



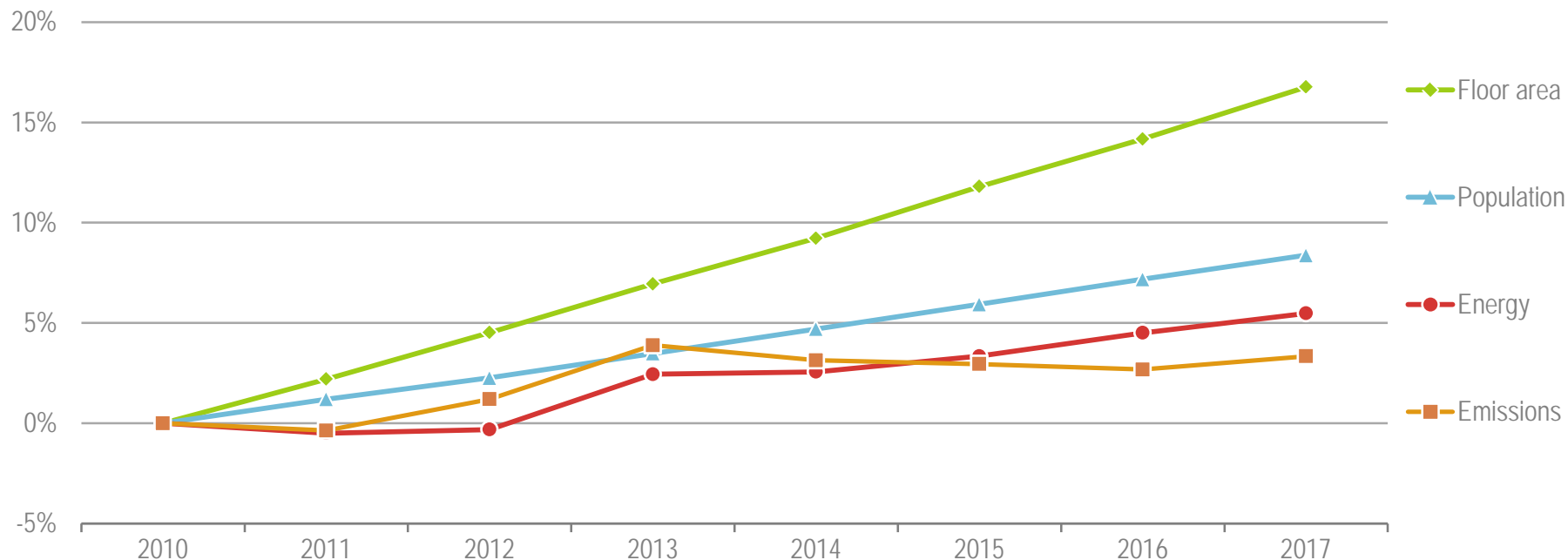
Energy efficiency in buildings & the Efficient World Scenario

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The buildings sector is growing, but efficiency and renewables limit the impact

Global buildings sector energy-related emissions, energy and indicators, 2010-17



Power sector decarbonisation and enhanced energy efficiency in buildings have helped to stabilise the influences of population and floor area growth on buildings sector emissions.

The world is missing opportunities to improve energy efficiency and policy is not delivering the full potential gains that are available with current technology.

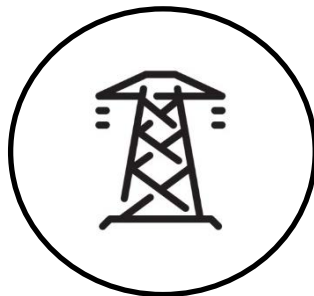
- What is possible with greater efforts on energy efficiency?
- The IEA's new Efficient World Scenario answers the question:

What would happen by 2040 if countries realised all the economically viable energy efficiency potential that is available today?

The Economy



The Energy System



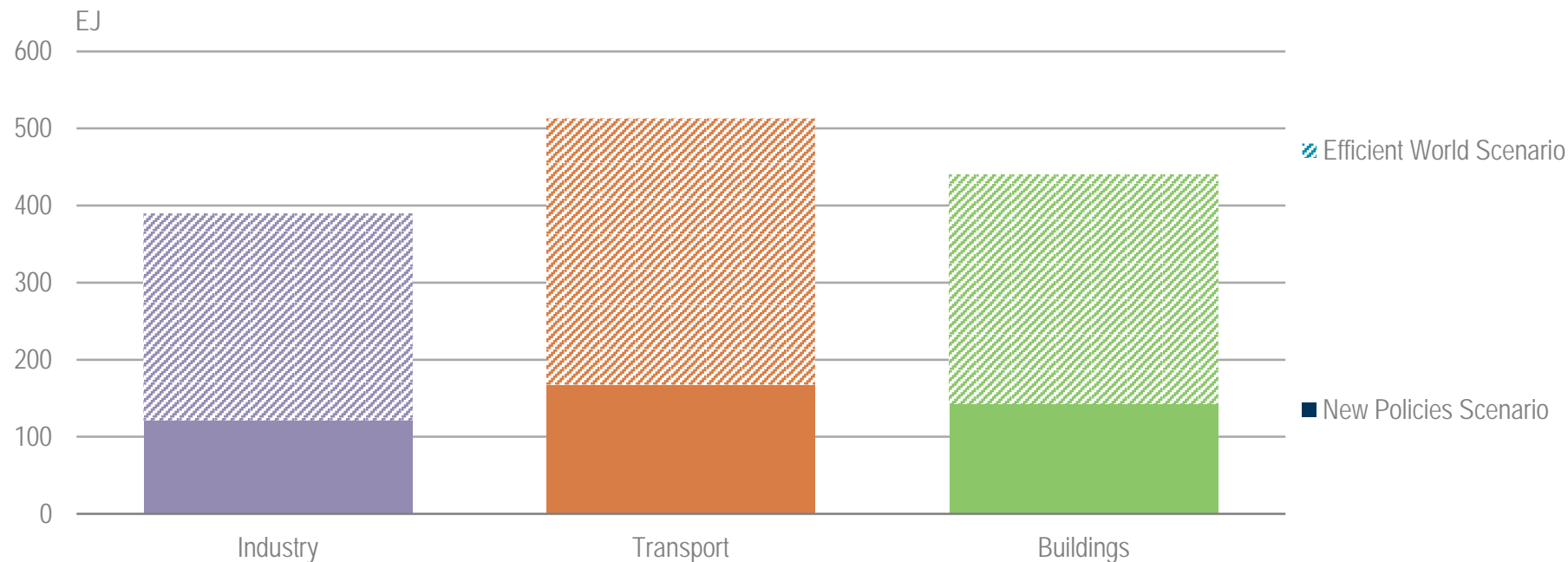
The Environment



There is significant cost-effective savings potential in every sector



Cumulative energy savings in NPS and additional potential in the EWS to 2040

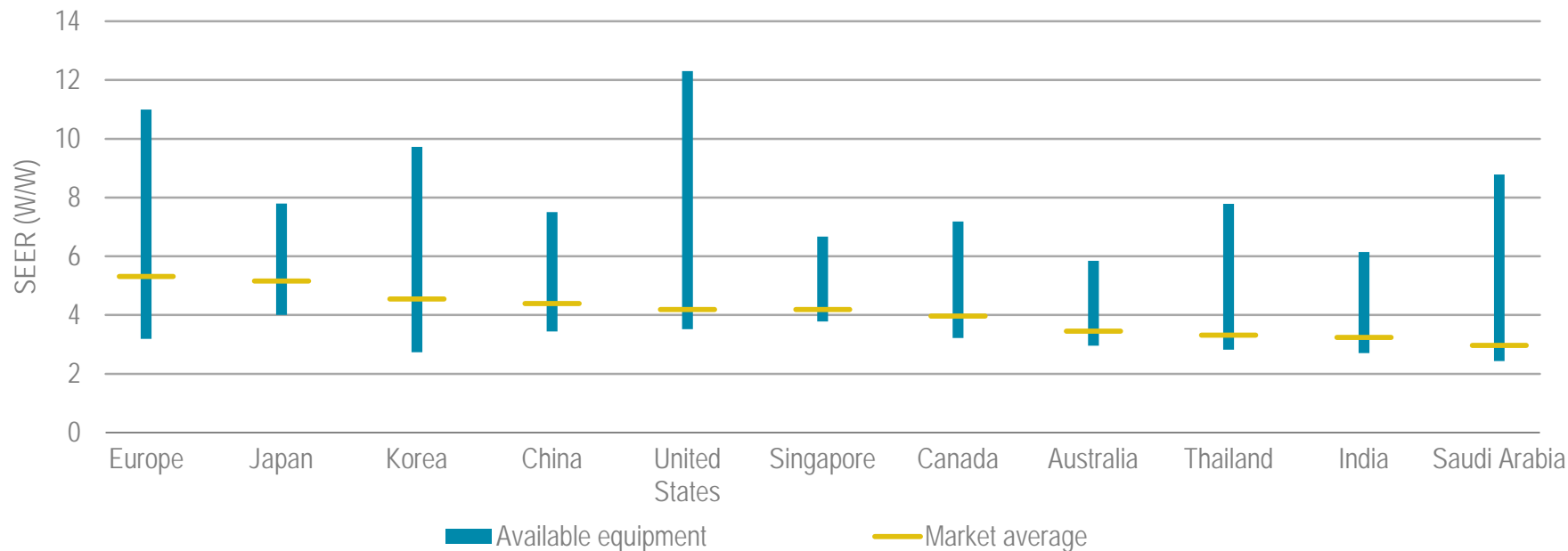


Only one third of the cost-effective potential cumulative energy savings in the Efficient World Scenario are realised in current policies and NDC commitments (New Policies Scenario).

Markets are not keeping up with energy efficiency potential



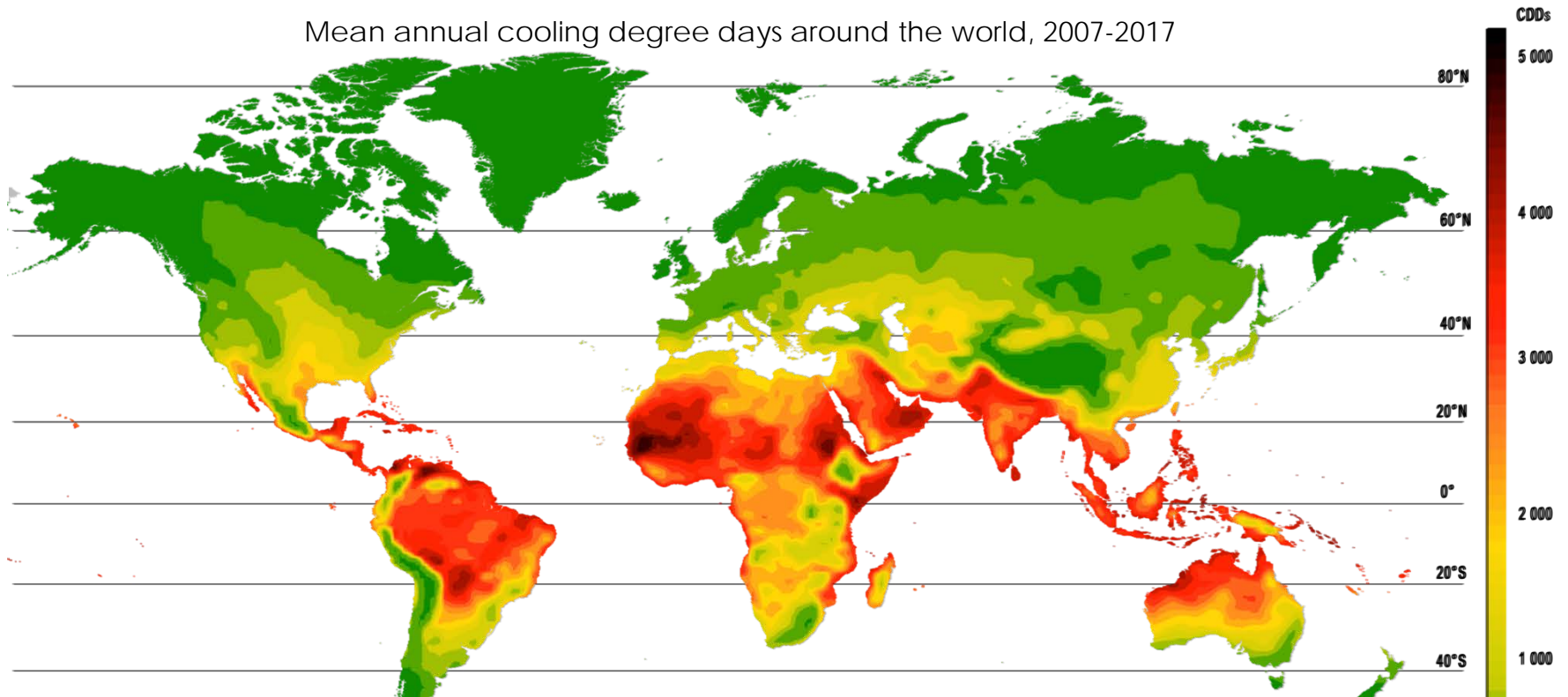
Energy performance of air conditioners already available in markets today



The average efficiency of air conditioners sold today is less than half of what is typically available on shelves – and one third of best available technology.

Access to cooling is a critical issue in some of the hottest places

Mean annual cooling degree days around the world, 2007-2017



**There are around 2.8 billion people living in places where it is hot every single day.
Only 8% of them have an air conditioner today.**

What is possible by 2040?

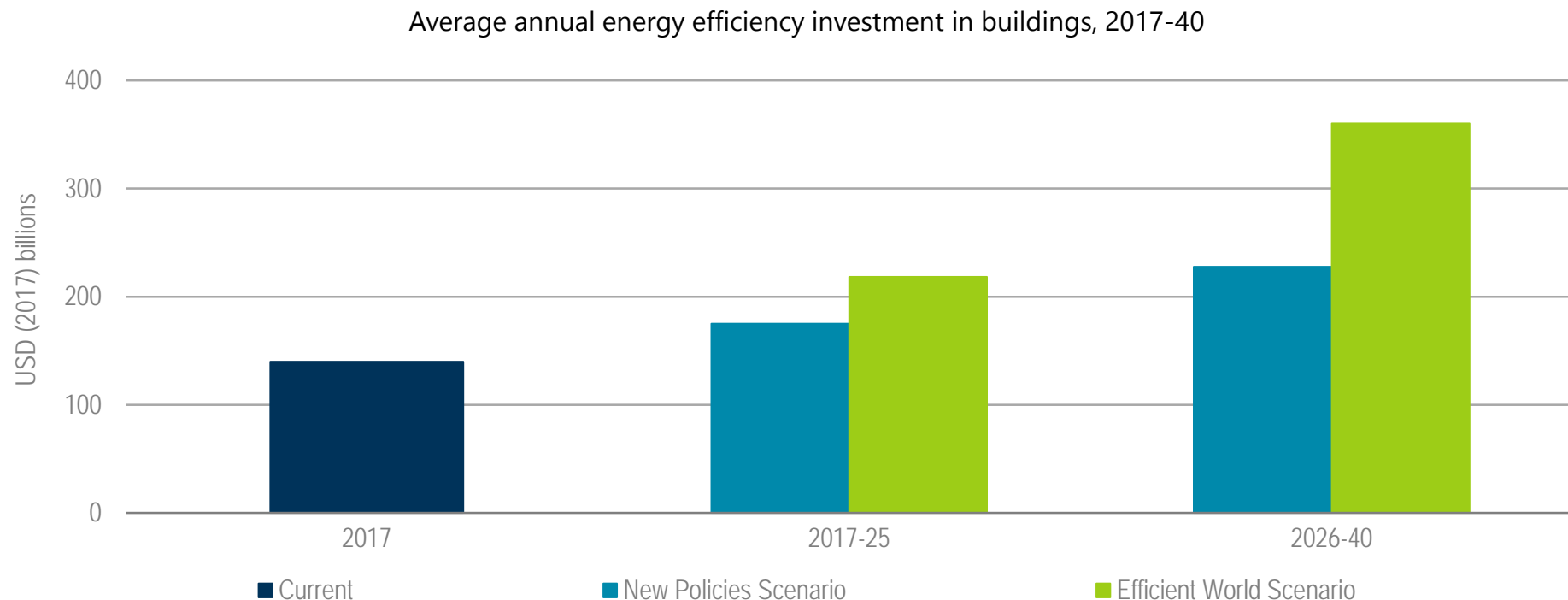


- Building space could increase by 60% for no additional energy use.
- Space heating, space cooling and water heating offer 60% of savings.

Key policy actions

- Comprehensive efficiency **regulations**, targeting both new and existing building stock and appliances.
- **Incentives** to encourage consumers to adopt high efficiency appliances and undertake deep energy retrofits.
- Improved quality and availability of energy performance **information and tools**.

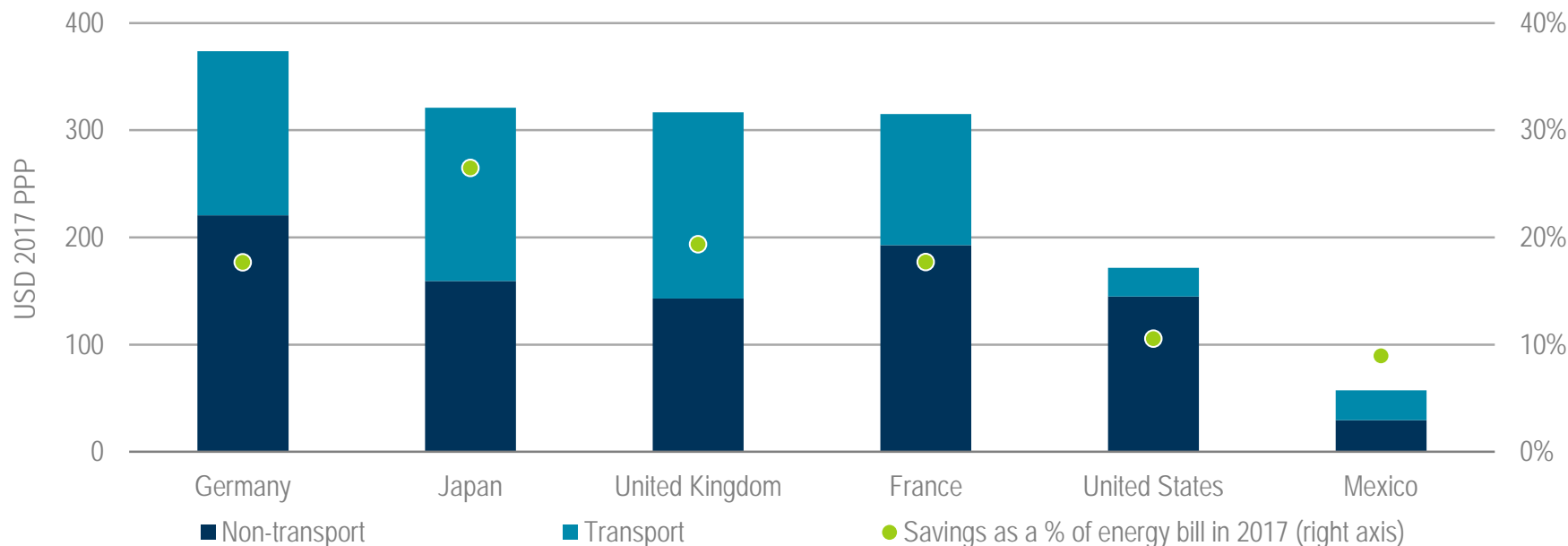
New policies are required to push buildings investment higher



To achieve the Efficient World Scenario, cost effective incremental investment would need to increase to over USD 200 billion in the coming years and to over 300 billion out to 2040.

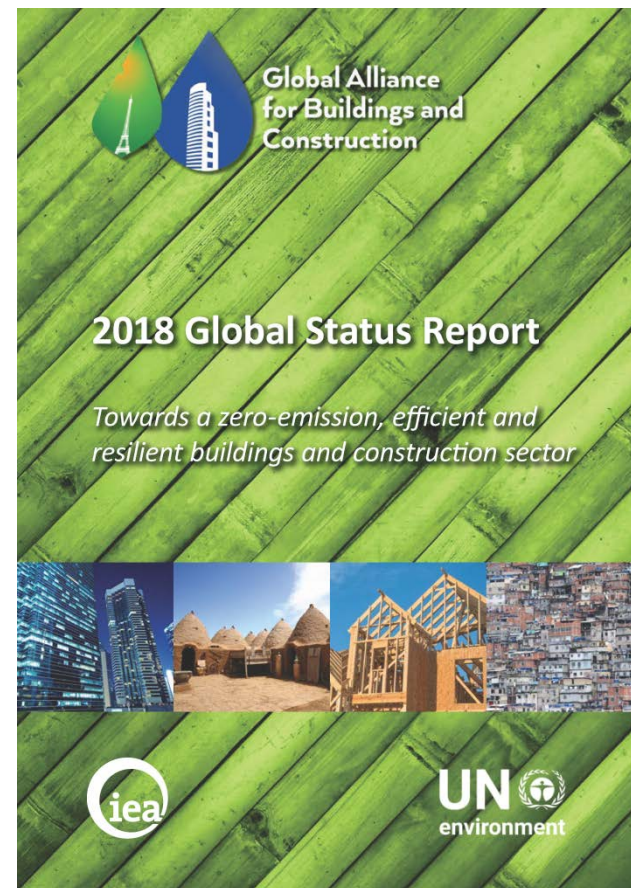
Household energy expenditure has been avoided

Average household savings per capita on energy expenditure in 2017 due to efficiency gains since 2000



Energy as a share of total household expenditure is rising, but it is less thanks to efficiency. To 2040, households can avoid over USD 550 billion in the Efficient World Scenario.

- Latest IEA analysis of the buildings sector
- Examines the status of:
 - Nationally Determined Contributions (NDCs)
 - Building codes and standard
 - Buildings certification
 - Investment in the buildings sector
- Examines progress achieved in key themes:
 - Human factors
 - Technology solutions
 - Architectural solutions
 - Material solutions
 - Resilient buildings
 - Urban solutions
 - Clean energy transition
 - Circular economy





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