



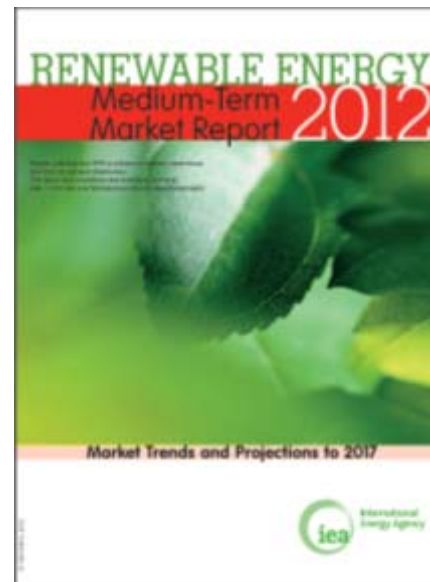
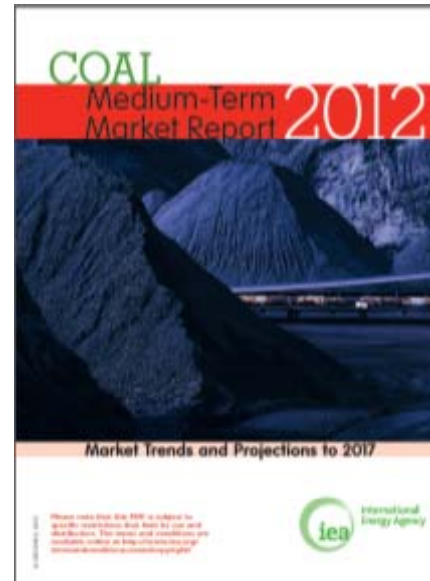
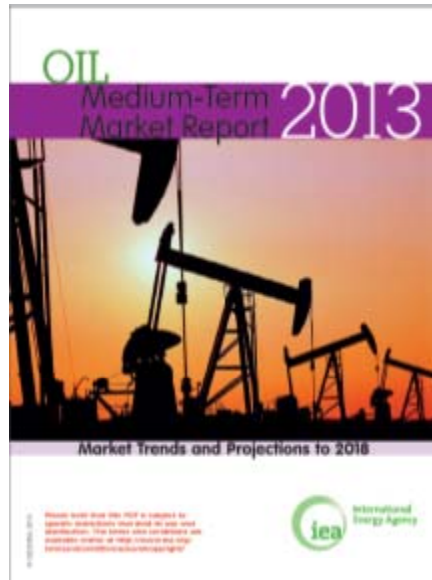
Secure • Sustainable • Together

Energy Efficiency Market Report 2014

*Philippe Benoit, Division Head
Energy Efficiency and Environment Division
ENEA, Rome, 15 October 2014*

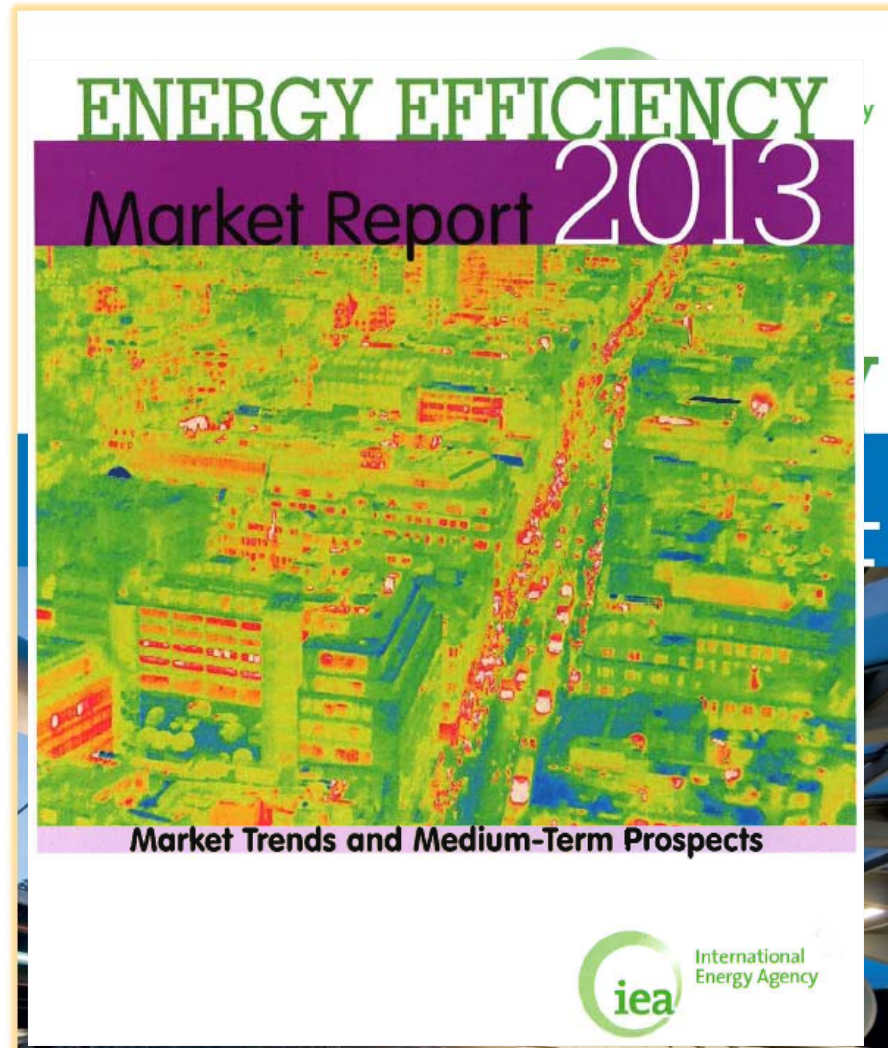


IEA fuel market reports



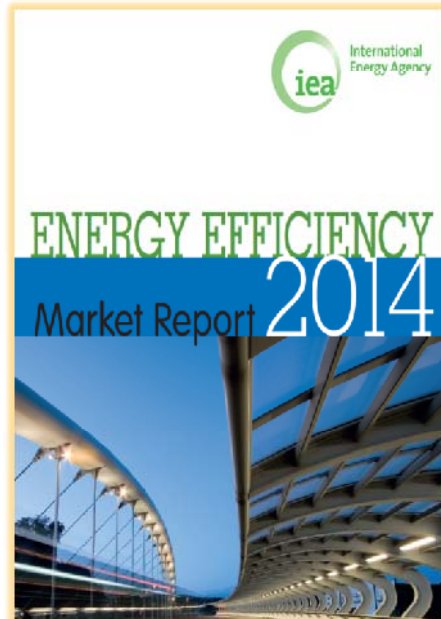


IEA fuel market reports





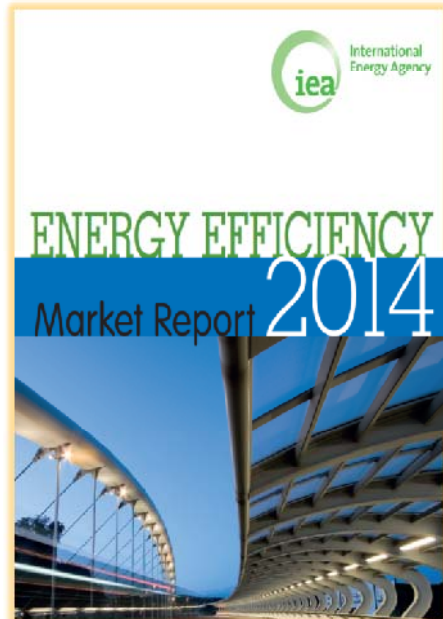
IEA's 2014 EE Market Report



- Defining and
'Sizing' the market:
- inputs
 - outputs



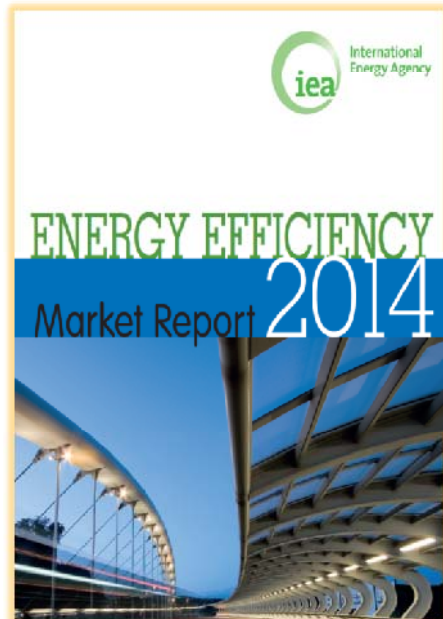
IEA's 2014 EE Market Report



Local specificities
Common elements



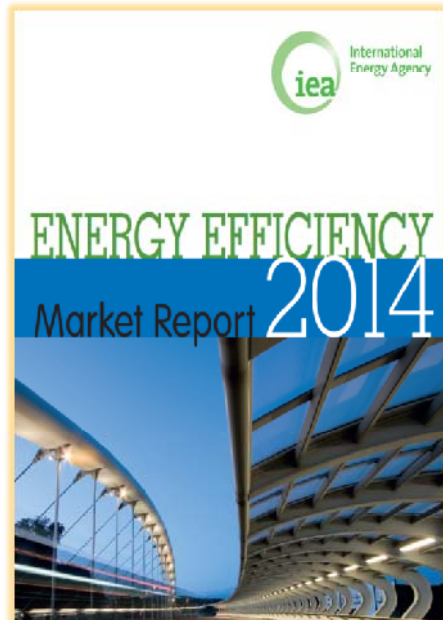
IEA's 2014 EE Market Report



Prospects



IEA's 2014 EE Market Report



Data/methodological challenges

What's new in 2014

- **More robust market evaluation methods**
- **Expanded analysis from 11 to 18 countries**
- **New decomposition methodology**
- **More energy efficiency indicators**
- **Focus on transport and finance**

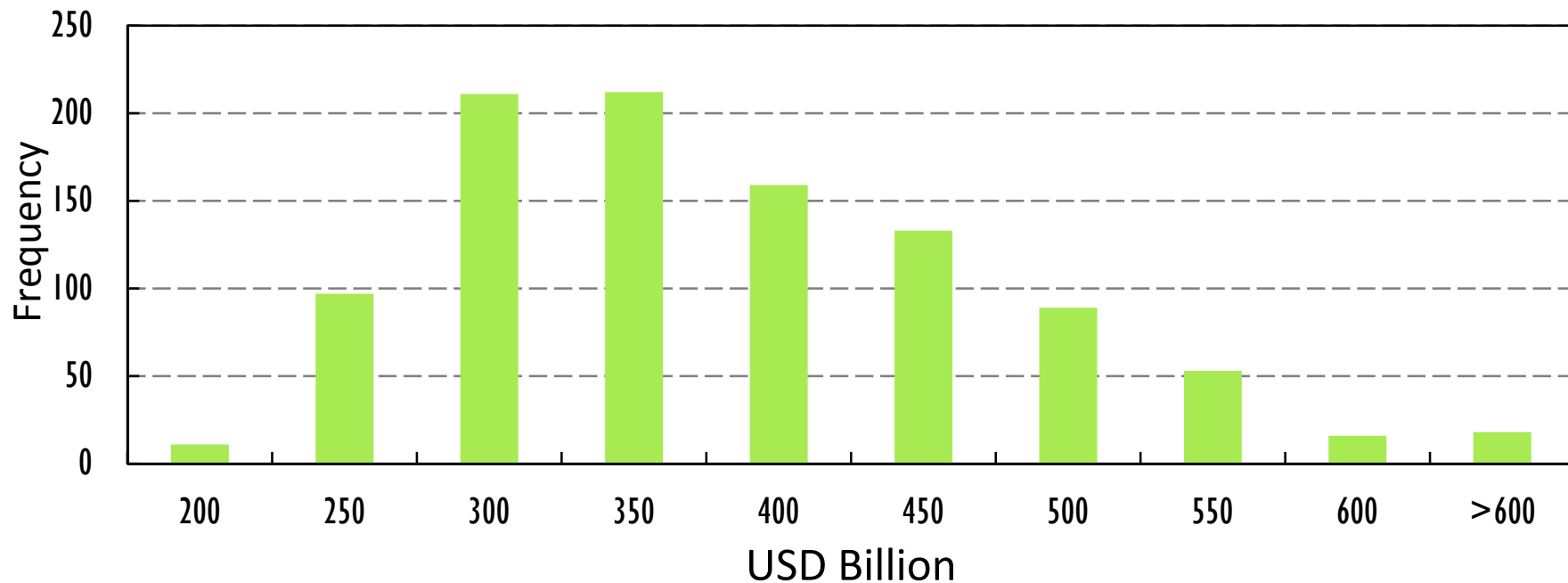
IEA produced a series of new market estimates:

- a) Capital Formation**
- b) Global Energy Intensity**
- c) Modelled energy efficiency based on productivity change (LIEF – long term industrial forecasts)**
- d) Monte Carlo (adjusted from LIEF)**
- e) Financing leveraging**

Global Energy Efficiency Market

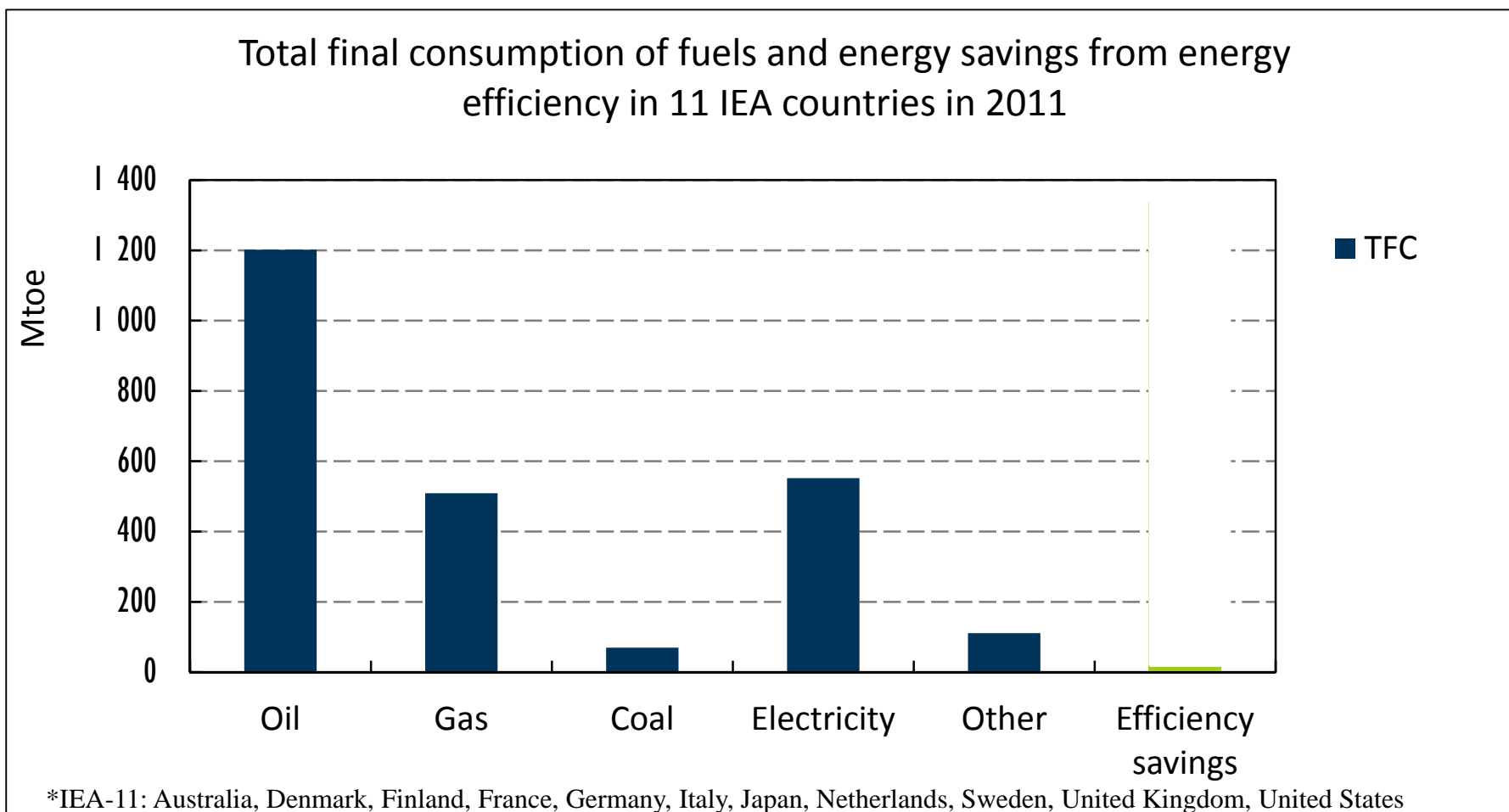
- Estimated to be between USD 310-360 billion
- Energy savings are product of energy consumers investing in new, more efficient energy consuming stock and practices
- Signals point to further growth

Monte Carlo: Distribution of energy efficiency market estimation



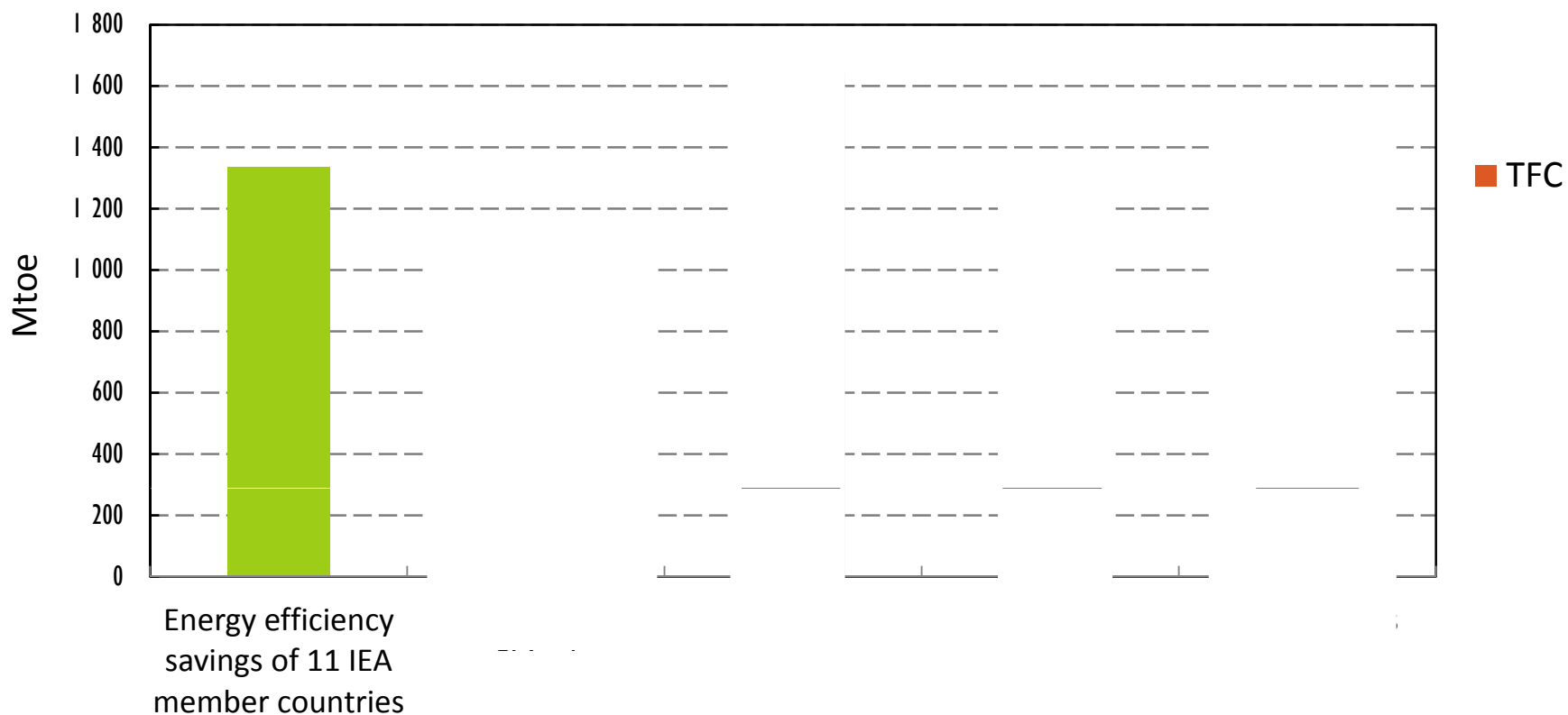
Energy efficiency: still the 'first fuel'

Supplied (1336 Mtoe) more in 2011 to meet energy service demand than oil (1200 Mtoe), electricity (552 Mtoe), natural gas (509 Mtoe) in IEA-11*



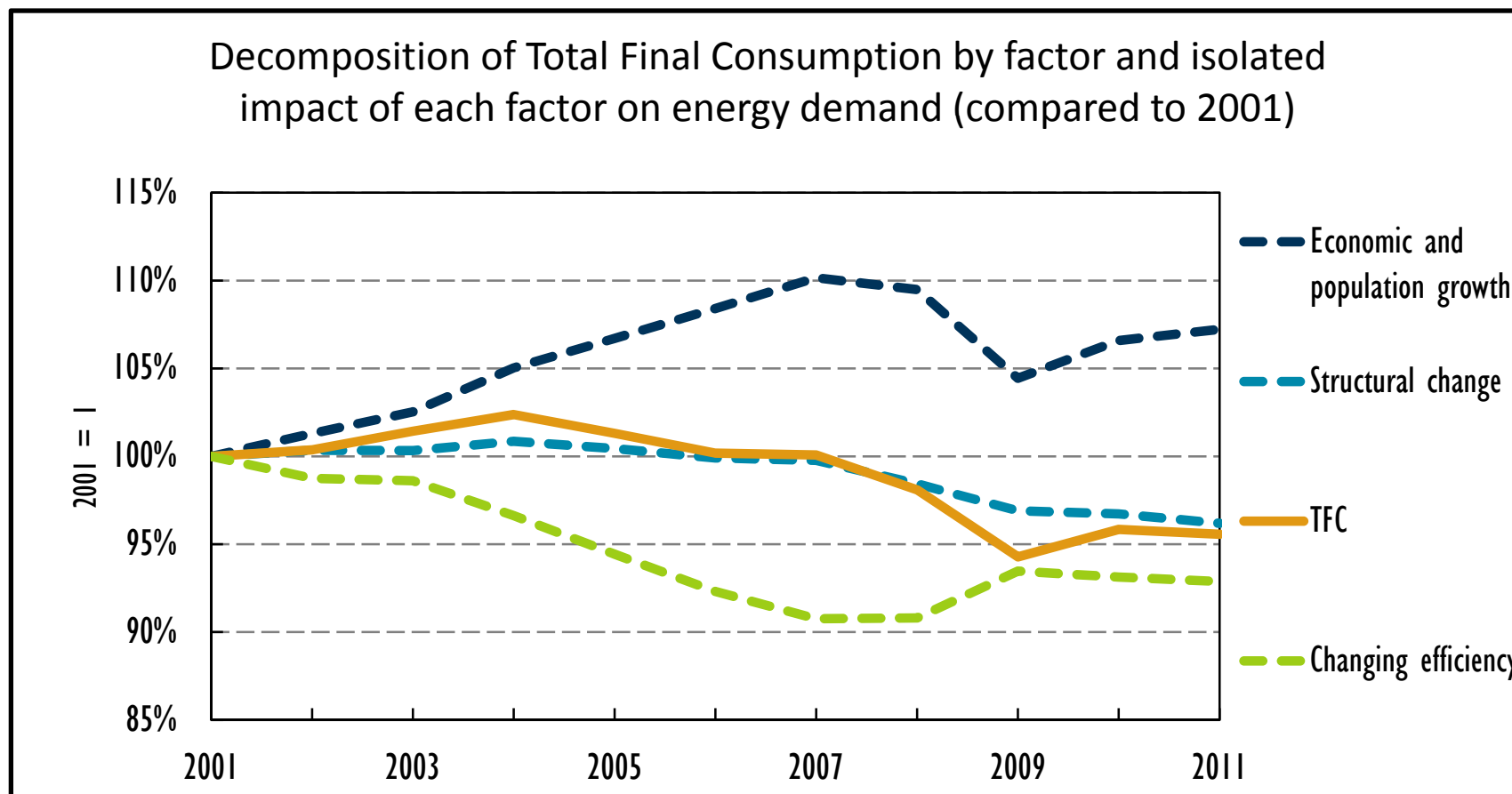
EE: an invisible power-house

Energy efficiency savings in IEA-11 countries rival TFC of major energy consuming countries and regions (e.g., EE improvements over the last 4 decades saved more energy in 2011 than TFC in EU)



How different factors are affecting energy demand over time

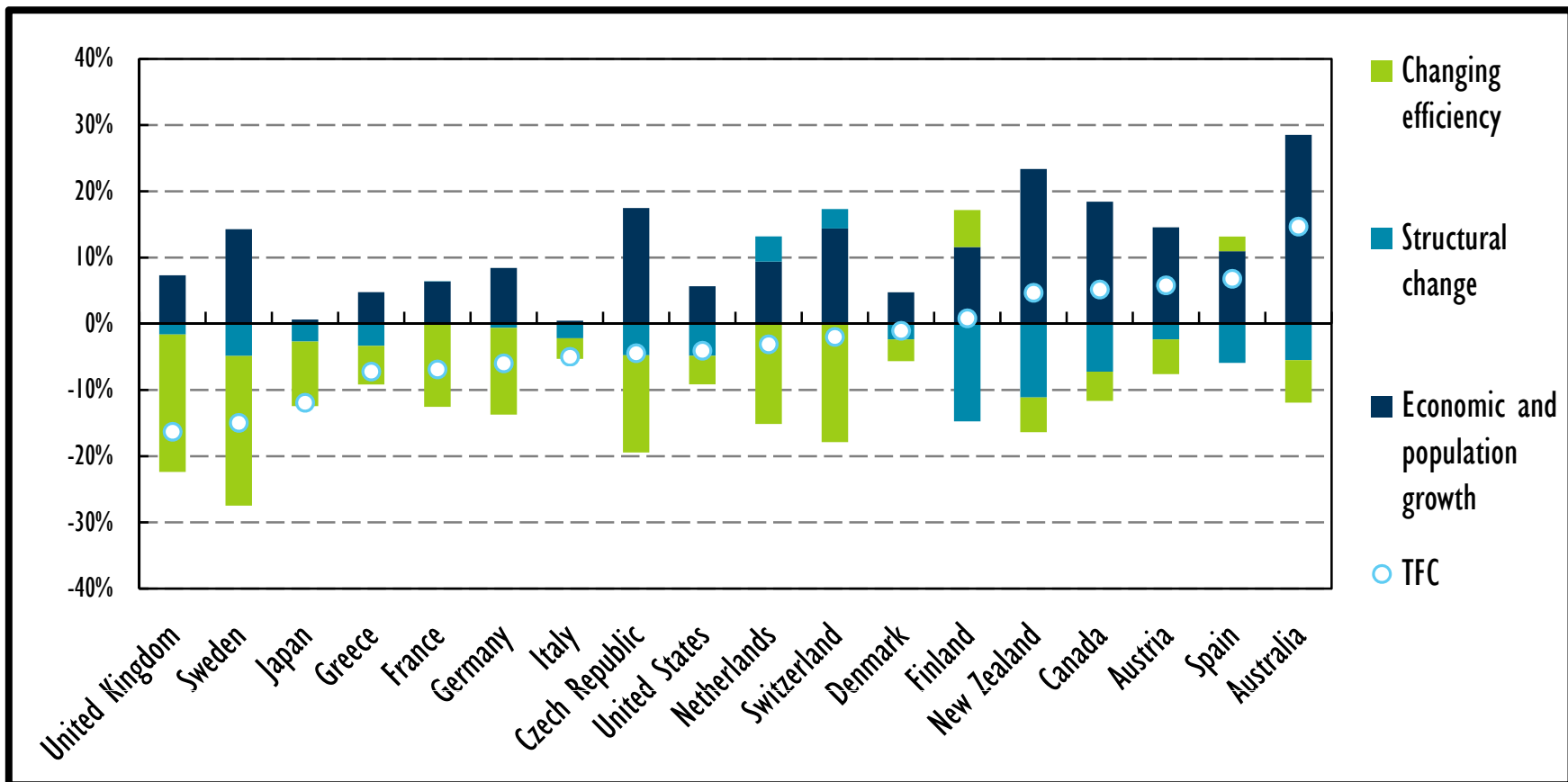
Energy efficiency has been the prime mover to reduce energy demand (TFC) – IEA-18*



*IEA-18: Australia, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, United States + Austria, Canada, Czech Republic, Korea, New Zealand, Spain, Switzerland.

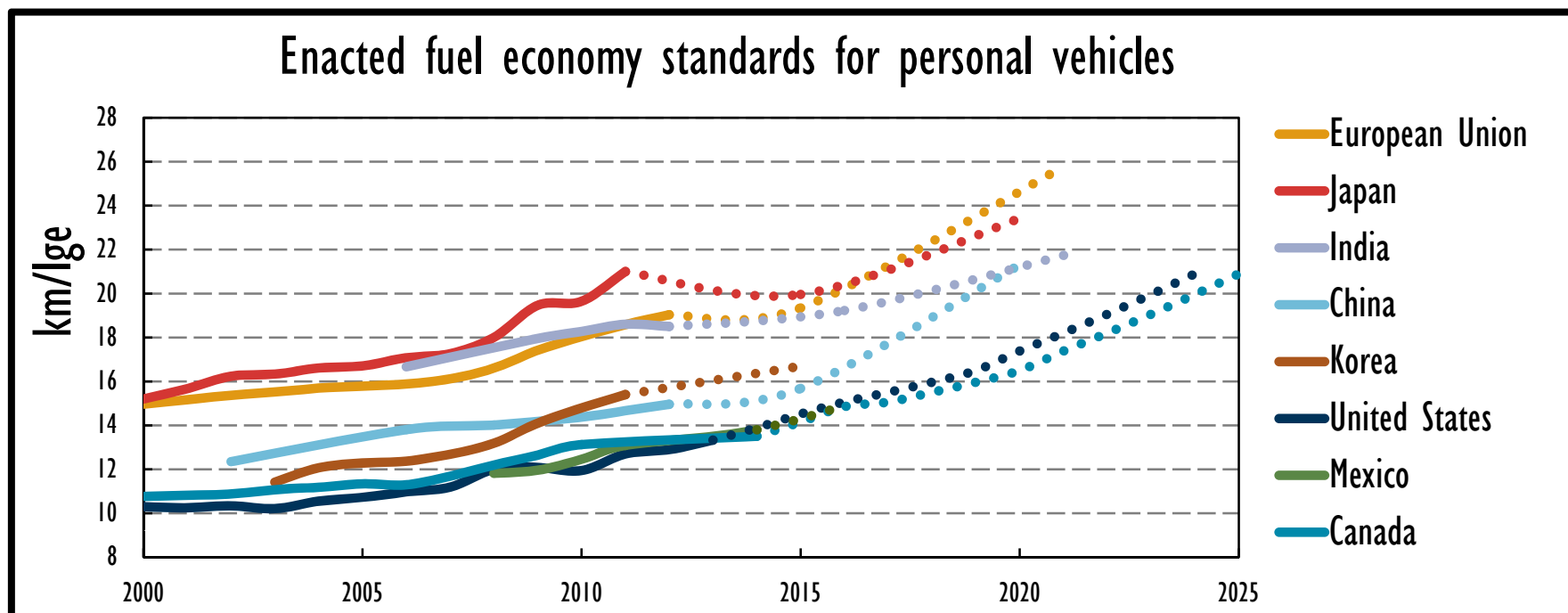
EE: working to decouple economic growth from energy consumption www.iea.org

In 12 of 18 IEA countries, EE improvements were greater than growth, resulting in net decrease in TFC



Transport: EE market driven by VFE standards

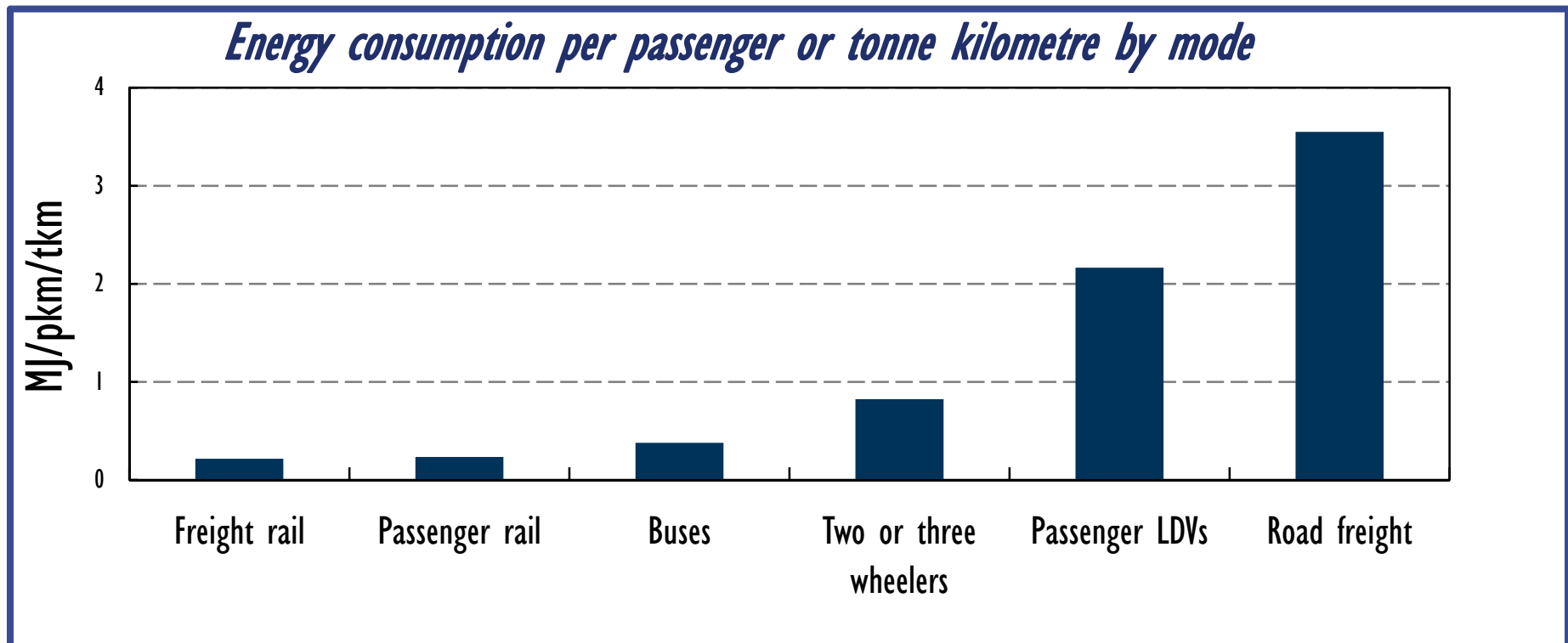
- Vehicle fuel economy standards (VFE) affect 70% of global new vehicle fleet (50 million vehicles in 2011)
- Standards could achieve between USD 40 and 190 billion in fuel savings by 2020 pending ambition and effectiveness



Source: Global fuel economy initiative

Transport: large potential in 'shift' in modes

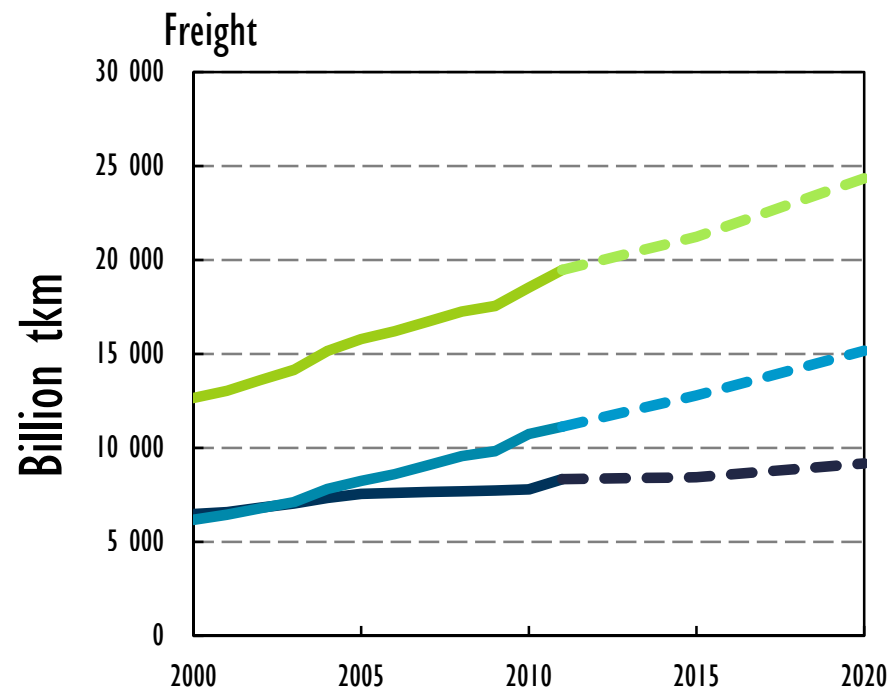
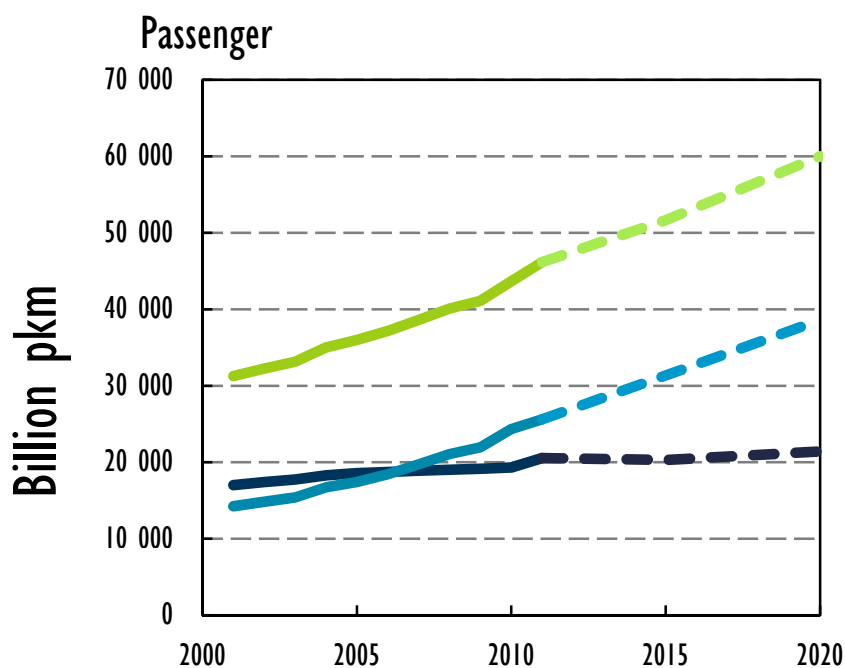
- Transport EE improves with modal shifts (e.g., rail/bus from less efficient PLDVs)
- Involves large investments in infrastructure: global spending on rail/bus infrastructure USD 195 billion in 2010
- Area of increasing focus in both OECD and non-OECD



Source: *Energy Technology Perspectives*, IEA

Transport: a shift in geography

All new transport demand estimated to come from non-OECD: source for demand translates into EE market opportunity



— OECD
 — Non-OECD
 — World

Source: *Energy Technology Perspectives*, IEA

Energy efficiency finance

- Energy efficiency finance is expanding and innovating
- Third-party financing estimated in range of **USD 120 billion**
- Bilateral and multilateral development funding for energy efficiency was over USD 22 billion in 2012
- Energy efficiency finance is moving from niche to established financial market segment
- Energy efficiency market will grow with greater transparency and standards for financial products

Energy Performance Contracting market size in selected countries

ESCOs: a USD 30 billion market globally, and growing

Country	Estimated market size (USD)	Number of ESCOs or projects
China	12 billion	..
United States	6.50 billion	> 500 projects
Germany	4.5 billion	500-550 ESCOs
France	4.3 billion	350 ESCOs
Italy	670 million	50-100 ESCOs
United Kingdom	540 million	30-50 ESCOs
Spain	450 million	20-60 ESCOs
Canada	420 million	..
Korea	330 million	> 1 400 projects
Denmark	195 million	15-20 ESCOs
Croatia	140 million	10 ESCOs
Russia	140 million	30-100 ESCOs
Ukraine	140 million	30 ESCOs
Japan	140 million	50 projects
Total	30 Billion	>1100 ESCOs

- **11 countries:**

Canada

Italy

China

Japan

EU

Korea

India

The Netherlands

Indonesia

Thailand

Ireland

- **Highlighted sub-markets and innovative policies harnessing market factors**

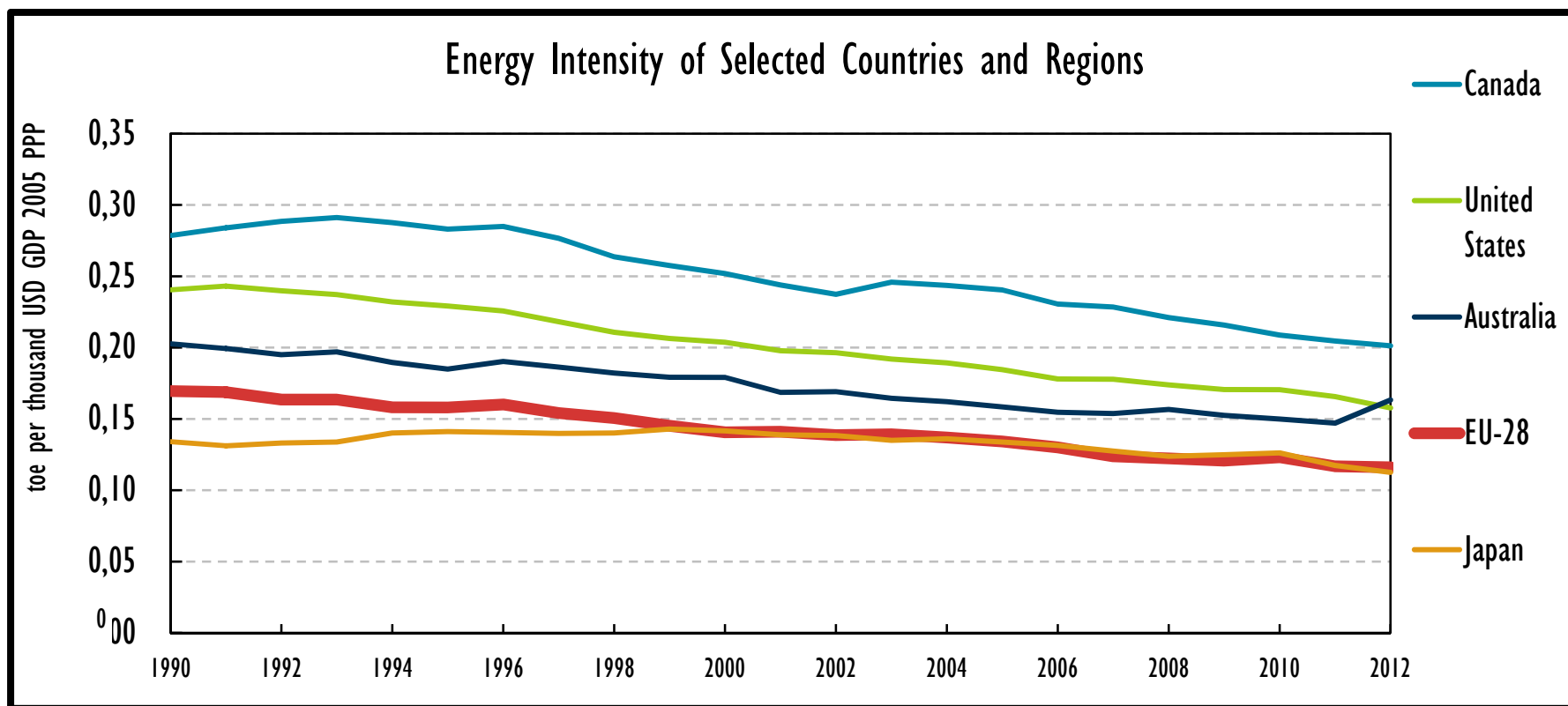
China: increasing investments in EE from 11th to 12th Five-Year Plan

- **11th FYP:** Invested USD 120 billion between 2006-2010 to achieve between 238-287 Mtoe of energy savings
- **12th FYP:** Target of USD 200-270 billion in efficiency investments between 2011-15 to achieve 235-268 Mtoe
- **Change in ‘return’ may reflect (i) easy wins in industry previously captured and (ii) shift to more capacity building investments**

	Energy savings		Investment		
	Total (Mtoe)	Savings achieved by energy efficiency (Mtoe)	Total (USD billion)	Public funds	Commercial funds
11th FYP actual	441	238-287	120	18-19%	81-82%
12th FYP needed	469	235-268	200-270	-	

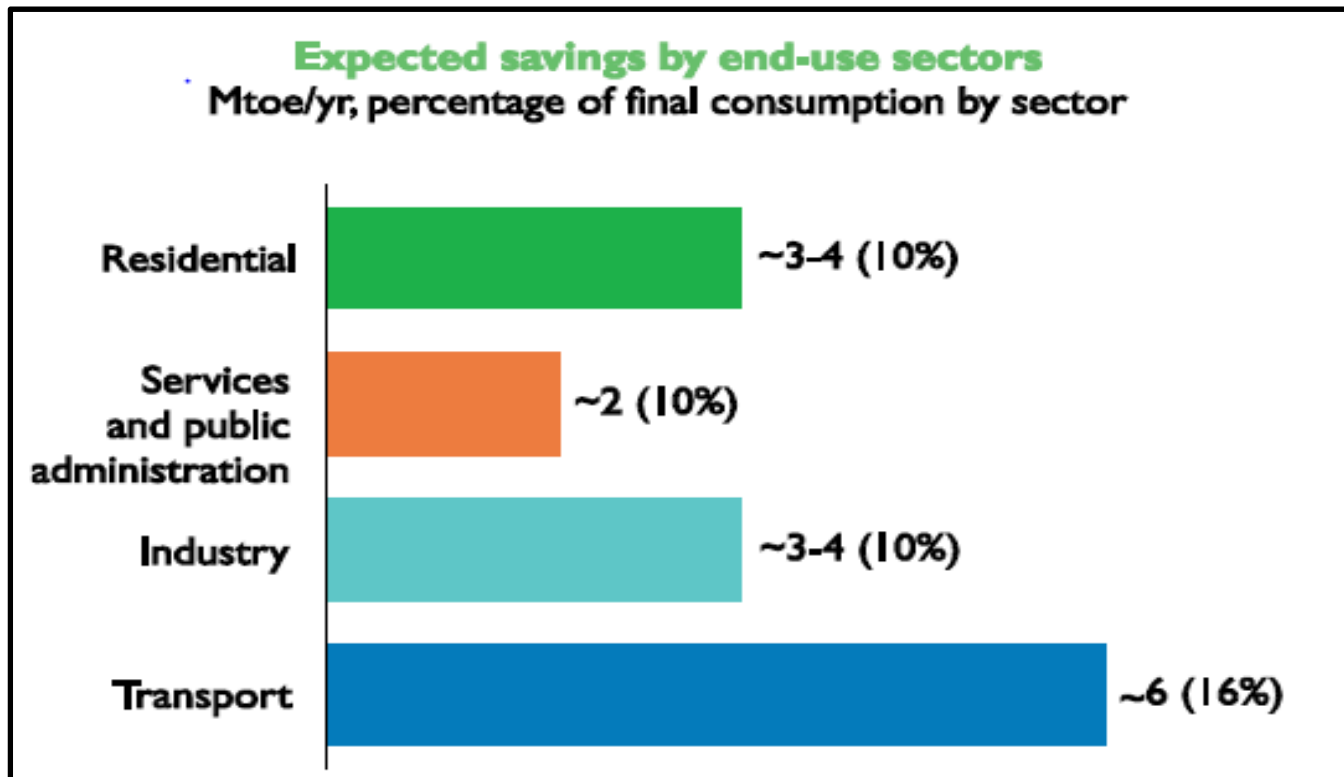
European Union showing progress and stepping up ambition

- EU has reduced energy intensity by 28 percent since 1990
- Doubling of European Commission-sponsored energy efficiency finance to over EUR 10 billion

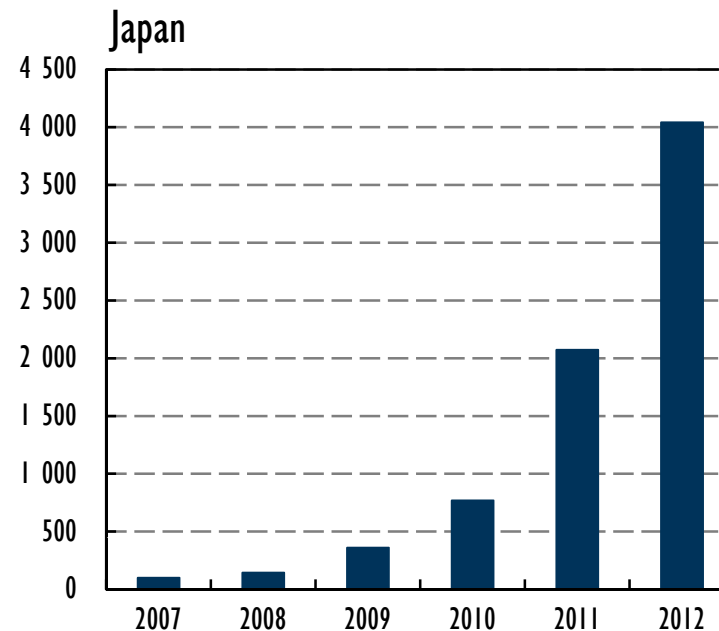
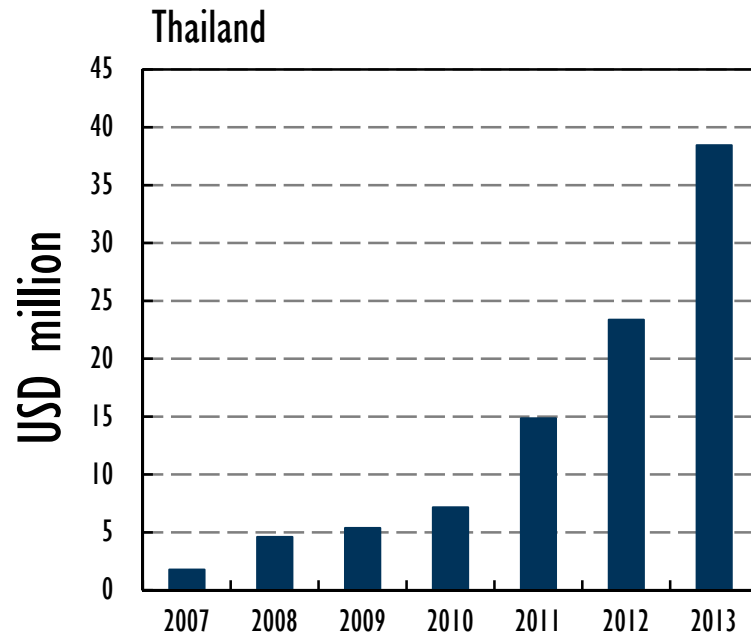


Italy: Expansive effort on EE front

- Programmes in all sectors: residential, services, industry and transport
- Efficiency programs expected to save 13 Mtoe per year in 2014 and target savings of EUR 9 billion



- **LED market taking off in Asia:**
 - **Thai LED sales have growth exponentially from USD 2 million in 2007 to 38 million in 2013**
 - **In Japan LED sales grew from USD 100 million in 2007 to 4 billion in 2013**



■ LED products

Conclusions

- *Energy efficiency market a significant component of the global energy system*
- *Market is expected to grow with drivers strengthening*
- *Policies, standardization, information and data, critical to achieve the opportunity*



Secure • Sustainable • Together

Energy Efficiency Market Report 2014

*Philippe Benoit, Division Head
Energy Efficiency and Environment Division
ENEA, Rome, 15 October 2014*