ENERGY EFFICIENCY

ECEEE – The challenge of the IEA-WEO:
European Policies and Measures to deliver the needed efficiency improvements
Brussels, November 21st, 2012

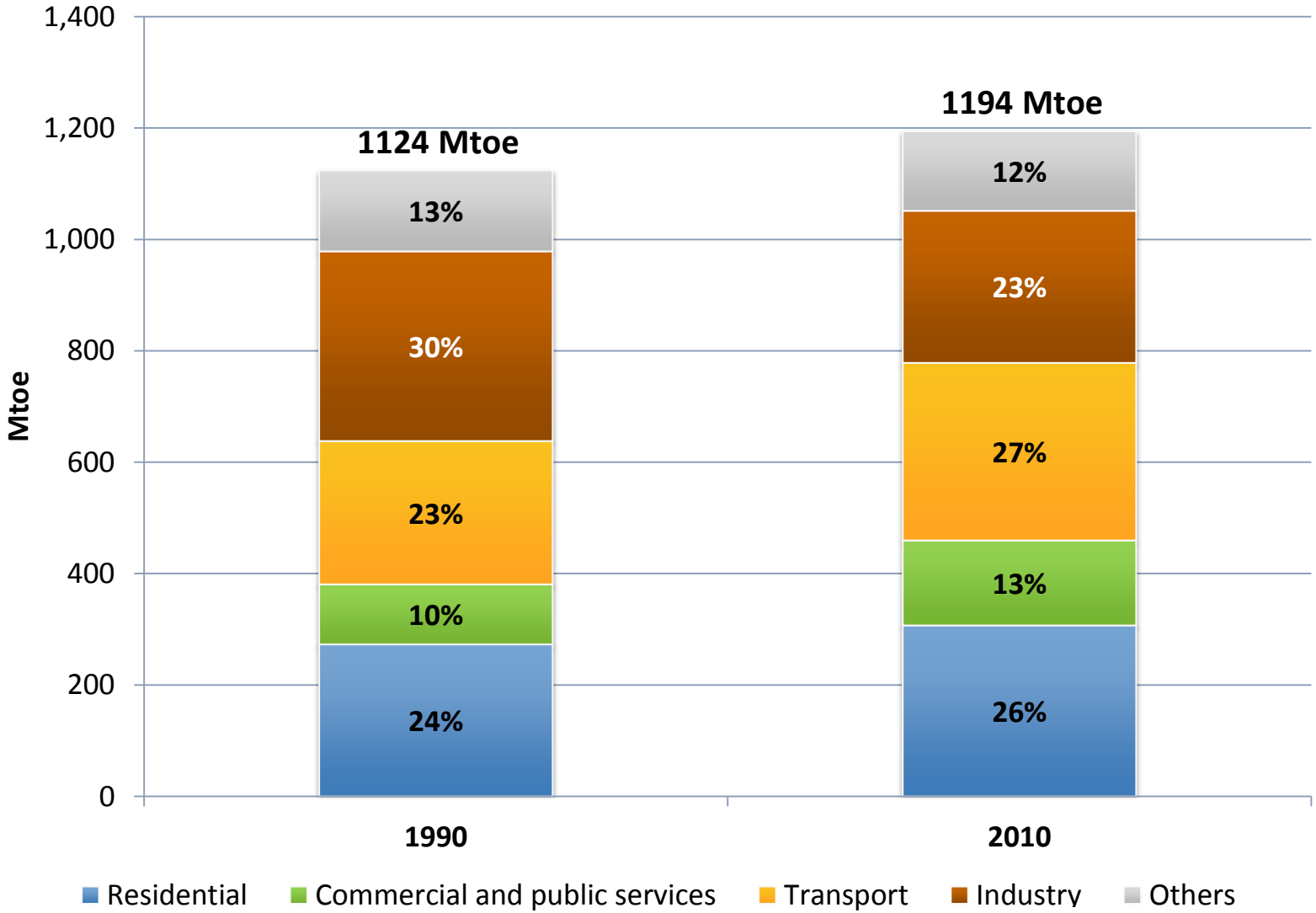
Buildings
Are we on track in Europe?

Yamina SAHEB
Head of Sustainable Buildings Centre
International Energy Agency
yamina.saheb@iea.org

International Energy Agency

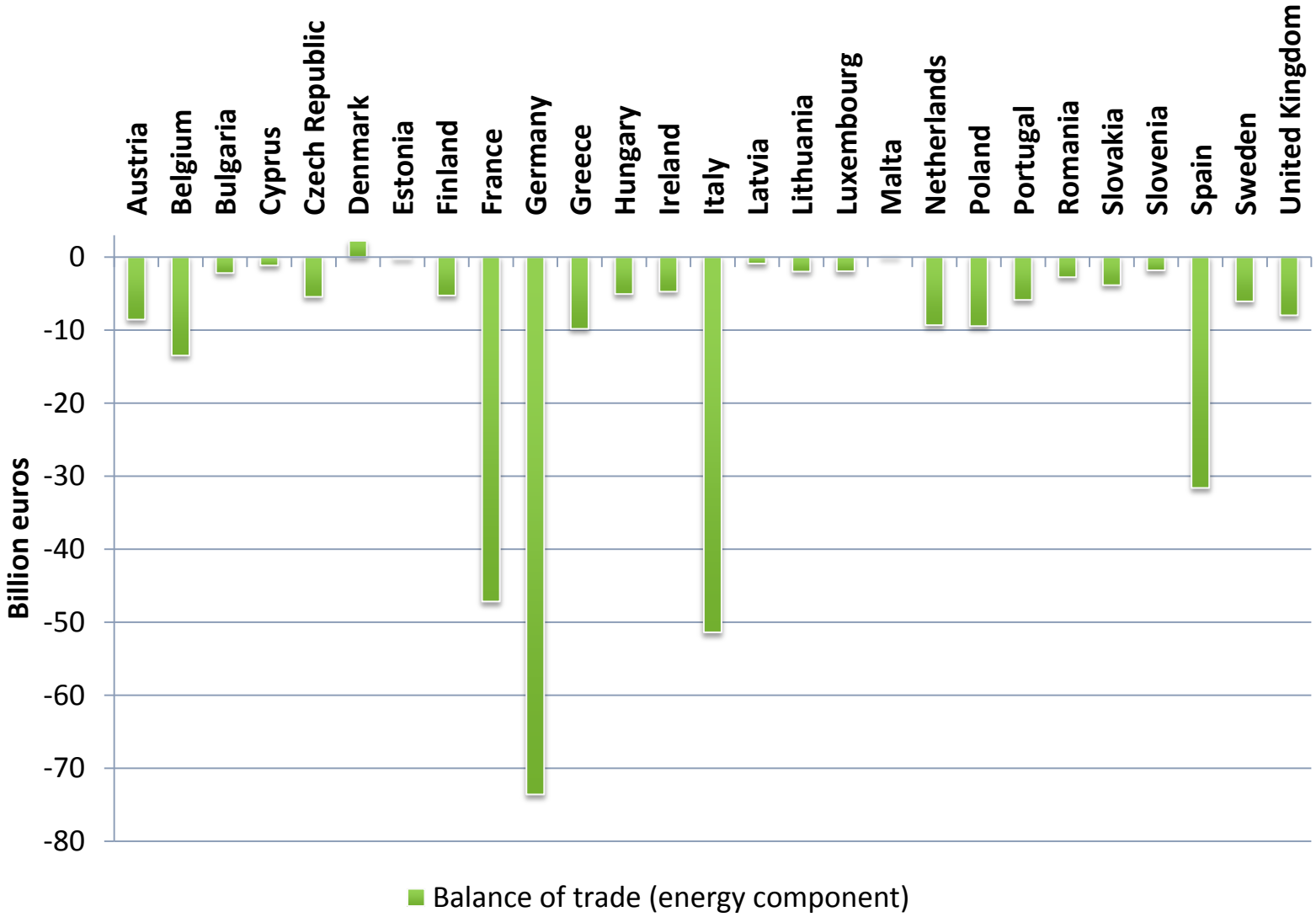
© OECD/IEA 2011

The increase in EU total final energy consumption has been driven by the buildings sector since 1990



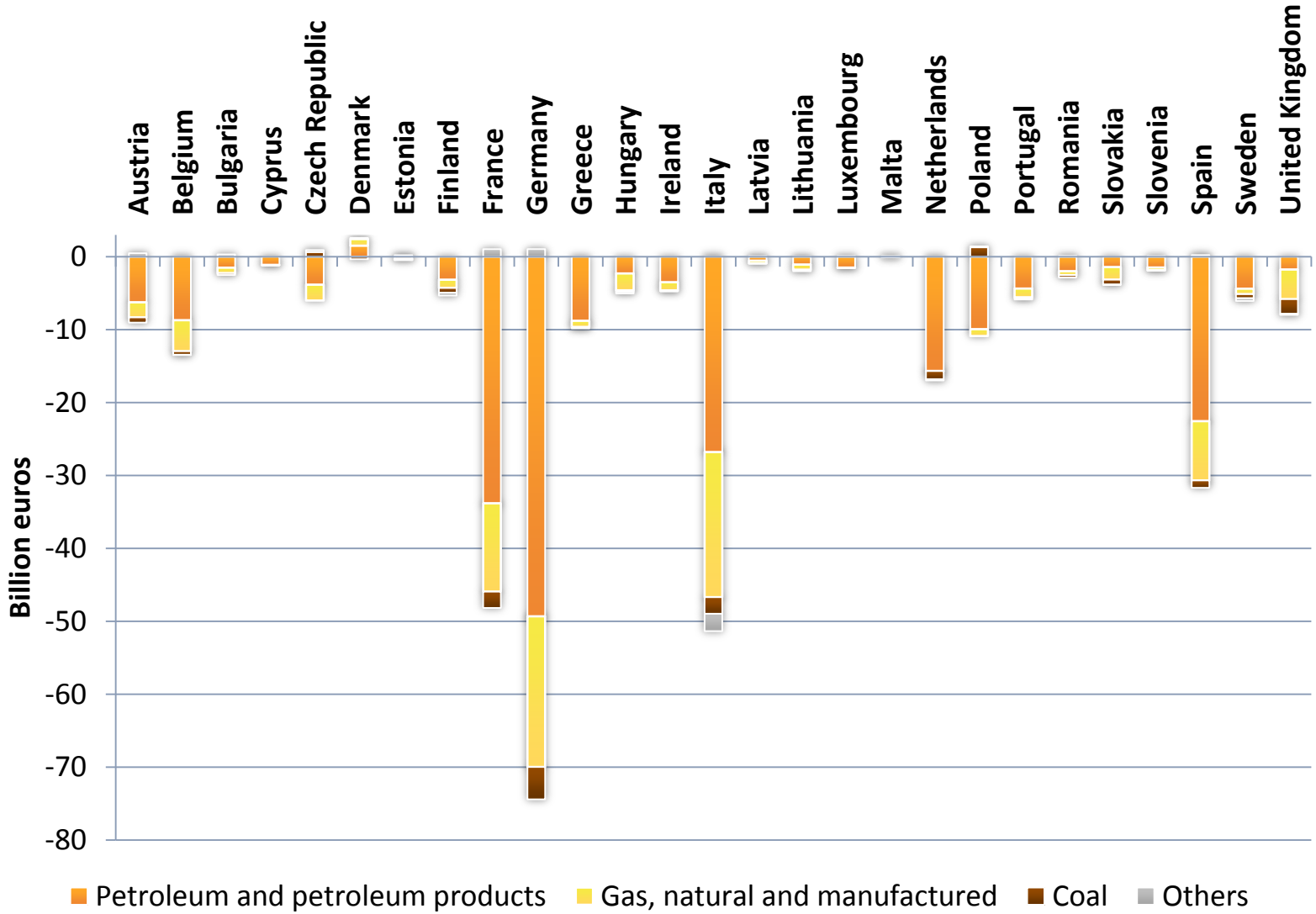
Source: IEA Balances

25 out of 27 member states are net energy importers



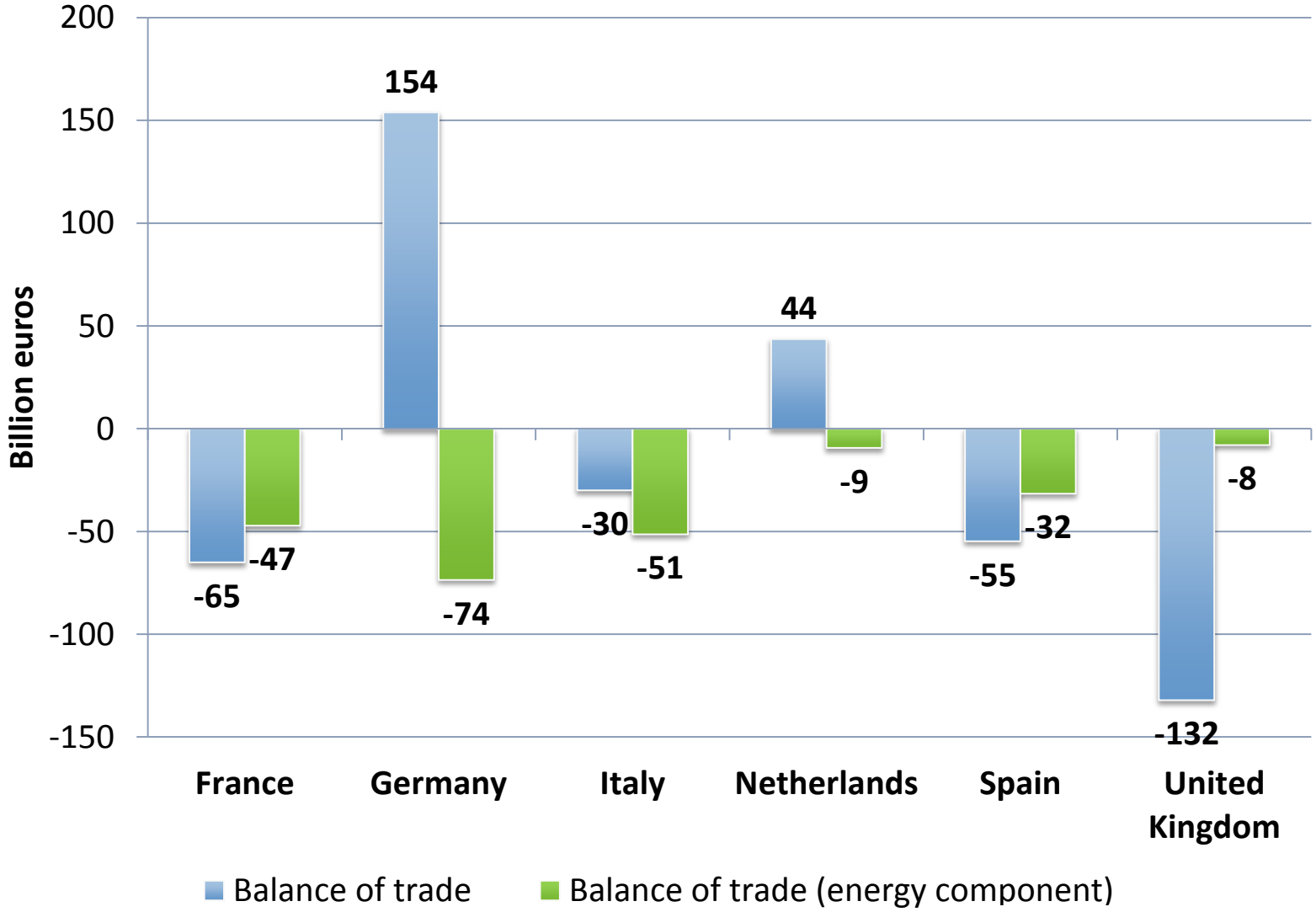
Source: Eurostat

EU energy imports are dominated by oil and natural gas



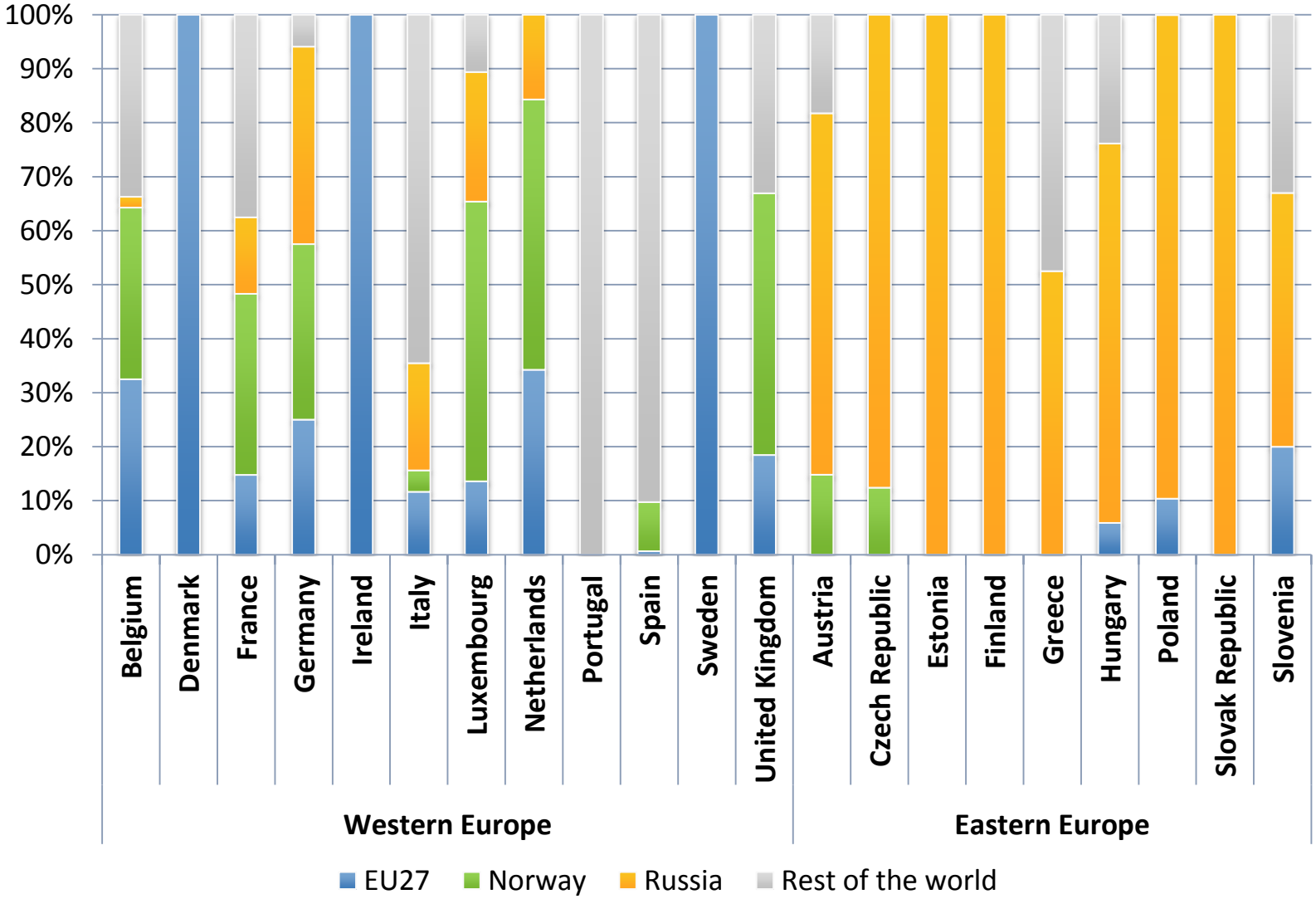
Source: Eurostat

Energy imports have a significant impact on European countries' balance of trade



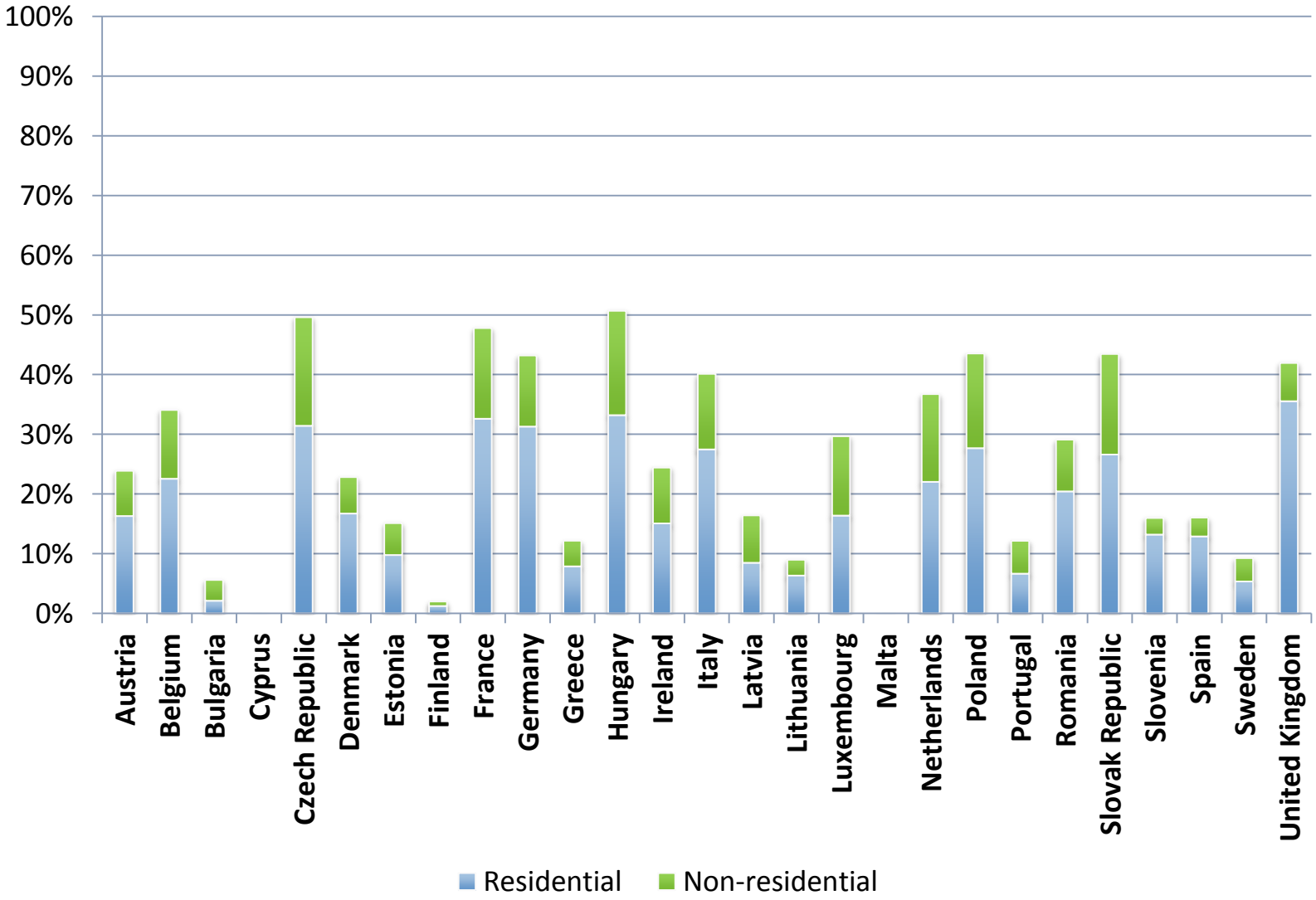
Source: Eurostat

Europe depends heavily on Russian and Norwegian natural gas



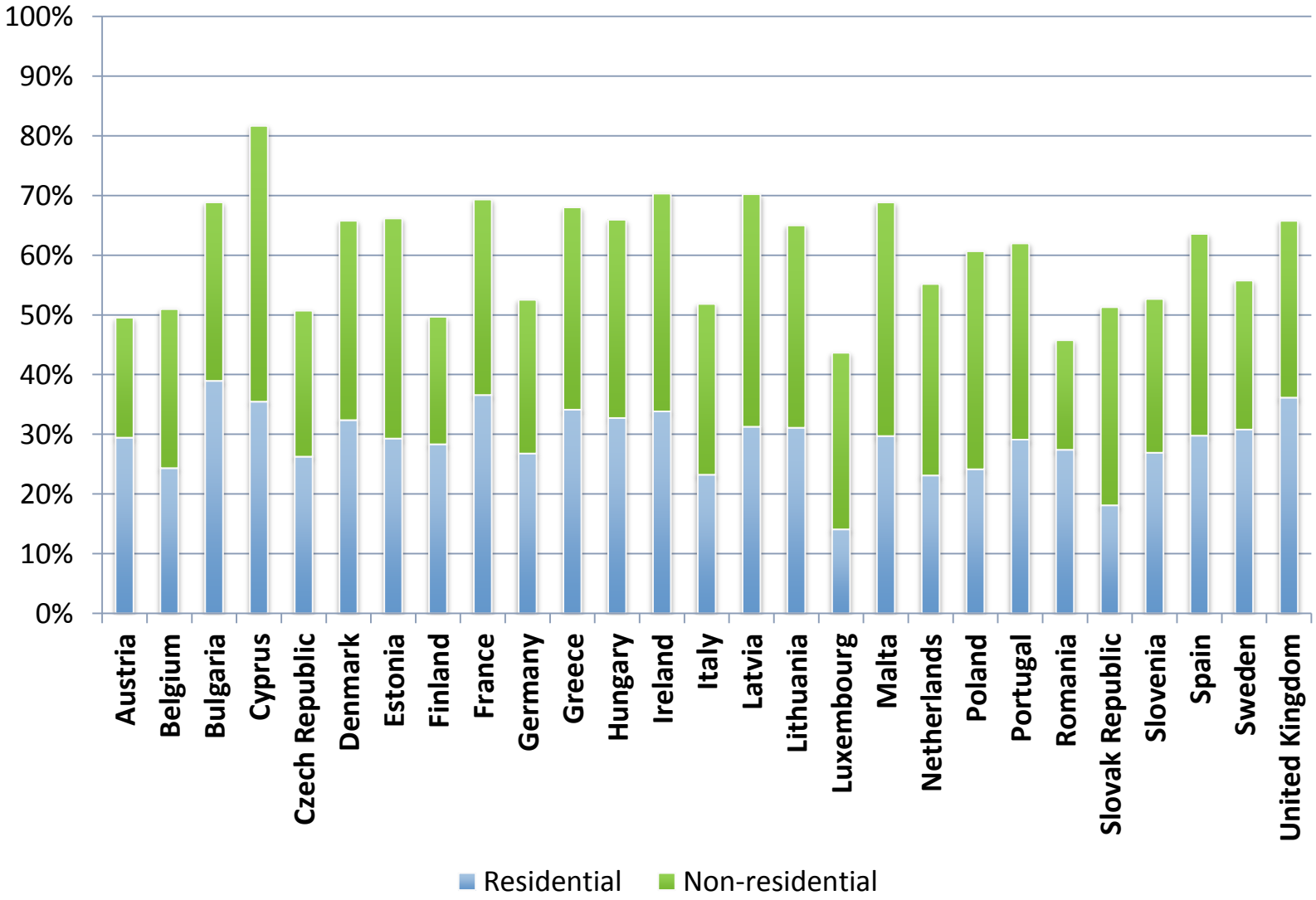
Source: IEA Statistics

The buildings sector accounts for 38% of total natural gas consumption in the EU27



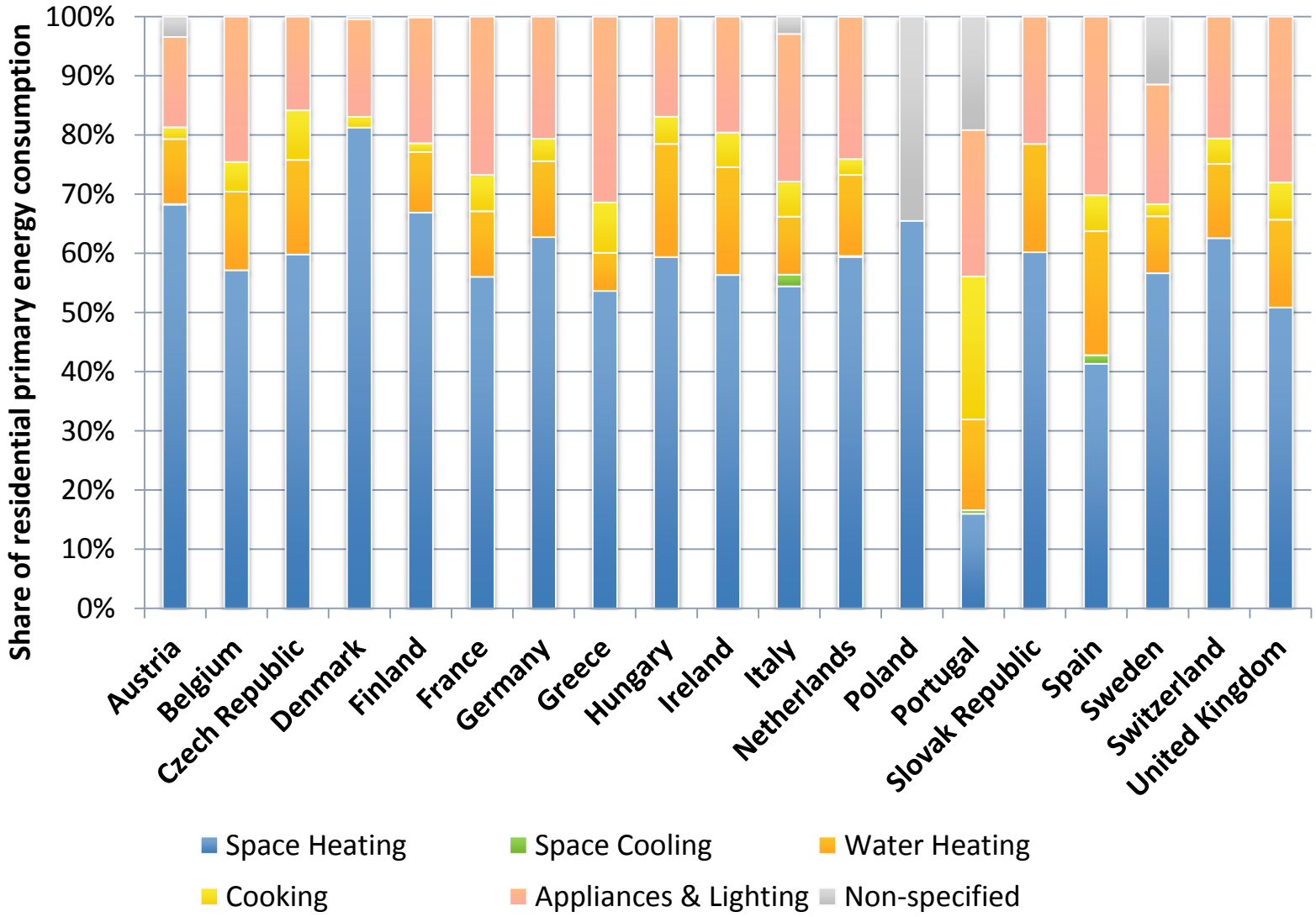
Source: IEA Balances

The buildings sector accounts for 59% of total electricity consumption in the EU27



Source: IEA Balances

Residential primary energy consumption in Europe is largely dominated by space heating



Source: IEA Energy Efficiency Indicators

The EU has adopted a comprehensive regulatory framework but the ambition level is too low

Energy Efficiency Directive	• **3%** renovation rate of buildings **owned and occupied by central governments** • **Staged** deep renovation
Energy Performance Building Directive	• Mandatory MEPS for buildings that undergo **major** renovation • **Lack of compliance** checking
Ecodesign Directive	• **Component** approach • **Boilers not yet regulated** • **Lack of market surveillance**
Cost-optimum methodology	• **Societal** perspective missing
Several incentive schemes	• **Multiple** streams • Incentives **not tied to MEPS**

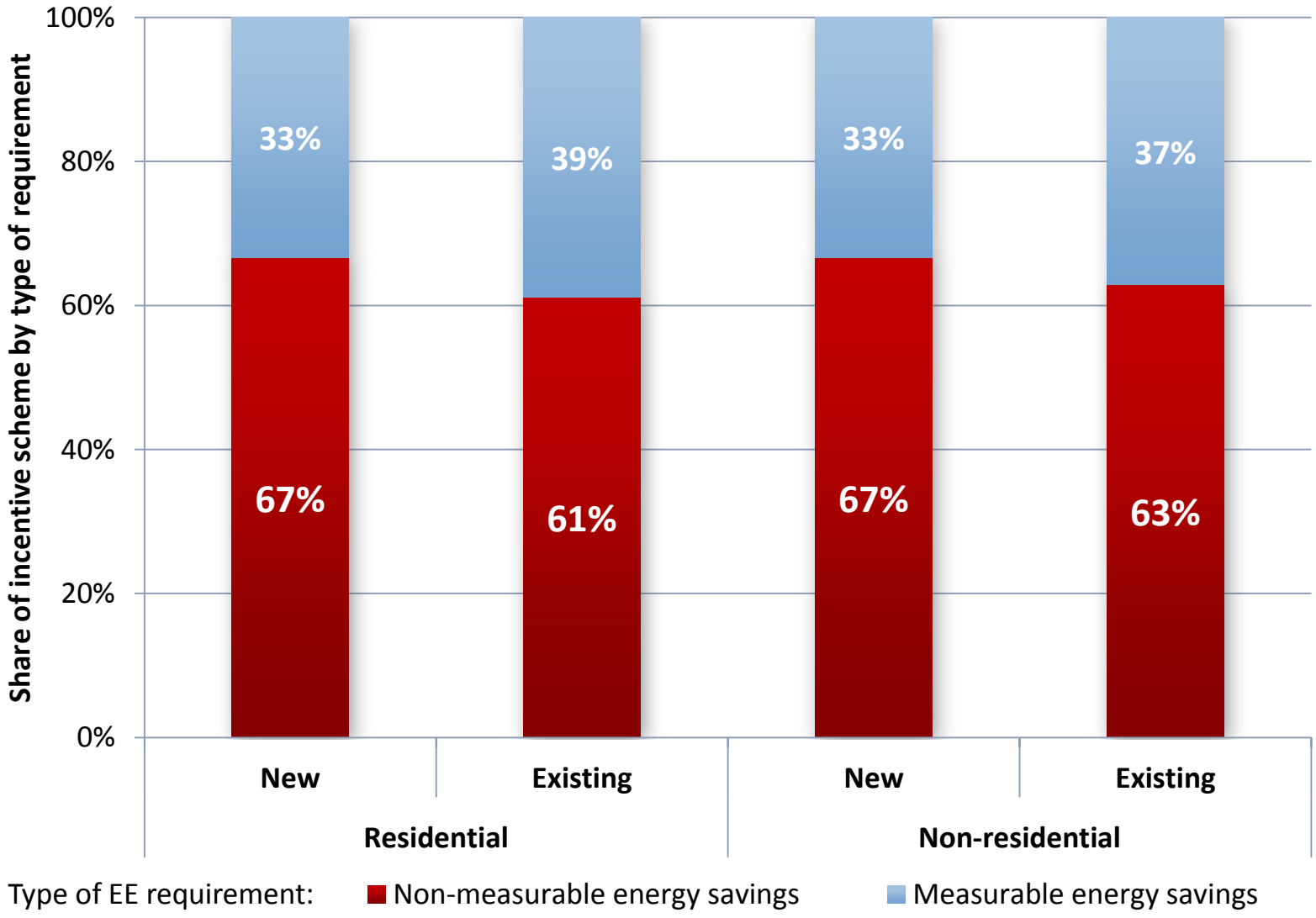
© OECD/IEA 2011

Numerous streams of financing for EE, with a lack of focus

Funding source	Mechanisms	EE funding (2011)	Scope
Cohesion policy funding	Operational programmes	€ 4.8 billion	Co-generation and energy management
Research funding	FP7	€ 290 million	Cross-cutting
External policy instruments	IFI facilities	???	RES & EE projects
Enlargement policy funding	IFI facilities	???	???
European Energy programme for recovery	EU EE fund	€ 185 Million €20 Million	Bankable EE and RE projects Technical assistance
Competitiveness and innovation funding	Intelligent Energy Europe Programme	€735 Million	Cross-cutting
EIB	Loans	€425 Million	At least 20% of savings
EBRD	Loans and equity	€400 Million	???
National programmes	Loans and grants	Vary per country	Difficult to track

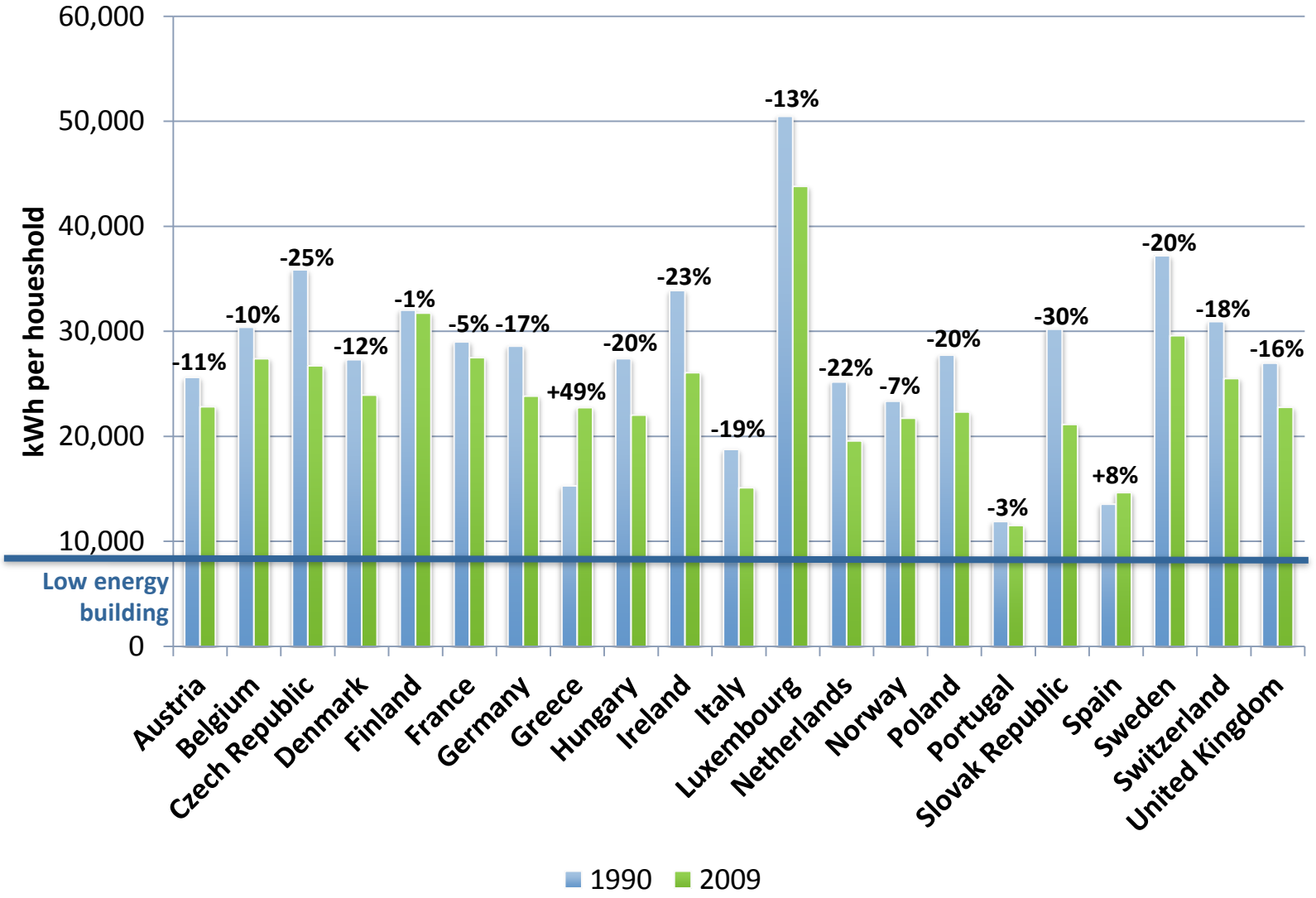
© OECD/IEA 2011

Most incentive schemes are not tied to measurable energy efficiency measures



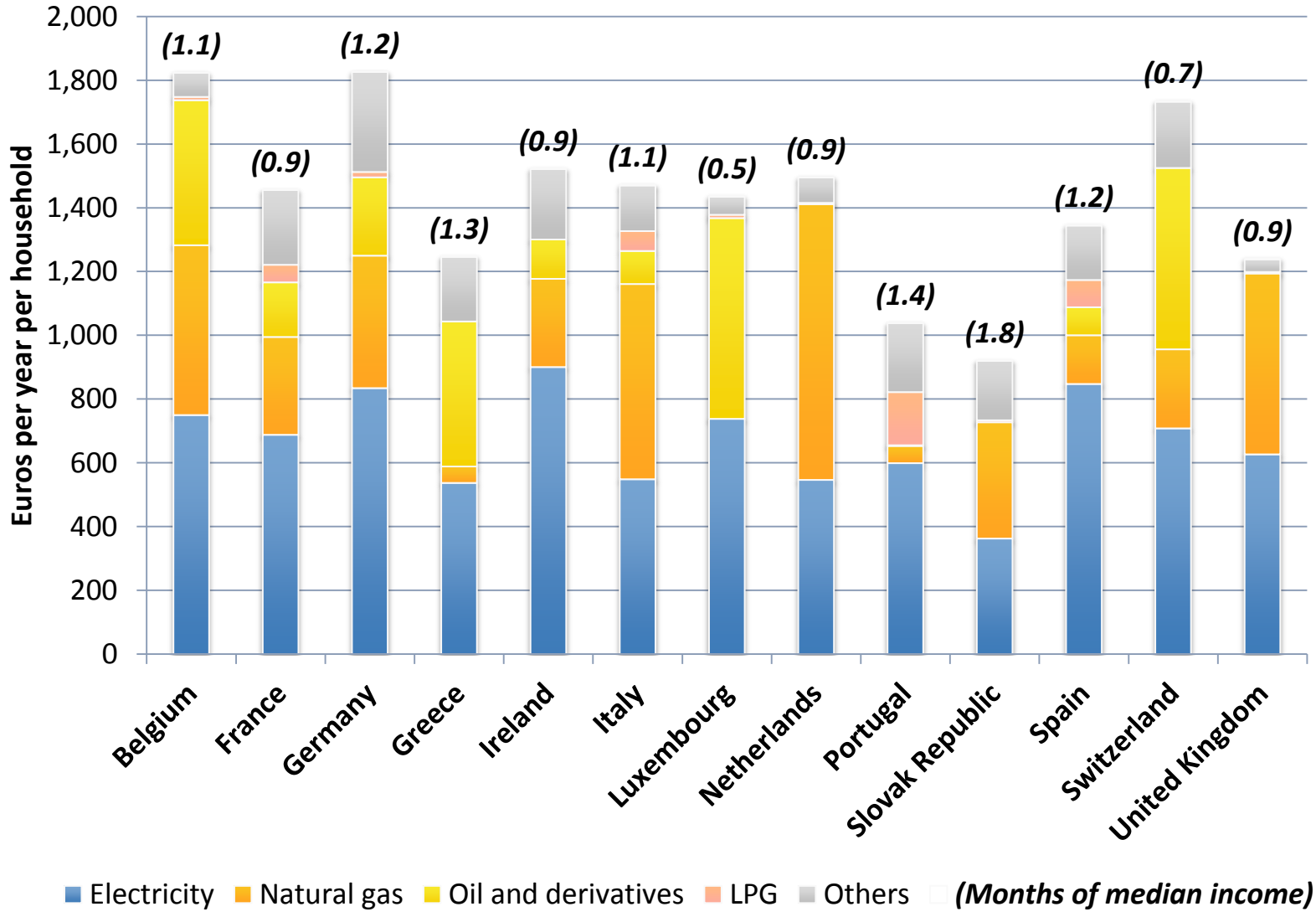
© OECD/IEA 2012

Primary energy consumption per household in Europe has decreased, but remains far from low energy building level



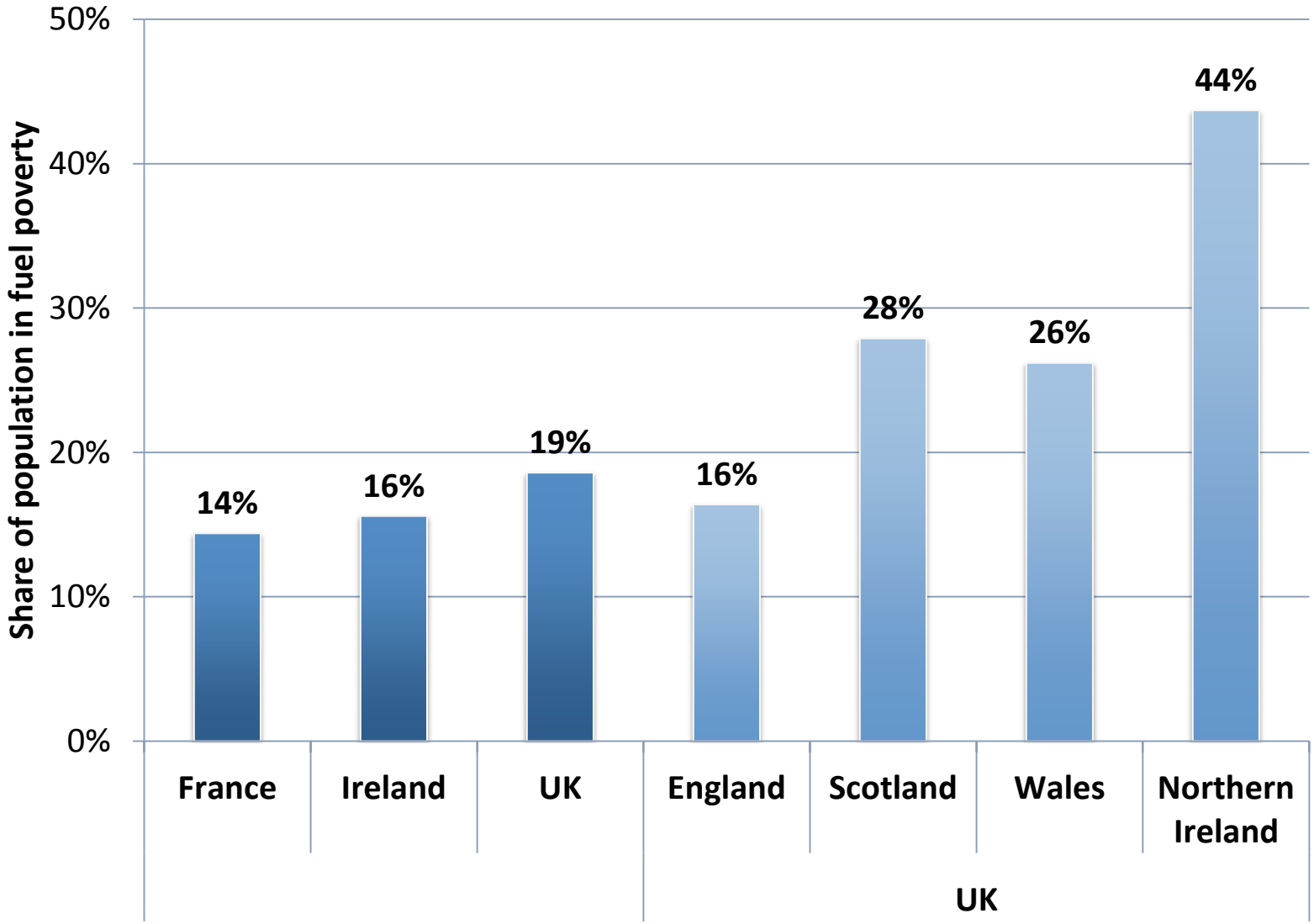
Source: IEA Energy Efficiency Indicators

Annual expenditure on residential energy consumption places a heavy burden on European households



Source: IEA Statistics and Eurostat

A significant share of European population remains in fuel poverty



© OECD/IEA 2011

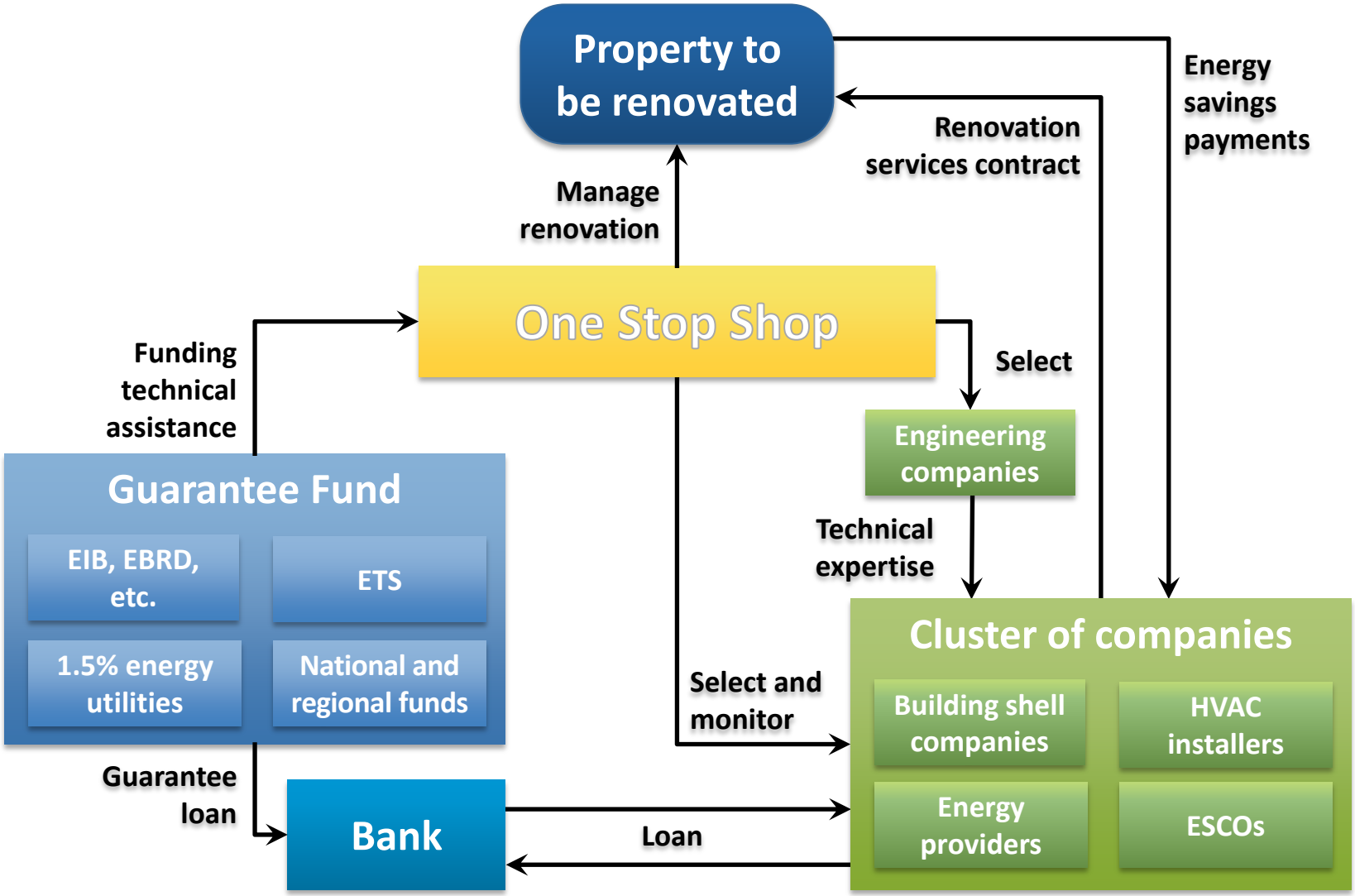


It is time for a paradigm shift: low energy buildings meet essential needs and secure our future

- Shift from single building to overall building stock
- Objective: low energy building stock by 2050
- Mandatory energy renovation rate
- European renovation guarantee fund: one single fund
  - Technical assistance
  - Establishing guarantee systems
  - Stimulating private sector
- Renovation services contracting
  - One-stop shop
  - Overall performance-based approach to estimate renovation deepness
  - Clusters of companies
  - Guaranteed results
- Monitoring and compliance checking

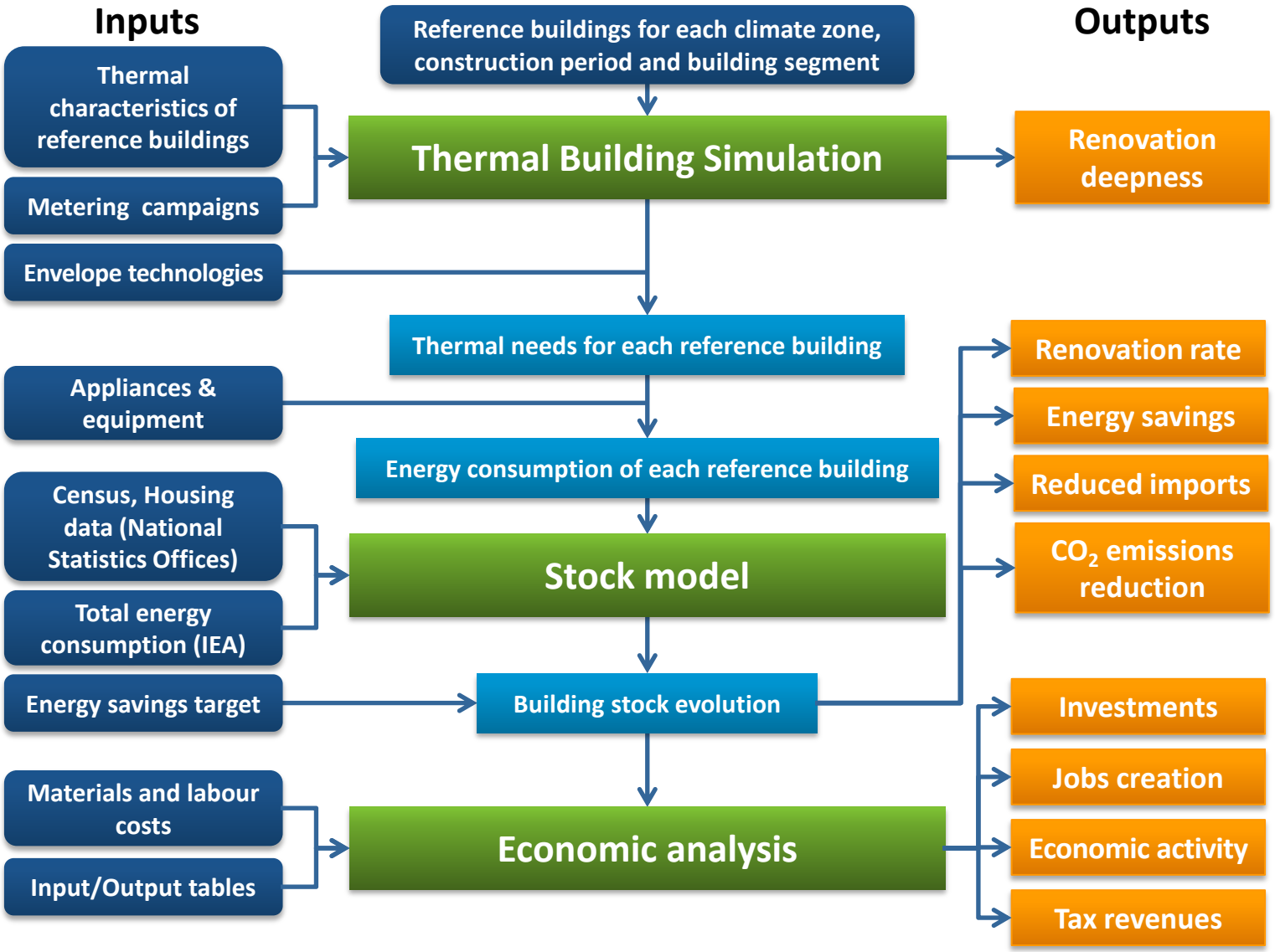
© OECD/IEA 2011

SBC Market framework proposal to enable deep renovation



© OECD/IEA 2011

SBC methodology to determine the pathway to low energy building stock and its societal benefits



SBC model structure and flowchart

© OECD/IEA 2011

www.sustainablebuildingscentre.org

