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Energy Efficiency Today: IEA's 2015 Market Report

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Energy Efficiency Market Report 2015

Focus of the 2015 edition:

- Returns to energy efficiency investments
- Buildings efficiency market
- Relationship between energy efficiency and electricity markets

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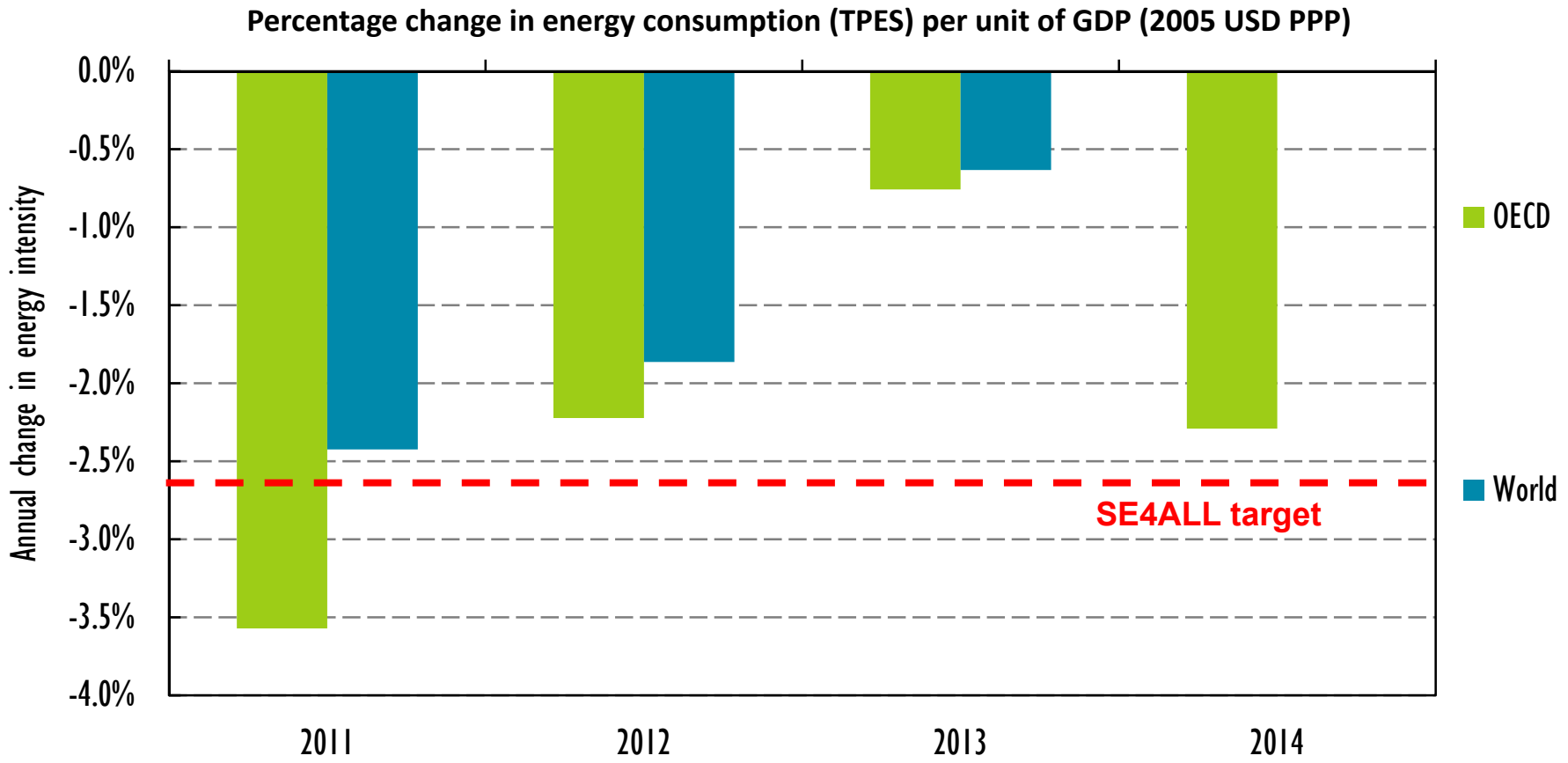
http://www.iea.org/bookshop/709-Energy_Efficiency_Market_Report_2015

Energy intensity in OECD countries improved in 2014

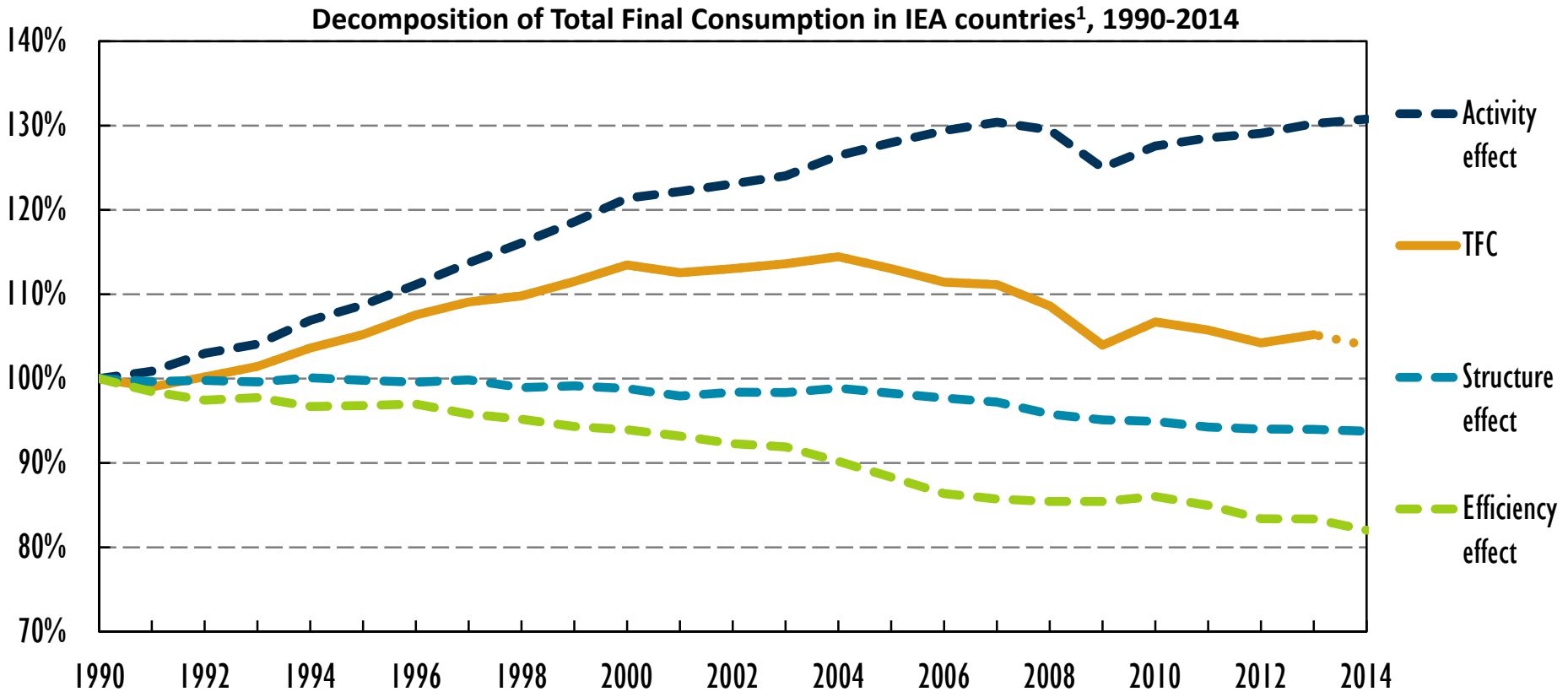
- **Energy intensity in OECD countries declined by 2.3% in 2014**



Within range of the 2.6% per annum SE4ALL target

Energy efficiency is flattening energy consumption

- Total final consumption has declined over the last decade

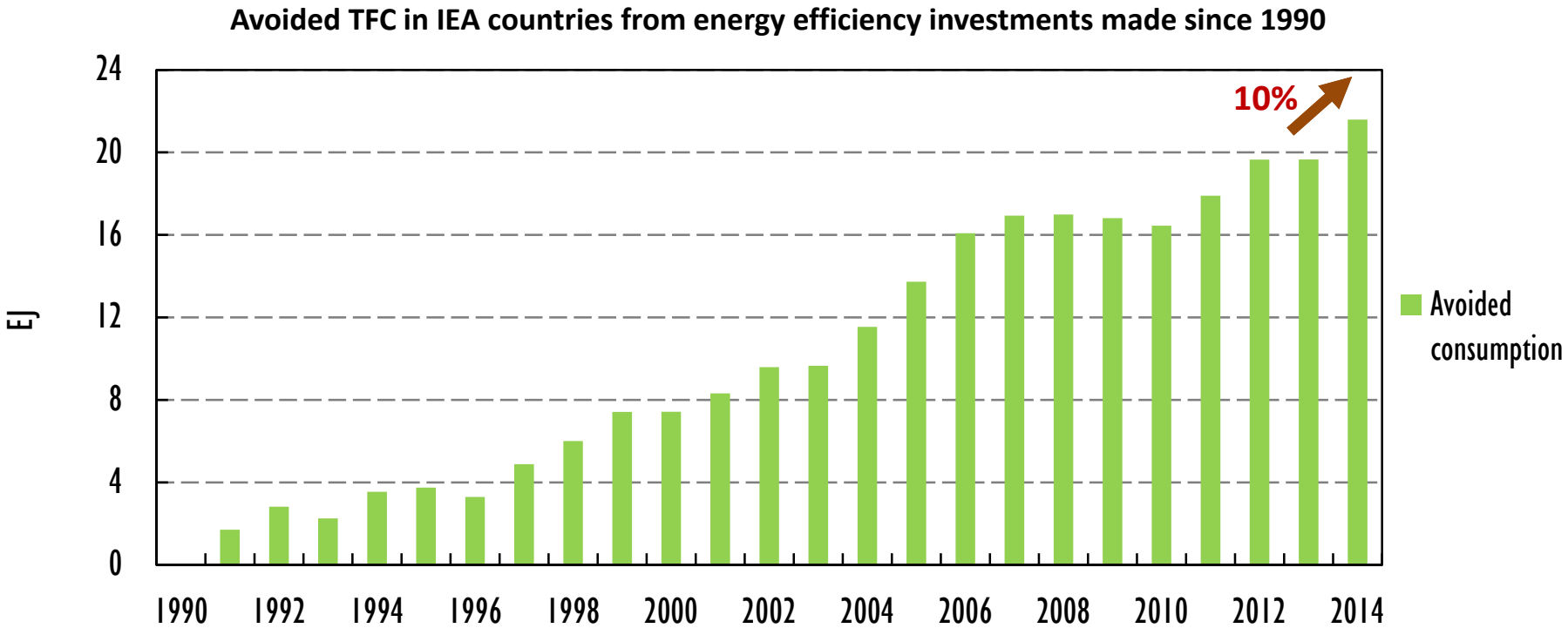


Energy efficiency is responsible for two-thirds of the downwards pressure on demand

[1] Decomposition for Australia, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States.

Avoided consumption topped 22 EJ (520 Mtoe) in 2014

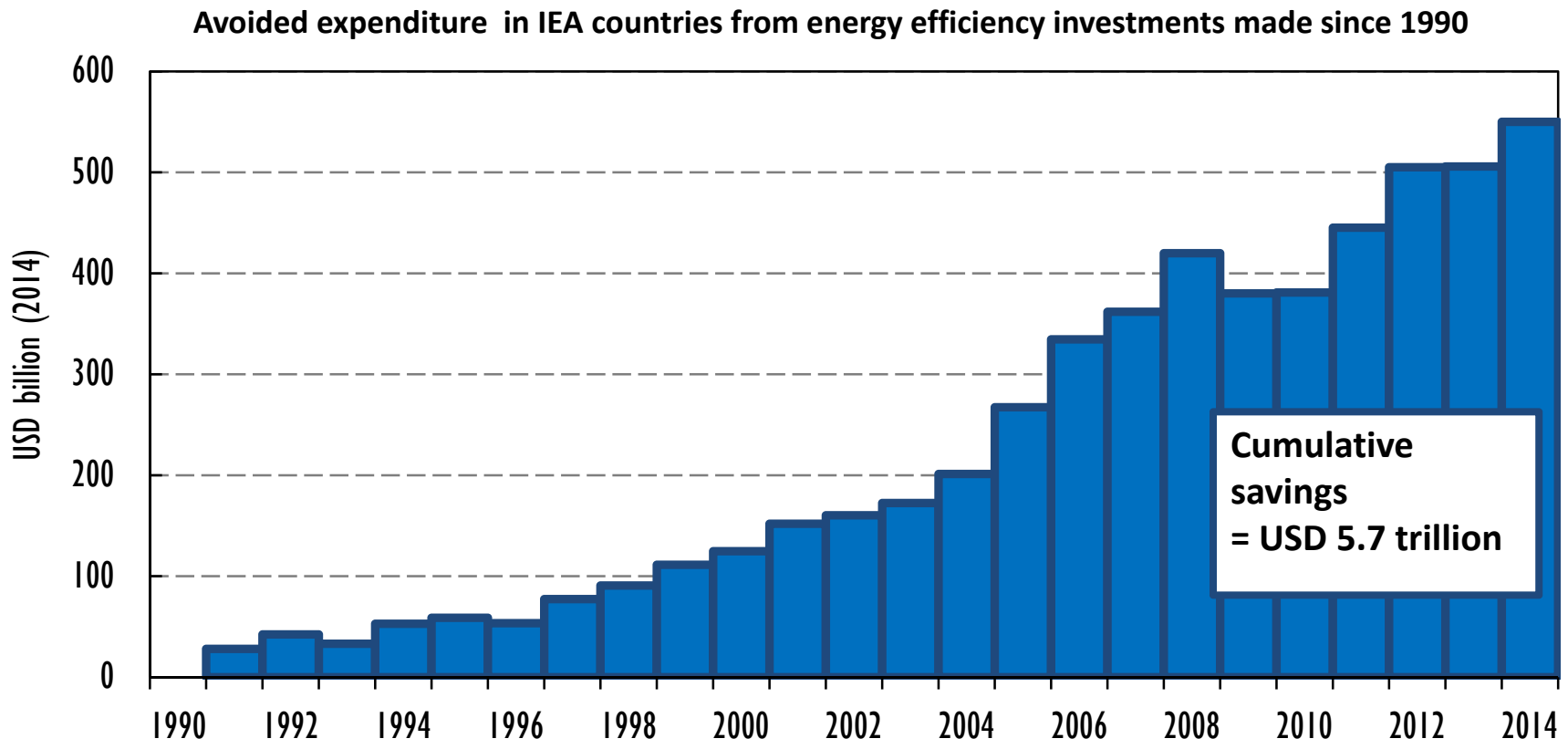
- **Avoided consumption generated by energy efficiency increased 10% in 2014**



IEA countries avoided more consumption in 2014 than the TFC of Japan and Korea combined

IEA consumers are saving hundreds of billions of dollars each year

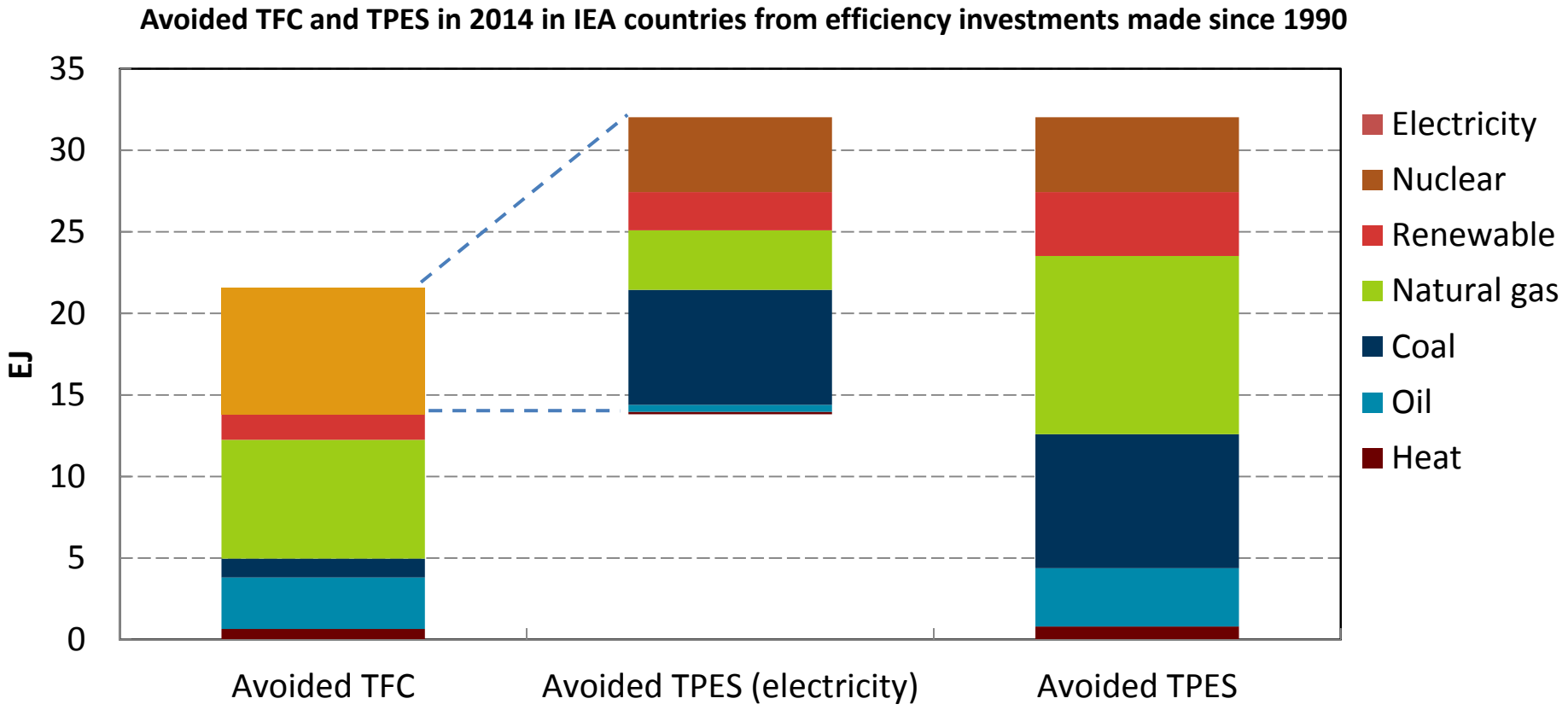
- IEA countries saved USD 550 billion in 2014 as a result of energy efficiency investments since 1990



Annual savings are greater than the EU's fuel import bill

From avoided end-use consumption to primary energy savings

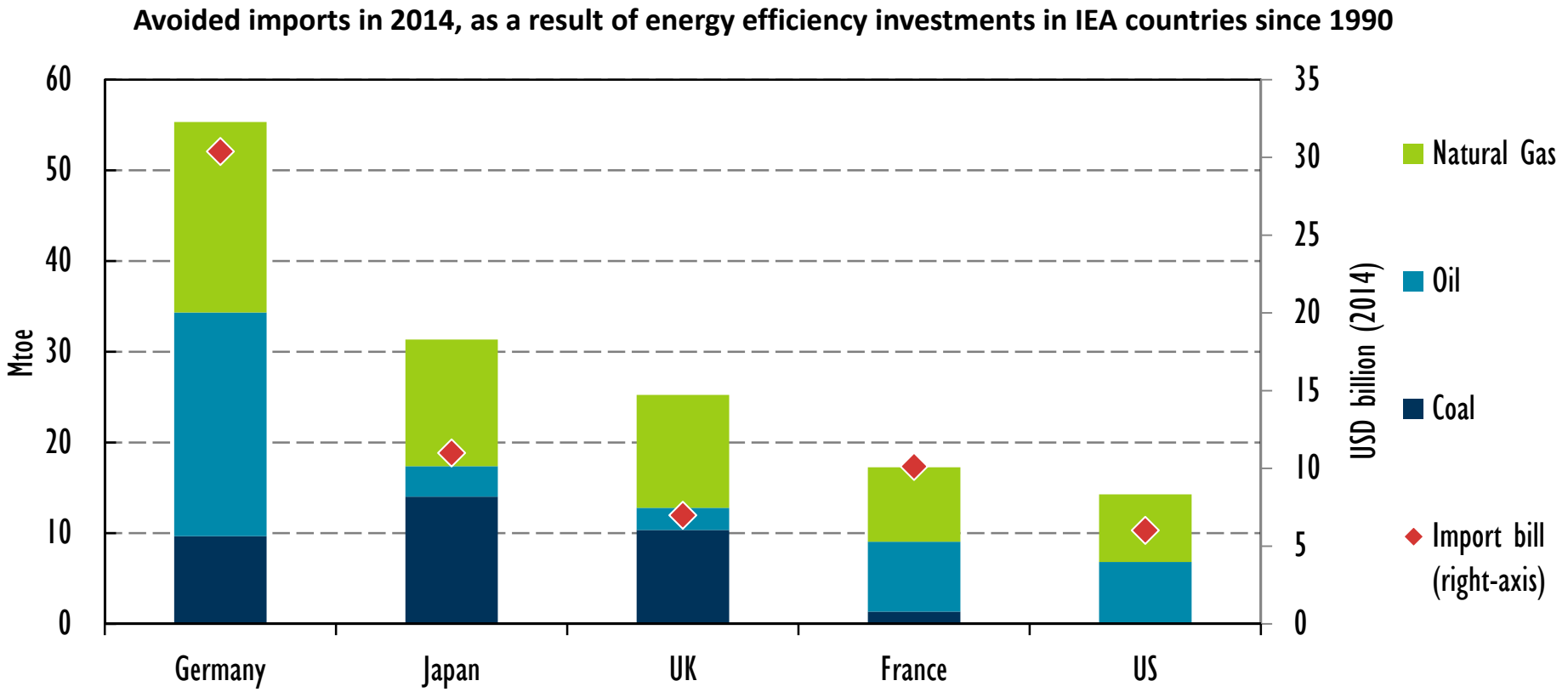
- **In 2014, avoided total primary energy supply generated by energy efficiency was 32 EJ (765 Mtoe)**



End-use efficiency leads to substantial primary energy savings

Efficiency's domestic production substitutes for fuel imports

- In 2014, IEA countries avoided primary energy imports totalling 190 Mtoe, saving USD 80 billion in energy import bills and improving trade balances



Domestically produced, efficiency supports energy security

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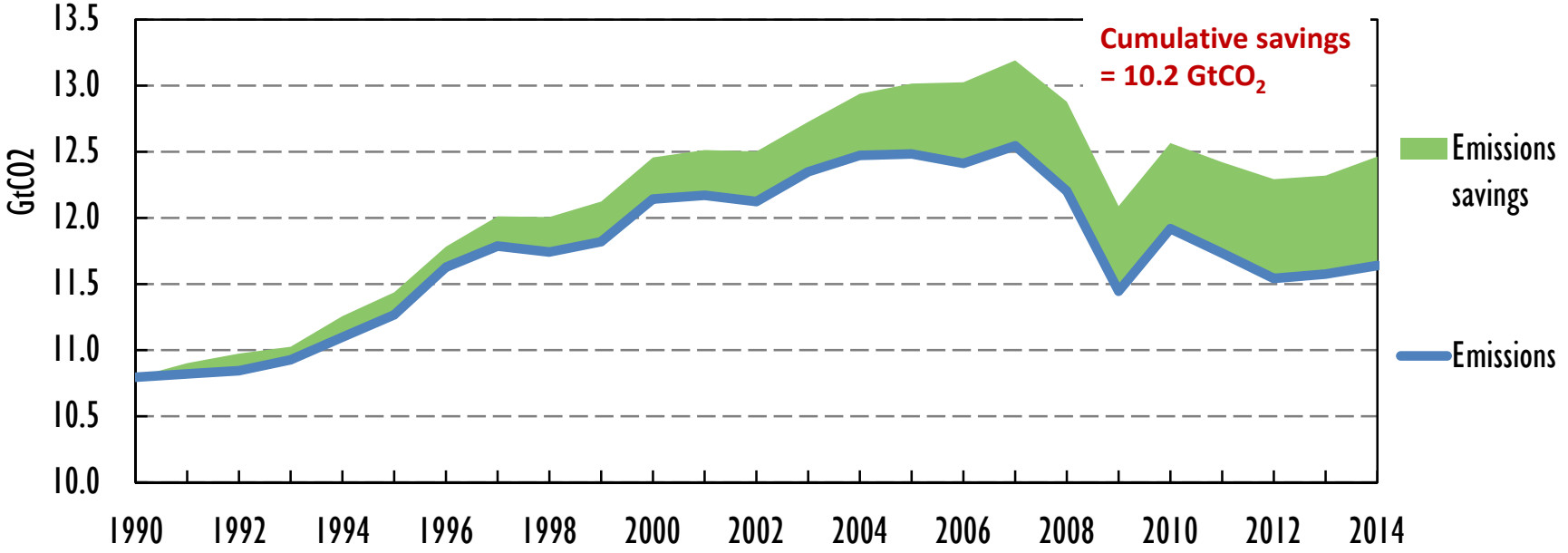
A clean energy source, efficiency reduces emissions

- Energy efficiency investments since 1990 have helped to reduce IEA countries' emissions to below 1996 levels
- Without energy efficiency investments, estimated emissions by IEA countries would have been 870 Mt CO_2 higher in 2014

IEA emissions from fossil fuel combustion and emissions savings from energy efficiency investments since 1990



Energy efficiency has helped to make the 2 degrees target more achievable by lowering emissions to date

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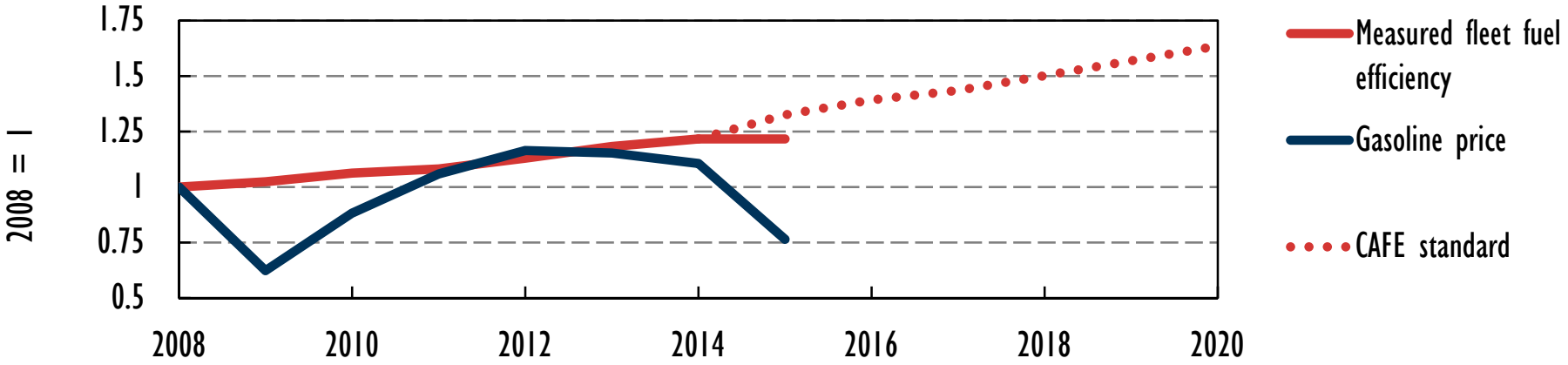
Maintaining momentum in a low oil price environment

- **Strong policy drivers to insulate EE investments:**
  - The EU Energy Efficiency Directive, the US Clean Power Plan
  - INDCs submitted to the UNFCCC should all drive investment
  - Consumption subsidies have been cut in various jurisdictions, dampening drop in consumer prices
- **Uneven short-term impacts on demand**

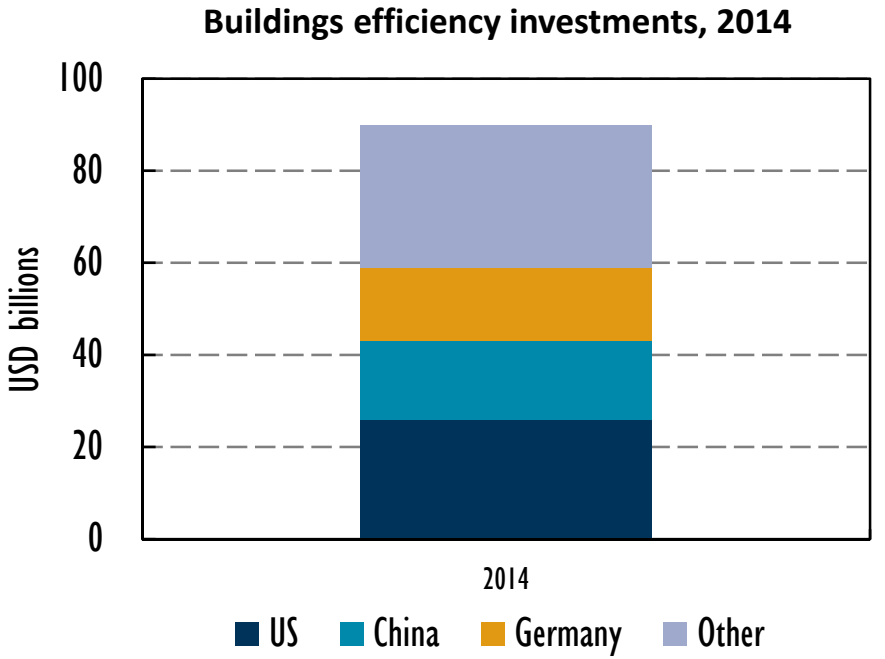
Indices of new US LDV fuel economy performance, CAFE standard and unleaded gasoline prices



Continued low oil prices could ultimately weaken support

Energy efficiency in buildings: Nearly a USD 100 billion market

- ***Energy Efficiency Investment in Buildings*** **estimated at USD 90 billion with 2/3 in the US, China and Germany**
- **In the US, and elsewhere, building efficiency investments are growing faster than total buildings investments**

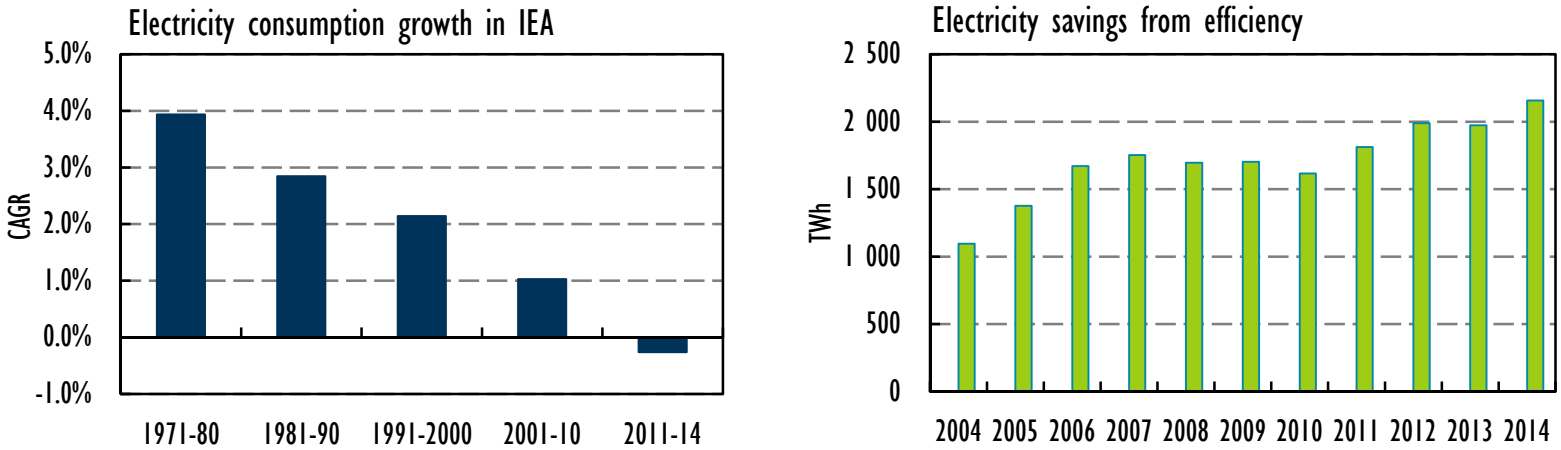


- ***Current trends point to USD 120 billion by 2020***
- ***But investment projections fall far short of the estimated USD 215 billion per annum needed to achieve the 2-Degree Scenario (2DS)***

Energy efficiency: Flattening electricity consumption in IEA countries

- **Electricity consumption in IEA countries has declined by 2% since 2010**
- **Energy efficiency has enabled businesses and households to meet their energy service demands with 2 200 fewer TWh of generation**

Electricity consumption in IEA countries and energy efficiency savings (from investments since 1990)



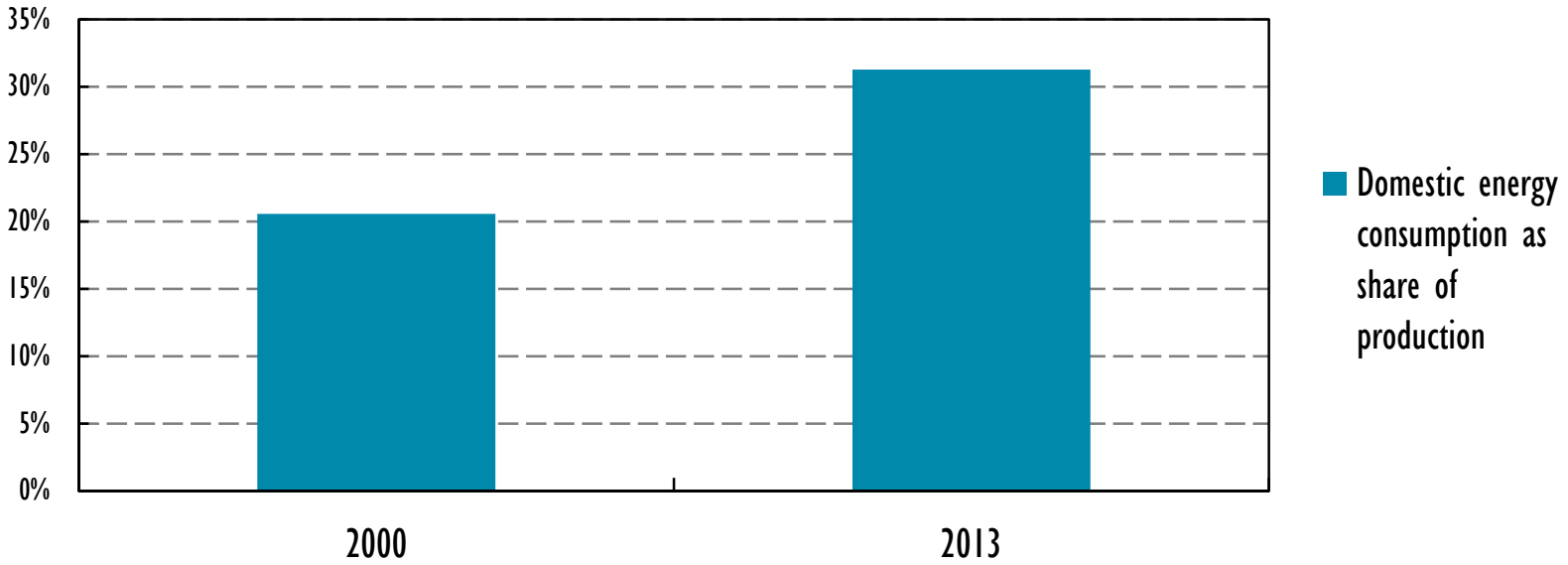
- ***Low growth is pushing various energy utilities to shift from traditional generation to sale of energy efficiency services***
- ***Energy efficiency is facilitating the achievement of renewables targets by decreasing the amount of additional GWh required***

Market profiles highlight the diversity of energy efficiency markets

Theme	Region	Findings
Energy exporters	**Russia**	Rising exports increasing income and domestic energy consumption
	Saudi Arabia	***Energy exporters increasingly look to efficiency to boost export volumes***
Sub-national government	**Tokyo**	***Cities and sub-national governments are major enablers of energy efficiency markets***
	Seoul	
	Paris	Eager to capitalise on multiple benefits of energy efficiency
	Massachusetts	
Latin America	**Mexico**	***Energy efficiency is an important supporter of development objectives***
	Brazil	
IEA member	**United Kingdom**	Using efficiency to adjust to net-energy importer status

In Saudi Arabia, energy efficiency is increasing export revenues

- Domestic energy consumption has nearly doubled since 2000, reducing share of energy production going to exports:



- Saudi Arabia has implemented efficiency standards on key sources of domestic energy demand including vehicles and air conditioners

Air conditioner standards alone are targeted to improve efficiency by 35%, saving 47 million barrels of oil and increasing export revenues by USD 2.4 billion

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In Seoul, LEDs are substituting for nuclear power

- Seoul has adopted the “One-Less Nuclear Plant” plan to cut energy consumption by the equivalent of one nuclear plant (2 Mtoe)

http://www.pennenergy.com/articles/pe/2013/10/

https://upload.wikimedia.org/wikipedia/commons/

- Plan has retrofitted 2 267 buildings – market enabled by up to USD 2 million in low-interest financing per project
- Seoul lighting to go 100% LED, replacing 2.2 million security and street lights

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Thank you

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