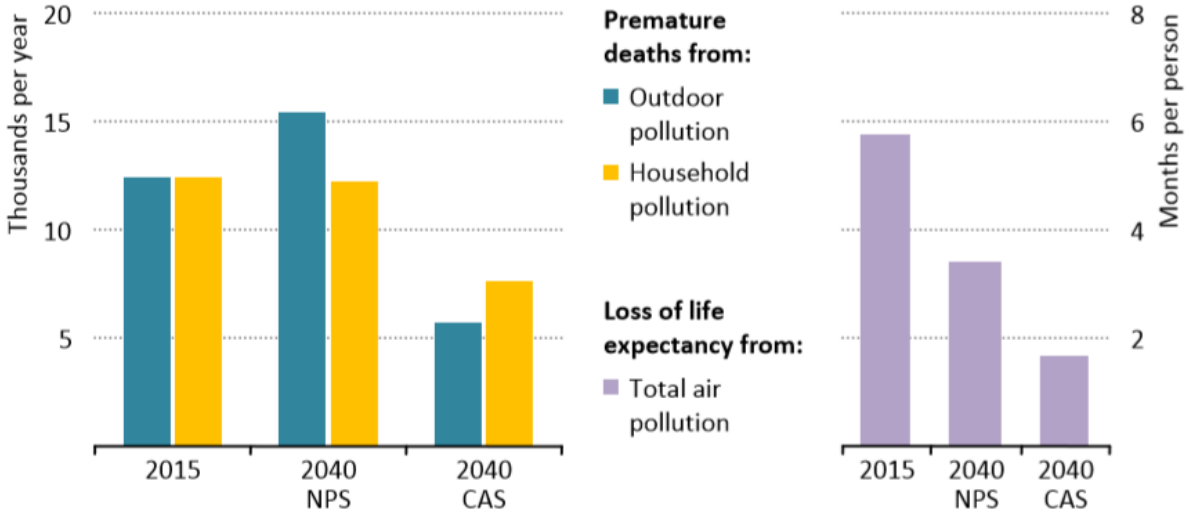


* Includes transformation (except power generation).

Sources: IEA; International Institute for Applied Systems Analysis (IIASA).

Drawing on public health data

Figure 5.7 ▷ **Premature death cases and loss of life expectancy in Mexico by scenario**

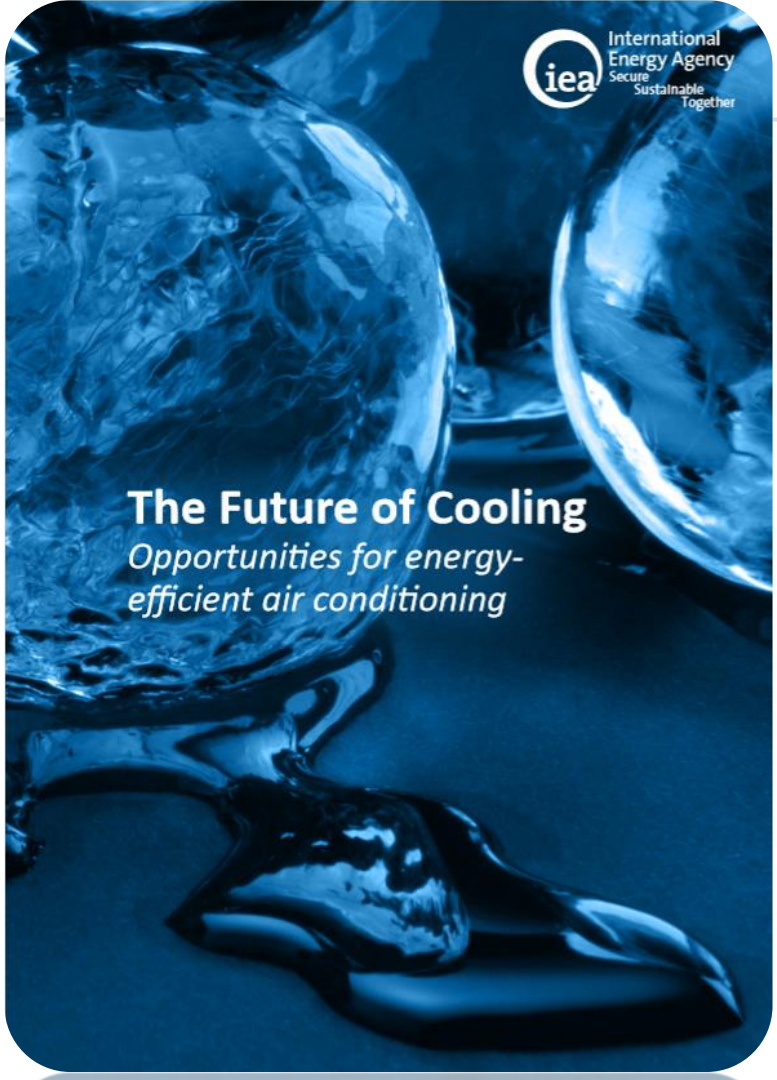


Note: NPS = New Policies Scenario; CAS = Clean Air Scenario.

Source: IIASA.

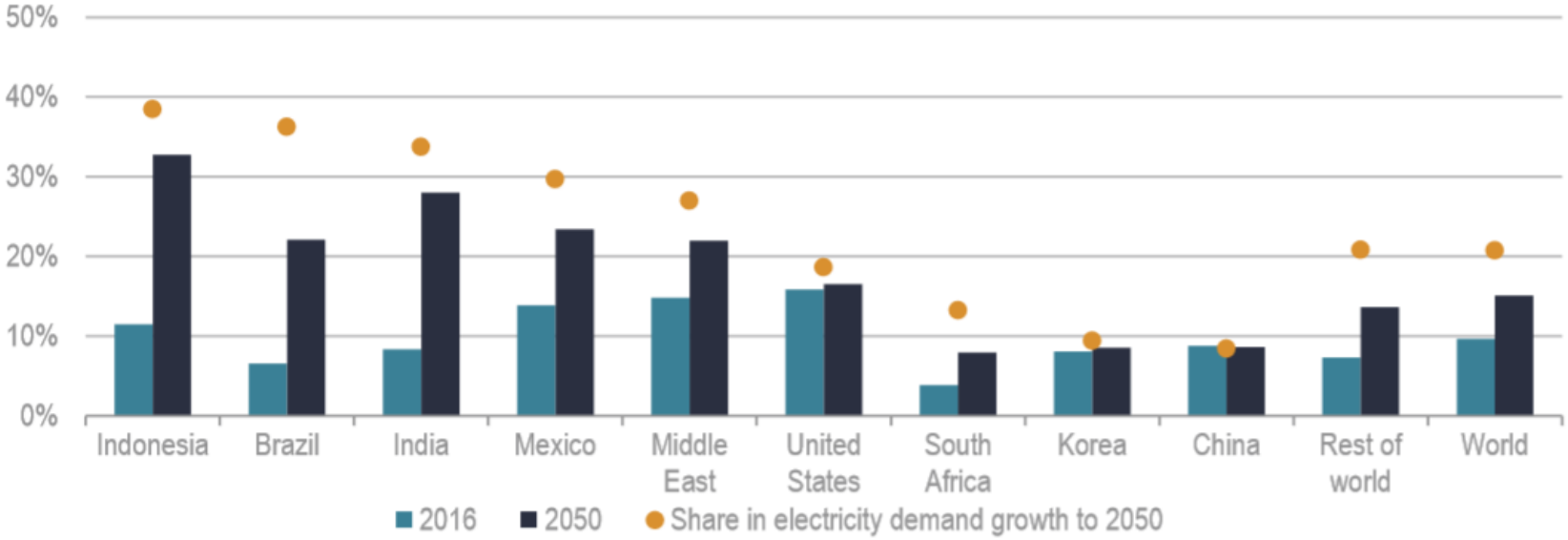
IEA, World Energy Outlook Special Report, Energy and Air Pollution, 2016

To demonstrate the public health effects of increased policy ambition



Understanding the pressure of cooling on electricity demand

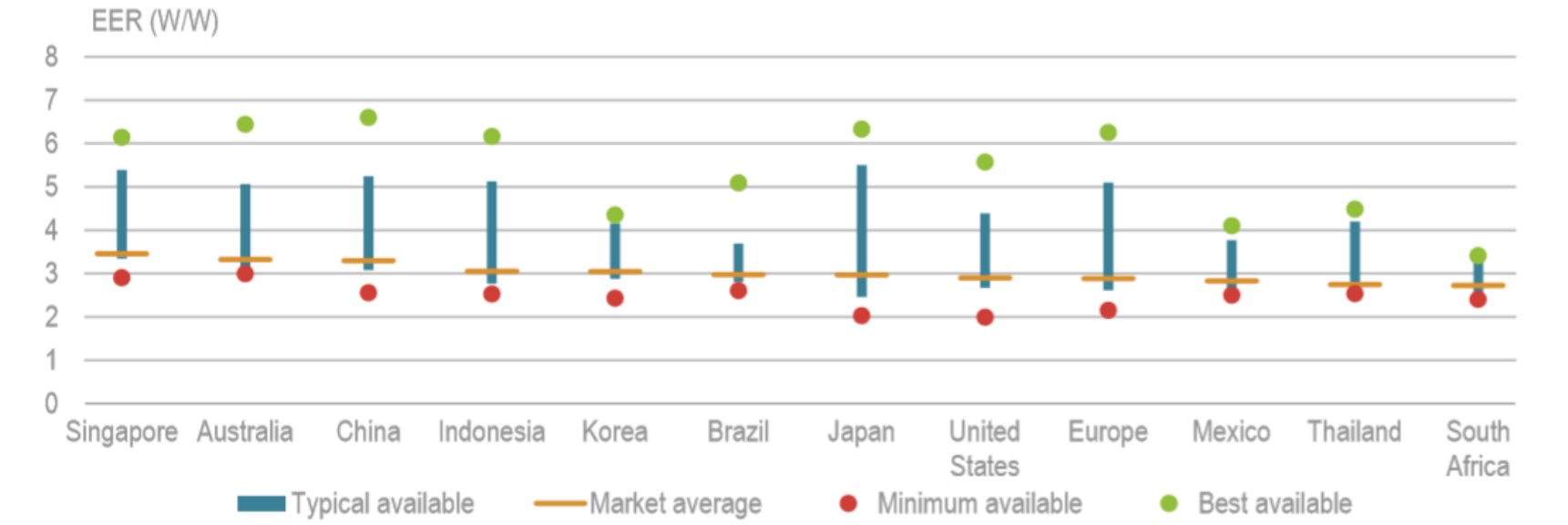
Figure 3.9 • Share of space cooling in total electricity demand and in the growth in electricity demand by country/region in the Baseline Scenario



In Mexico, air conditioning accounts for 30% of growth in electricity demand to 2050

Market data help answer the question:

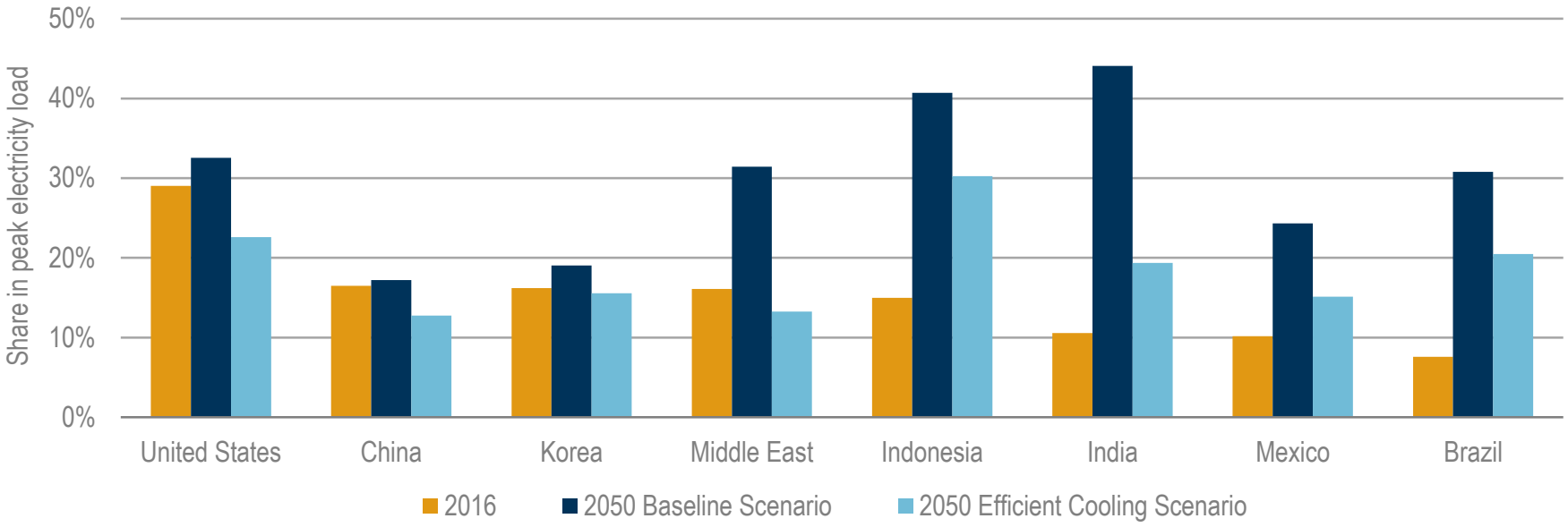
Figure 2.4 • EERs of available residential ACs in selected countries/regions, 2018



Source: IEA Global Exchange on Cooling and national product registry information, www.iea.org/exchange/cooling/.

How efficient are the ACs sold today, and can we do better?

Share of cooling in electricity system peak loads



IEA The Future of Cooling, 2018

Efficient air conditioners can help to dampen the impact on the power system.

www.iea.org

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