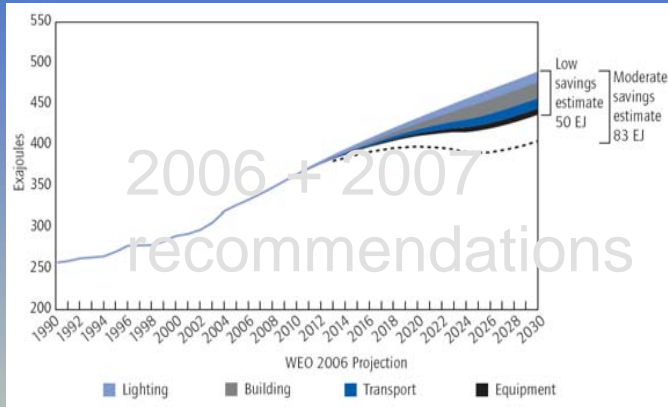


Energy Efficiency: Past Performance and Future Potential

Richard Bradley, PhD
Head, Energy Efficiency and Environment Division
International Energy Agency



Energy efficiency: IEA recommendations to G8

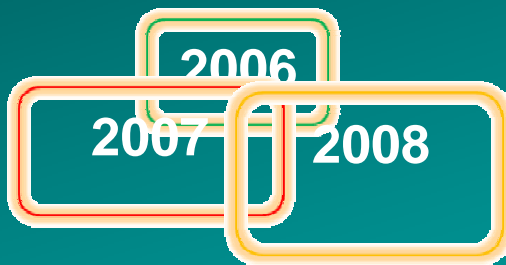


16 New recommendations for 2008 (Hokkaido):

- 12 new fields of action
buildings; appliances; lighting; transport;
industry; power sector; cross-sectoral
- 4 elaborate earlier measures

5.7 billion tons of CO₂ saved in 2030

Consolidated recommendations

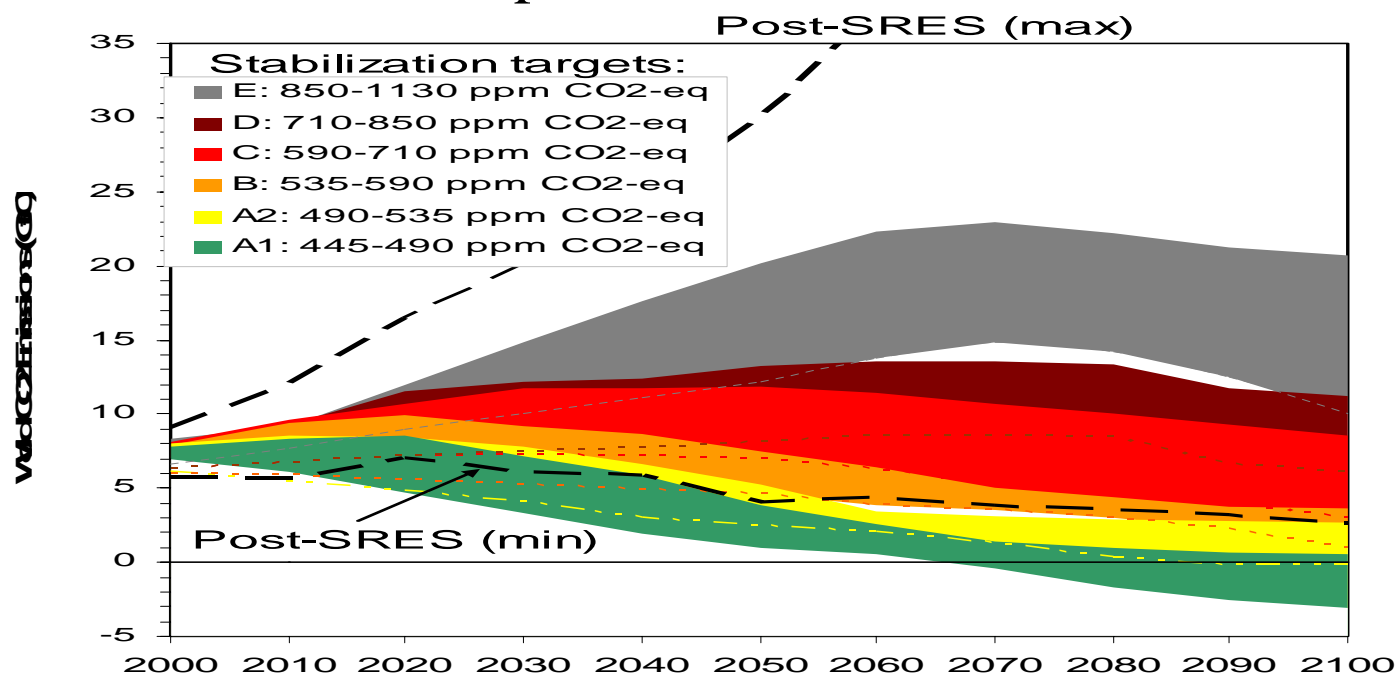


- 7 priority areas
- 25 fields of action



Stabilisation of GHG concentrations (radiative forcing) in the atmosphere and emission reductions

- The lower the stabilisation level the earlier global CO₂ emissions have to peak



Multigas and CO₂ only studies combined



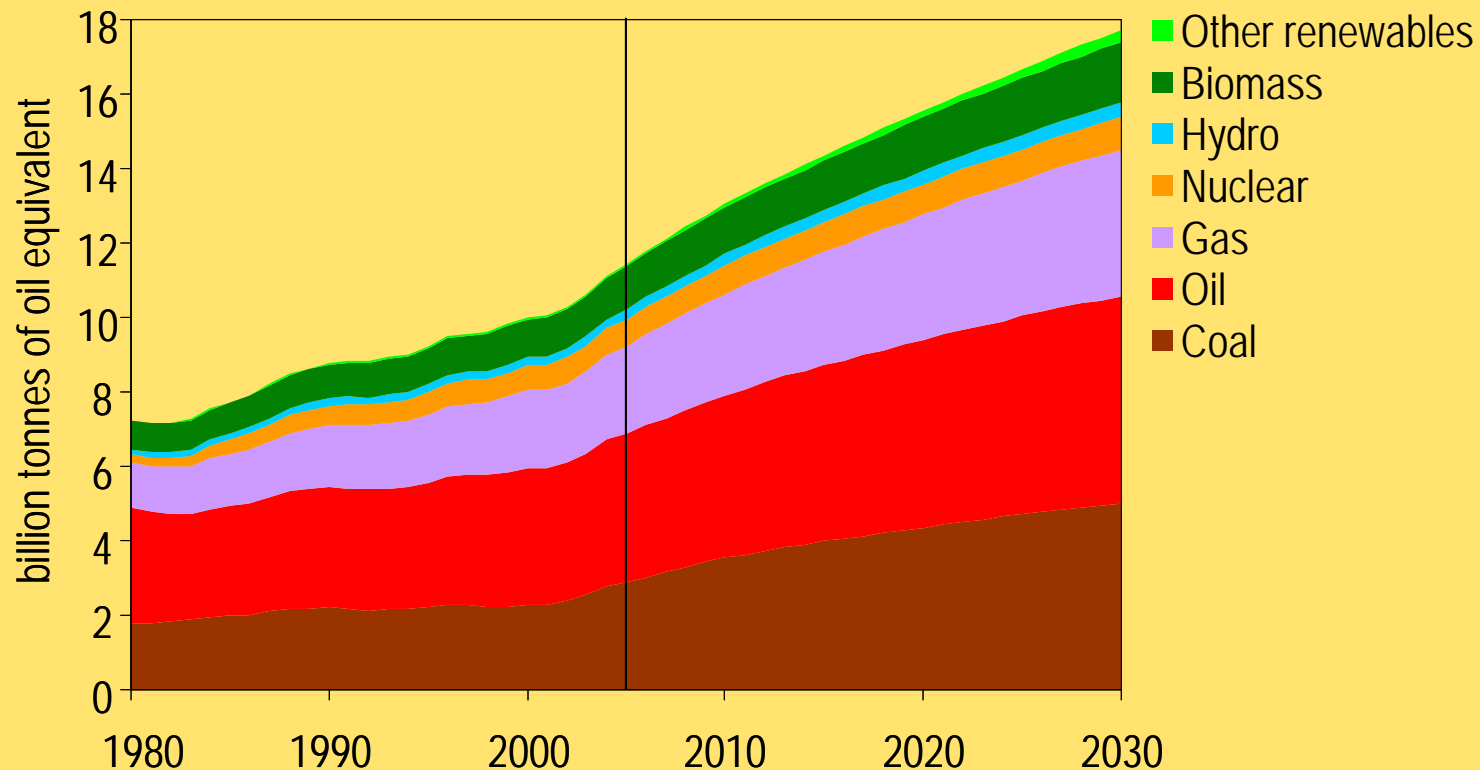
INTERNATIONAL
ENERGY AGENCY

WORLD
ENERGY
OUTLOOK
2007

China
and India
Insights

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Reference Scenario: World Primary Energy Demand



Global demand grows by more than half over the next quarter of a century, with coal use rising most in absolute terms



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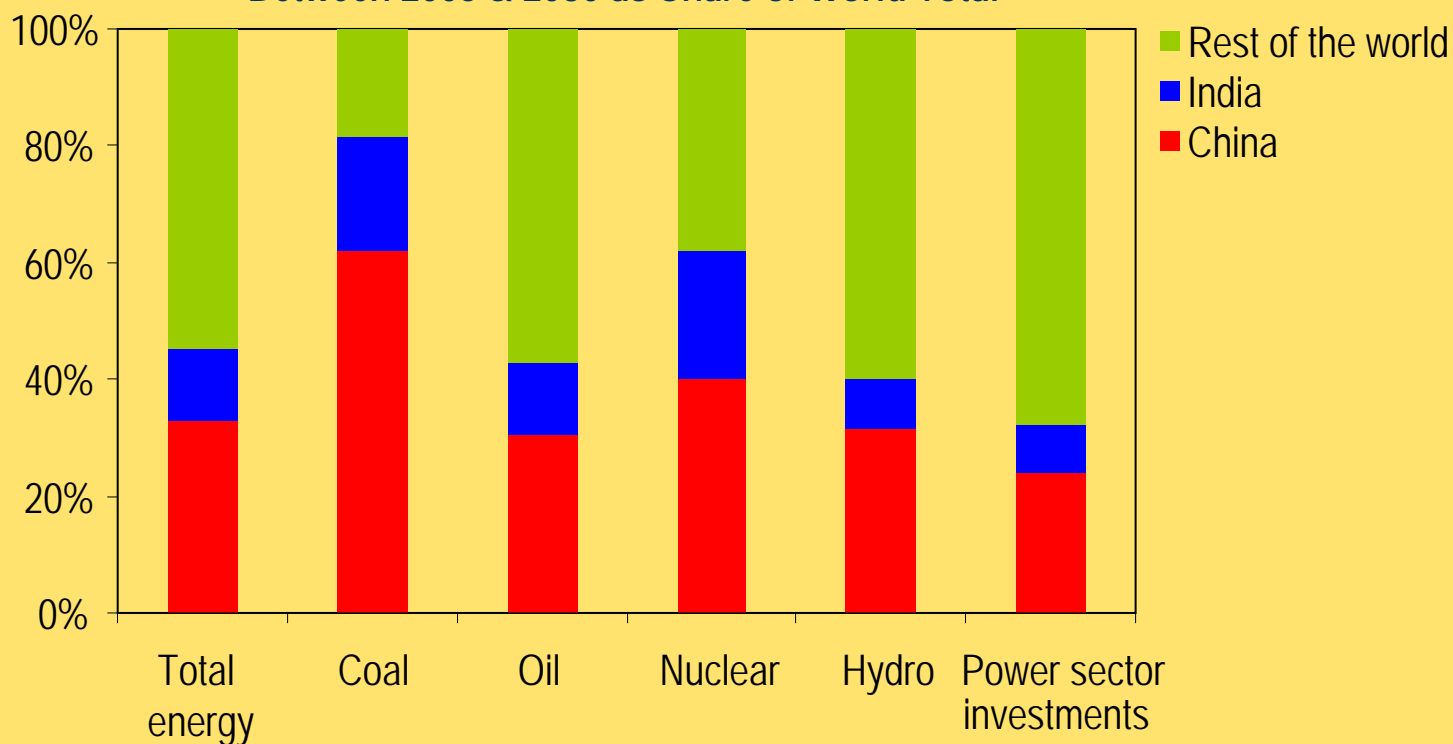
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Reference Scenario: The Emerging Giants of World Energy

Increase in Primary Energy Demand & Investment
Between 2005 & 2030 as Share of World Total

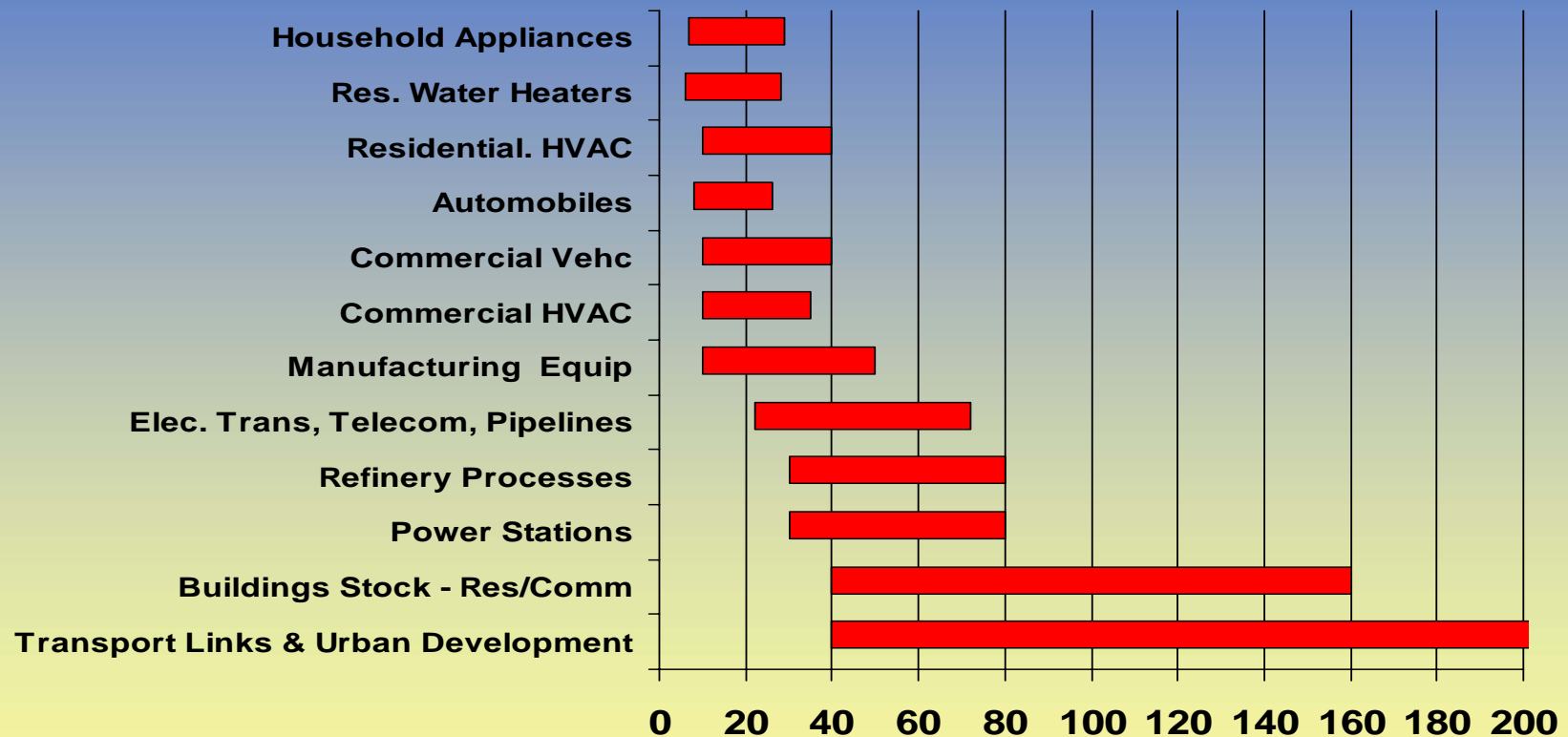


China & India will contribute more than 40% of the increase in global energy demand to 2030 on current trends

Mitigation Policy & Technology

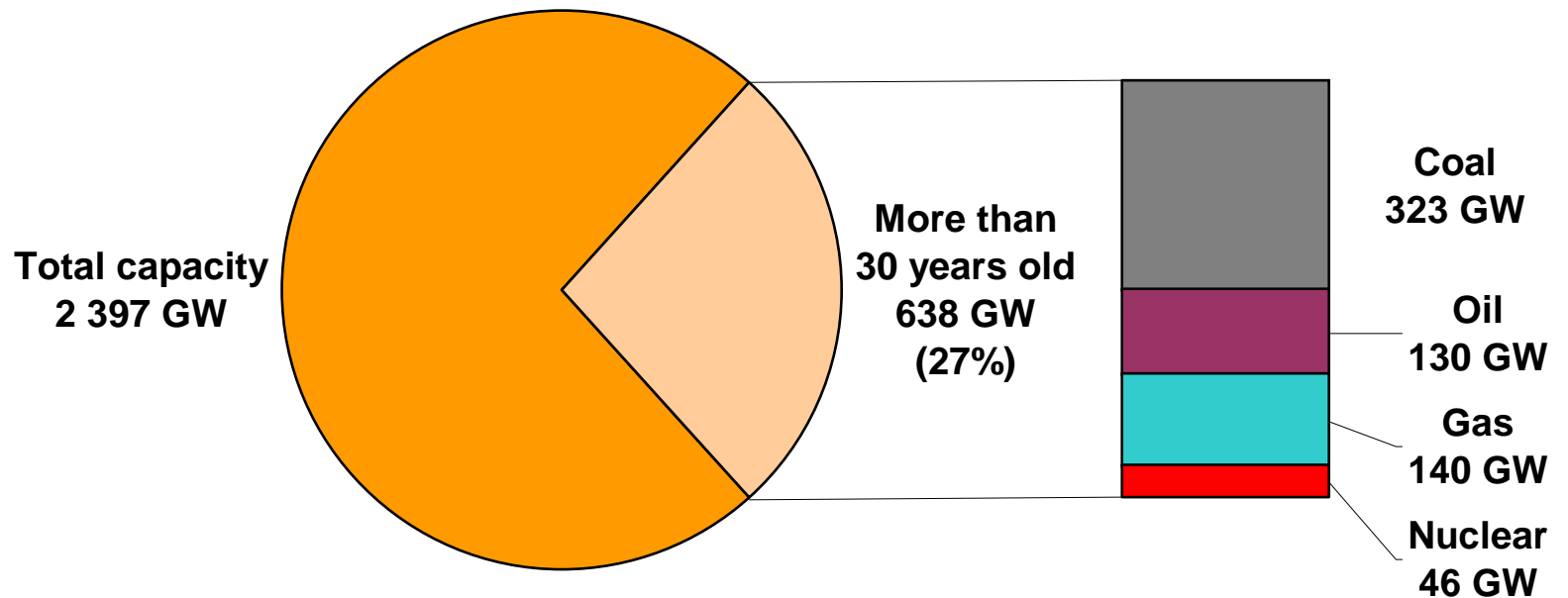


Capital Stock Turnover Rates



Source: Adapted from PNL/U of Maryland

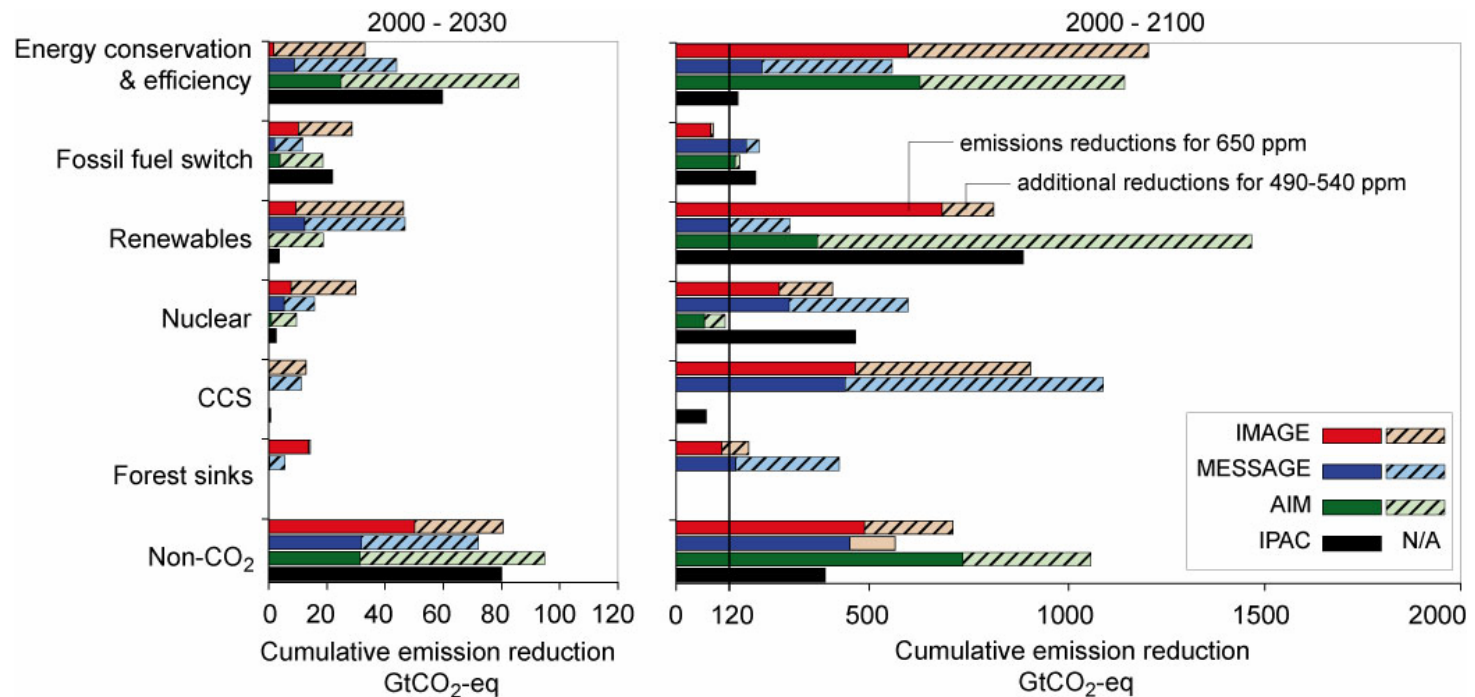
Power plants are ageing



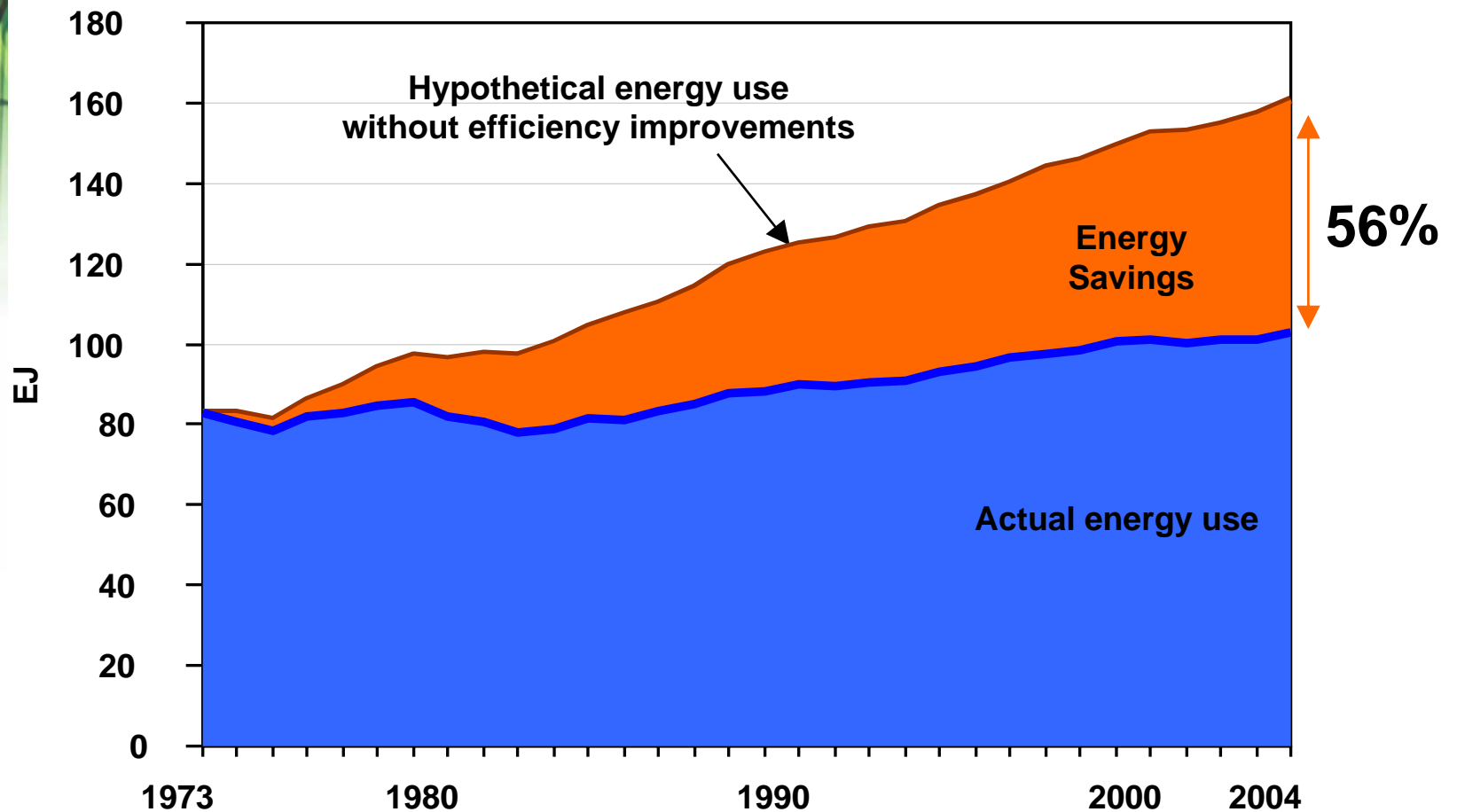
- Age of existing plants, technological development, tighter environmental controls, and nuclear phase out policies drives the need for replacements

Technology

- **The range of stabilization levels can be achieved by**
 - deployment of a portfolio of technologies that are currently available and
 - those that are expected to be commercialised in coming decades.
- **This assumes that appropriate and effective incentives are in place for development, acquisition, deployment and diffusion of technologies and for addressing related barriers**



Energy efficiency - first fuel



WWW.IEA.ORG

In support of the
G8 Plan of Action

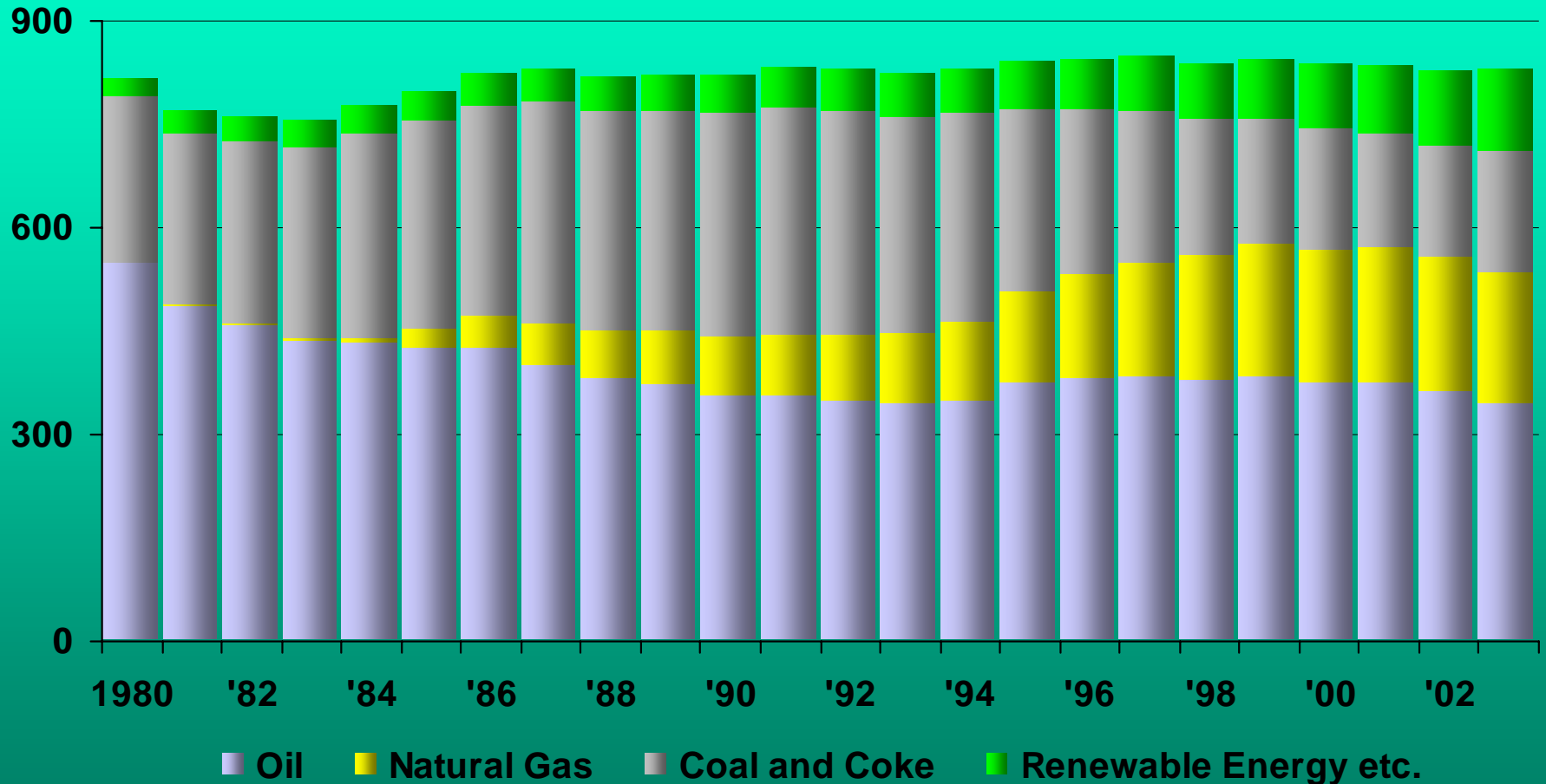


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Denmark: gross energy demand by fuel

PJ





Example

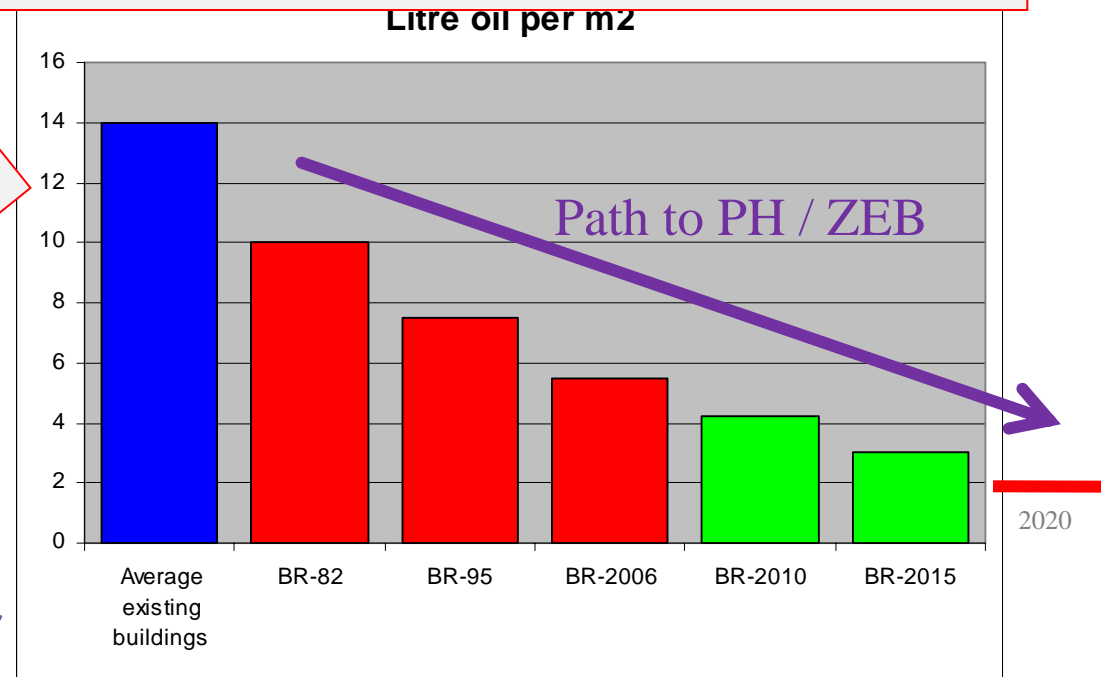
Building codes in Denmark

- Long tradition with building codes in Denmark

France, UK and others countries are on the same path!

- New decision for 2020 (less than 2 litre or just above 15 kWh/year/m²)

Approved by parliament 2008



Source: Danish Energy Authority Renato Ezban, Workshop on compliance Paris Mach 2008