



# Energy efficiency, governance and other short stories

Dr Nigel Jollands

Head, Energy Efficiency Unit  
International Energy Agency

To

Crawford School of Economics and Government  
Australian National University

11 November 2009

Energy  
Efficiency  
Policy

W. I. N.



# Today's talk

Brought to you by the letters:

E

A

G

Energy  
Efficiency  
Policy

W. I. N.



# 'E' is for energy efficiency

In general

$$\frac{\textit{input}}{\textit{output}}$$

In general  
energy terms

$$\frac{\textit{input}_{\textit{energy}}}{\textit{output}_{\textit{(product / service)}}$$

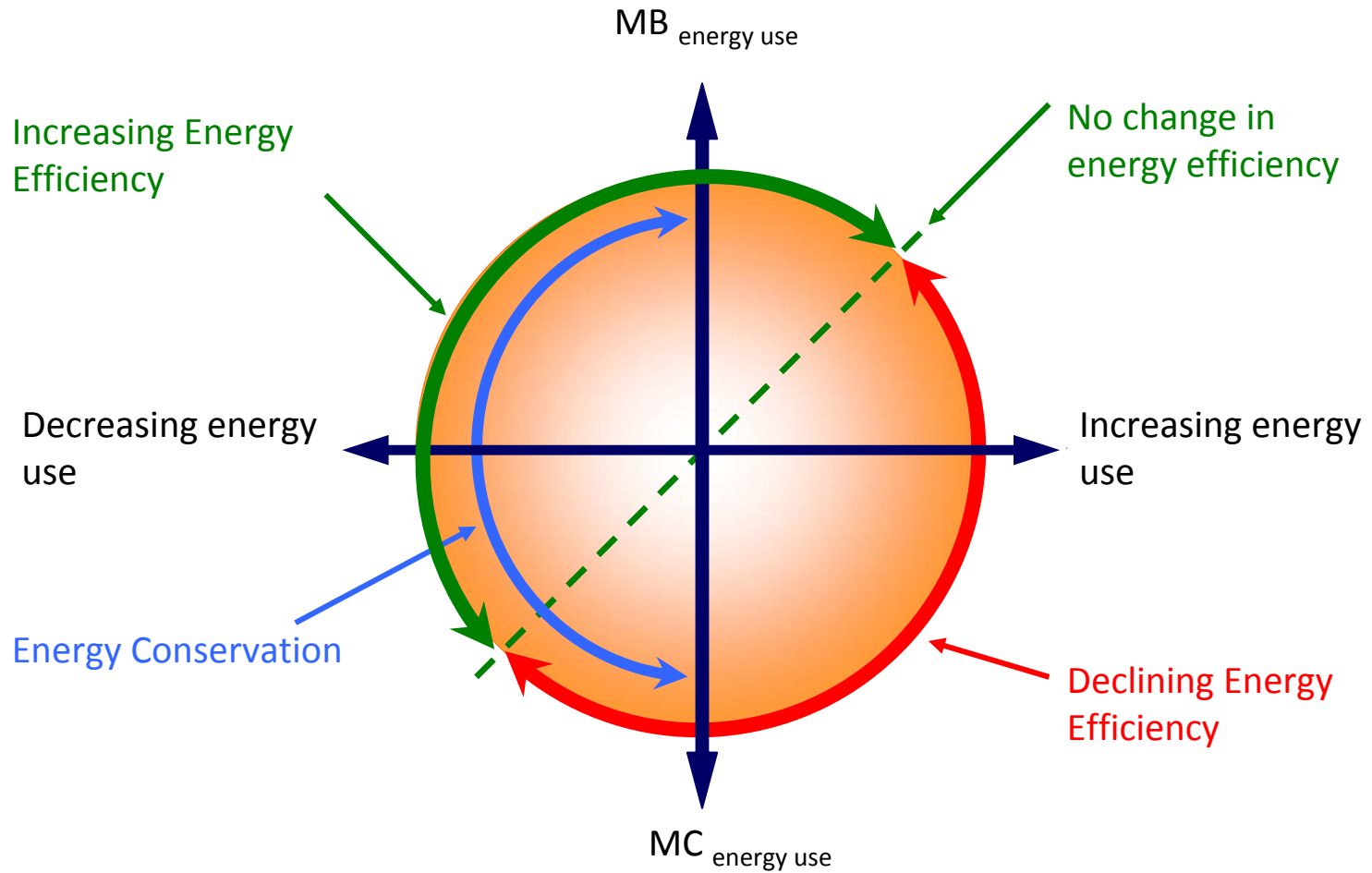
Measured as

$$\frac{\textit{kWh}}{\textit{widget}} \quad \frac{\textit{litres}}{\textit{100km}} \quad \frac{\textit{PJ}}{\textit{\$}}$$

Energy  
Efficiency  
Policy

W. I. N.

# Another take ...





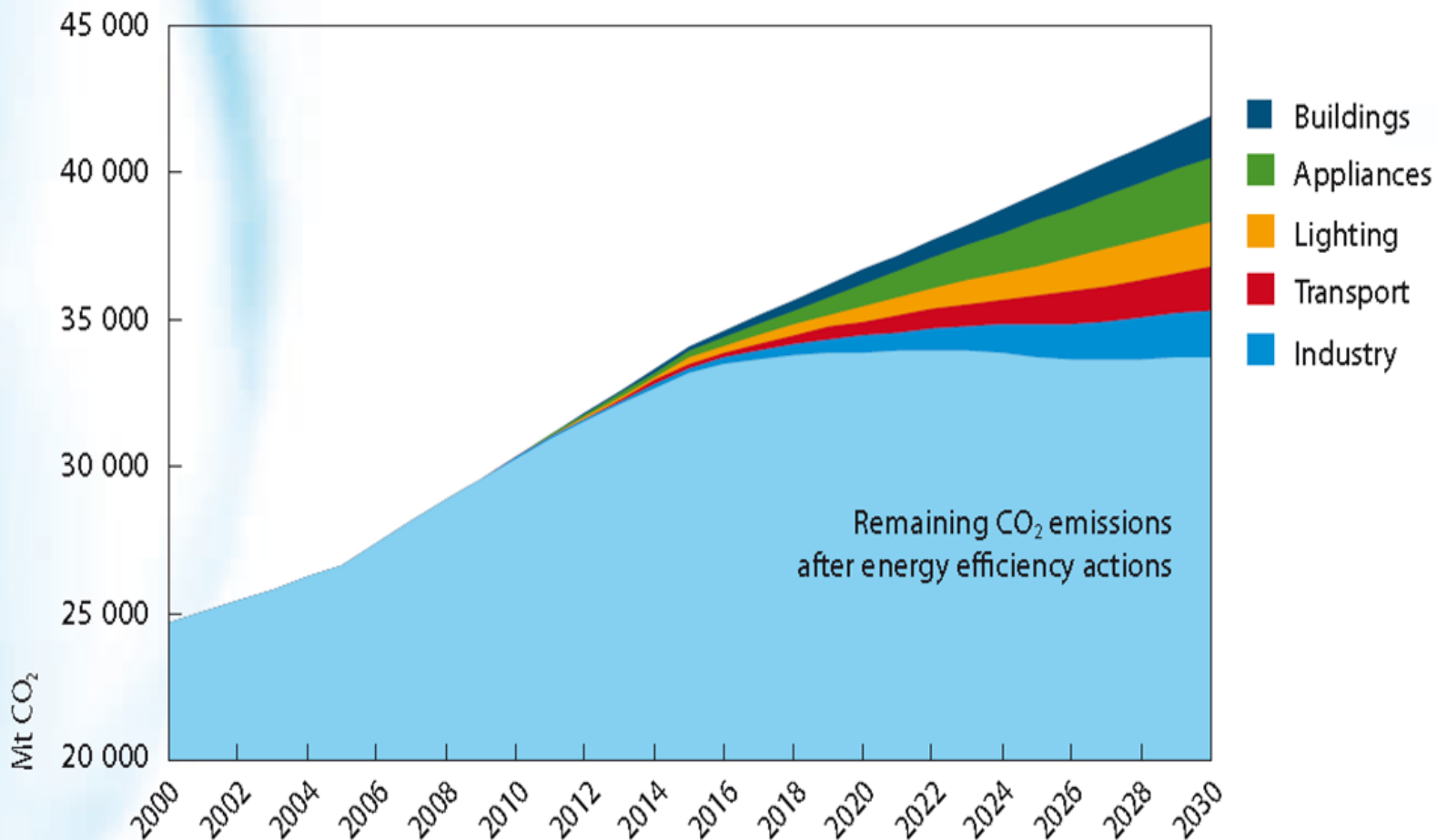
# 'A' is for Australia

Energy  
Efficiency  
Policy

W. I. N.



# 25 energy efficiency policy recommendations across 7 priority areas



*Global implementation of recommendations could save around 8.2 GtCO<sub>2</sub>/yr by 2030; this is equivalent to 20% of global reference scenario energy related CO<sub>2</sub> emissions in 2030*

Energy Efficiency Policy

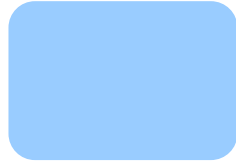
W. I. N.



Fully implemented



Subs



Impl



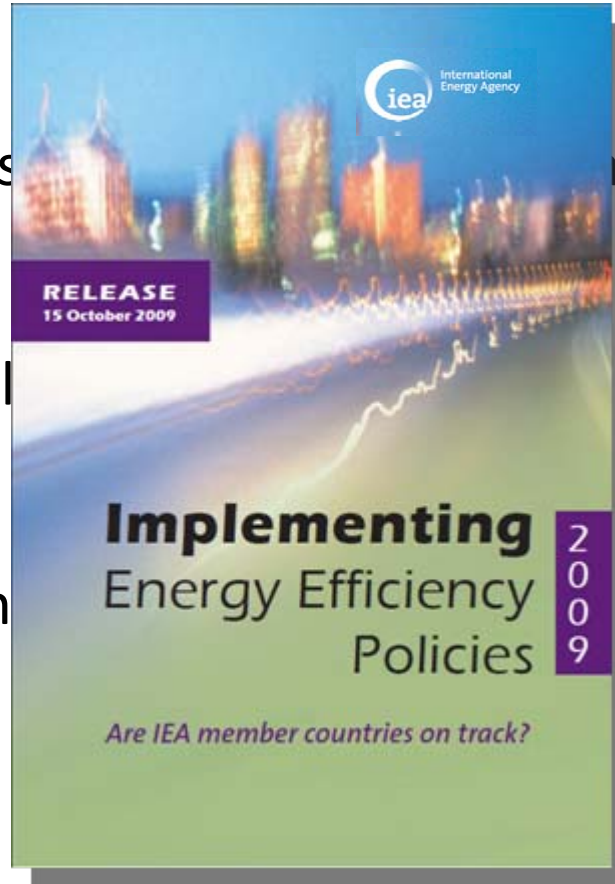
Plan



Not



Non applicable

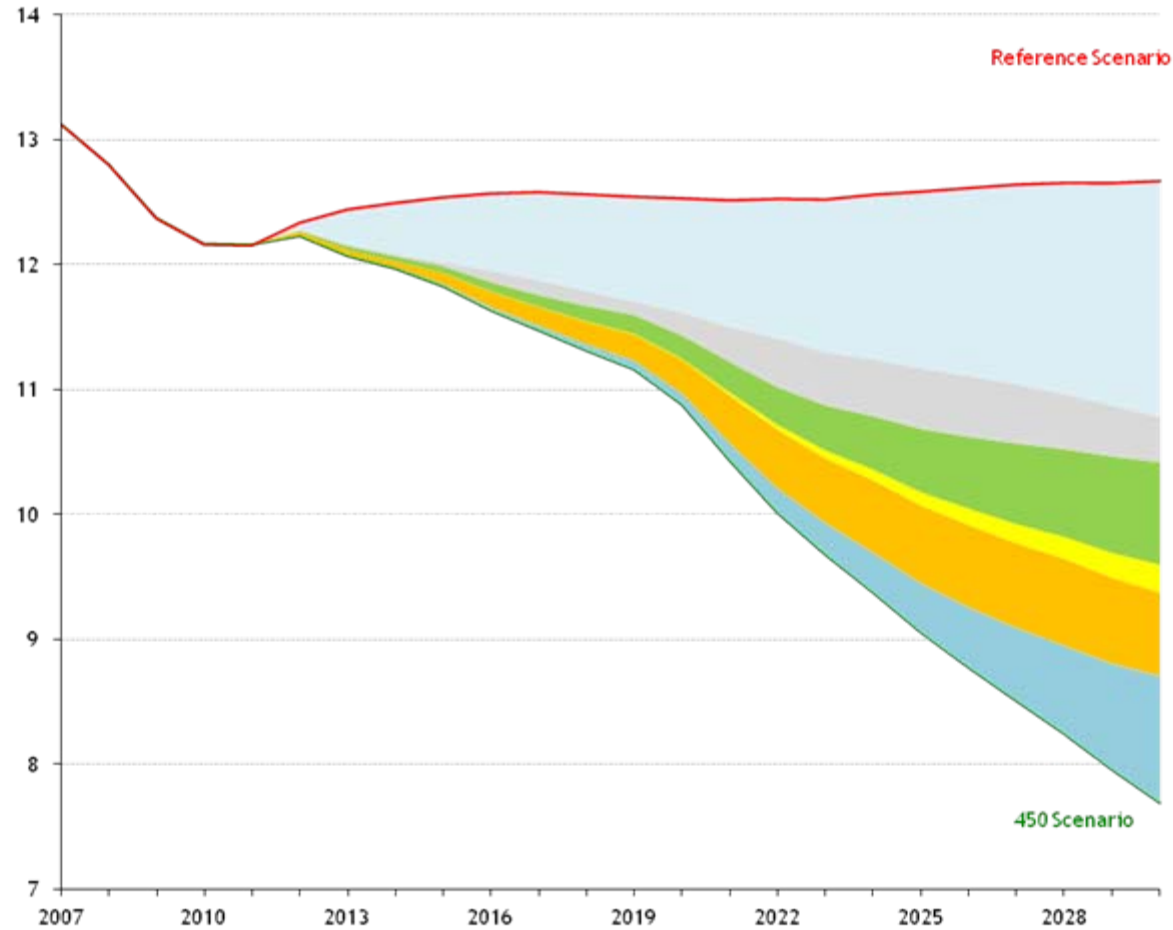


Energy Efficiency Policy

W. I. N.



# Base 450 Scenario (OECD+)

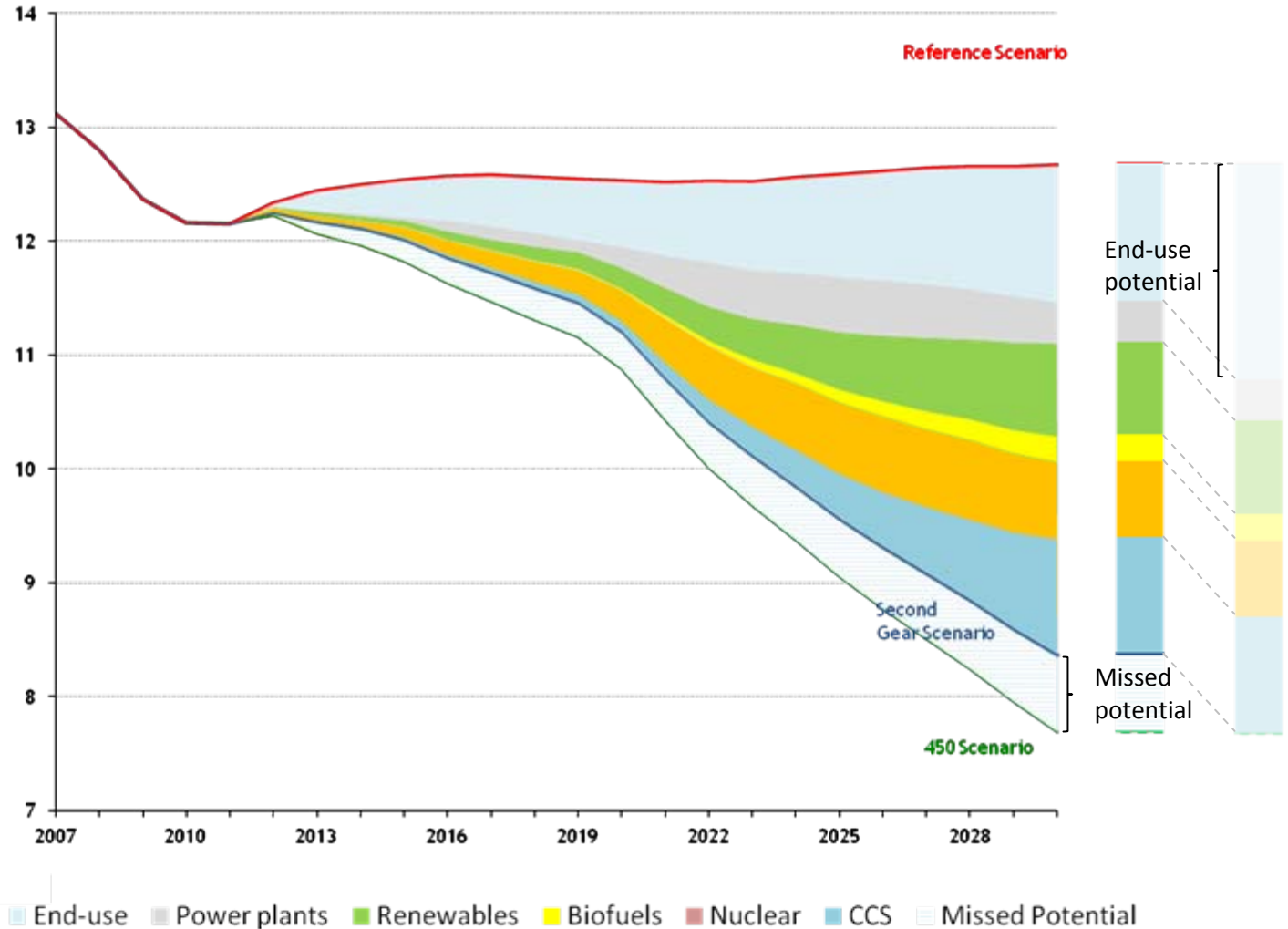


Energy Efficiency Policy

End-use Power plants Renewables Biofuels Nuclear CCS Missed Potential

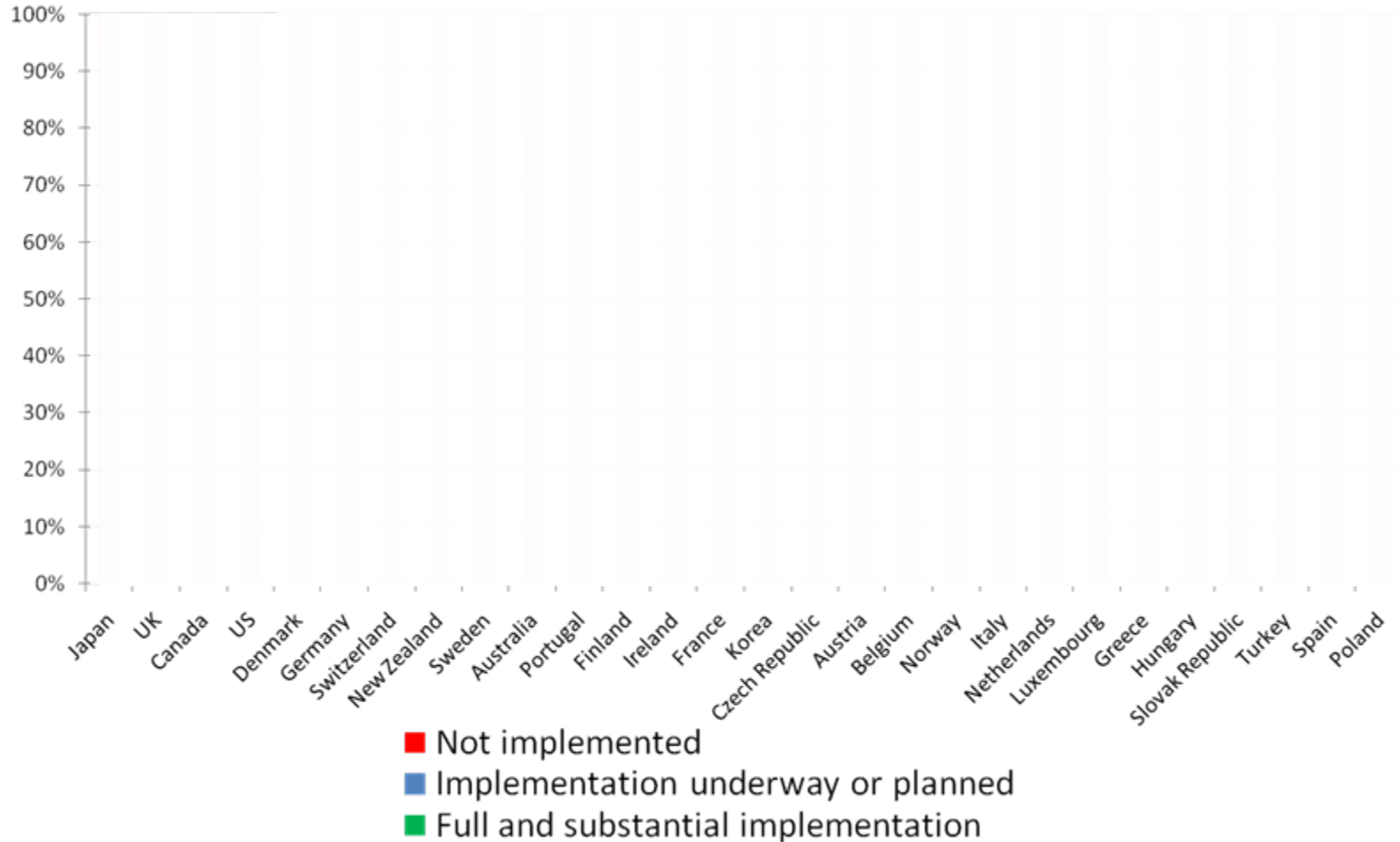


# Second Gear Scenario (OECD+)



Energy Efficiency Policy

# How does implementation compare across countries – all recommendations?



No country has ‘fully’ or ‘substantially’ implemented more than 57% of the relevant recommendations.



# 'G' is for governance

energy efficiency governance project - key questions

- Why focus on energy efficiency governance?
- What is energy efficiency governance?
- What has been done in the past?
- What are the dimensions of the energy efficiency governance issue?
- What is the IEA doing in this area?

Energy  
Efficiency  
Policy

W. I. N.

# Why focus on governance?

- Traditional (micro) approach:
  - Huge potential for ee (in refrigerators)
  - But there are barriers
  - Remove barriers
  - Et voila! ... Next problem.
  - But, hang on ... problems persist
- Broader socio-economic system
- Systems perspective essential
  - Key leverage points
    - Markets
    - Governance
- Governance has not received attention



# What is energy efficiency governance?

- *“use of political authority, institutions and resources by decision-makers and implementers to achieve improved energy efficiency”*

After Pierre (2000) and Rhodes (2000)

Energy  
Efficiency  
Policy

W. I. N.

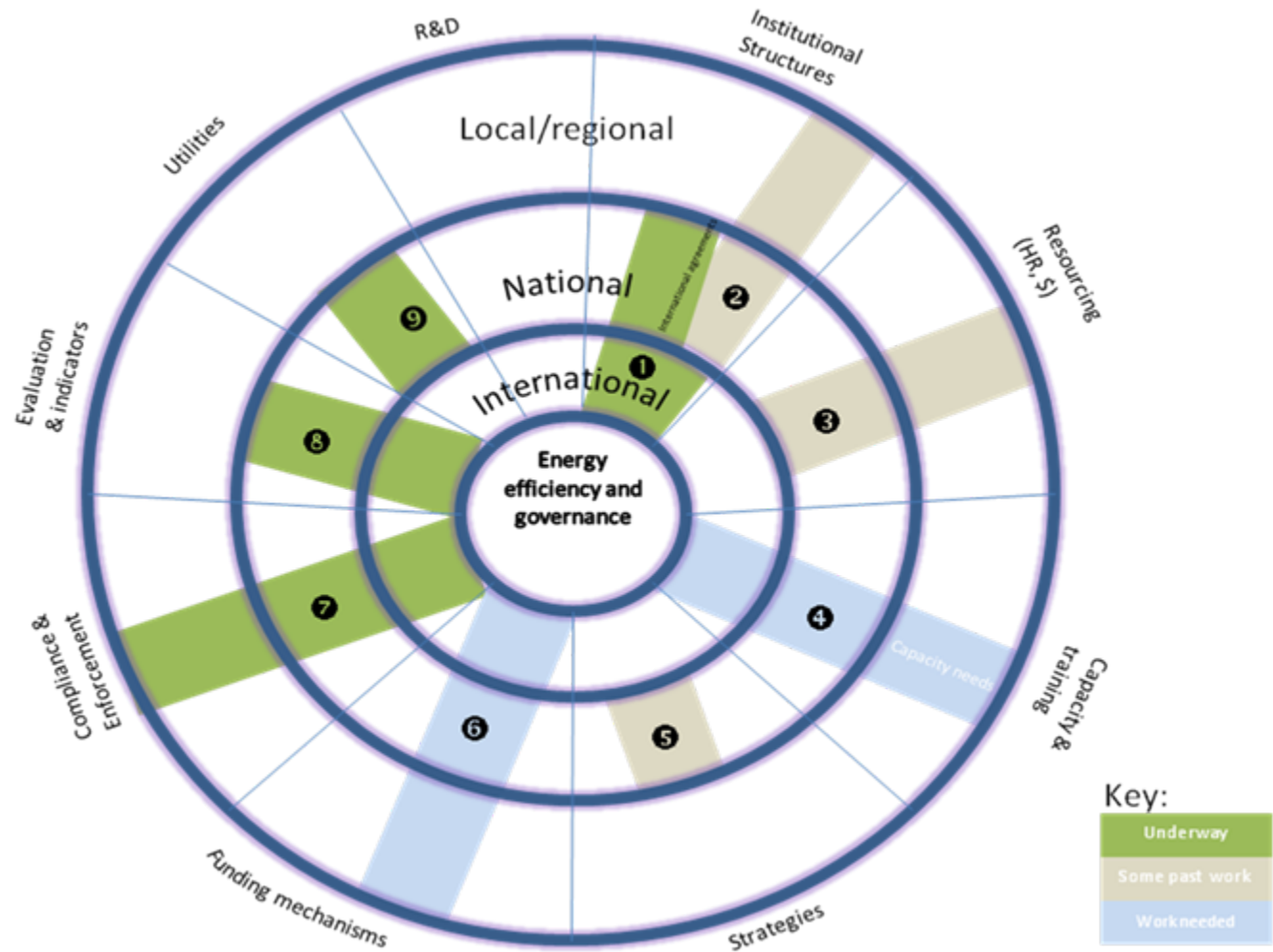
# What done in the past?

- Limaye, D., G. Heffner, and A. Sarkar. 2007.
- Laponche, B., B. Jamet, M. Colombier, and S. Attali. 1997.
- ***Two key limitations:***
  - ***Scope –institutions & national level***
  - ***Method – desk top studies***





# IEA energy efficiency governance framework



Energy Efficiency Policy

W. I. N.





# Energy efficiency governance project

- Overall aim
  - Assist all governments to establish the most effective energy efficiency governance regime.
- Key phases:
  - Phase 1: Institutions and resources
    - Most appropriate energy efficiency institutions to achieve its energy efficiency goals
    - Appropriate resource allocations
  - Phase 2: Multi-level governance
  - Phase 3: Energy efficiency strategies
  - Phase 4: Compliance, enforcement and evaluation
  - Phase 5: Human capacity and governance
  - Phase 6: R&D to support energy efficiency policy

Energy  
Efficiency  
Policy

W. I. N.



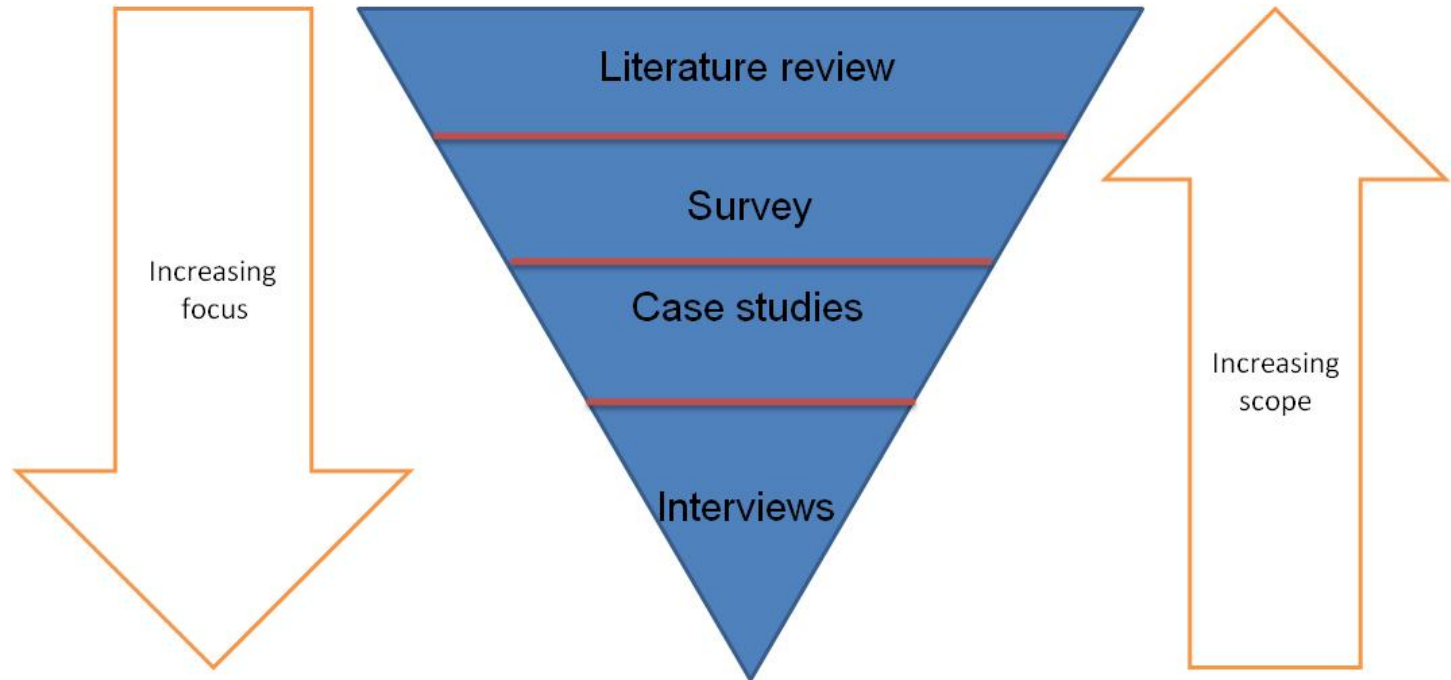
# Phase 1: Key research questions

1. How can a country ensure it has the most appropriate institutional arrangements as part of an overall energy efficiency governance system in order for it to achieve its energy efficiency improvement goals?
2. What level of resourcing (people and financial) is needed for energy efficiency institutions?

Energy  
Efficiency  
Policy

W. I. N.

# Method



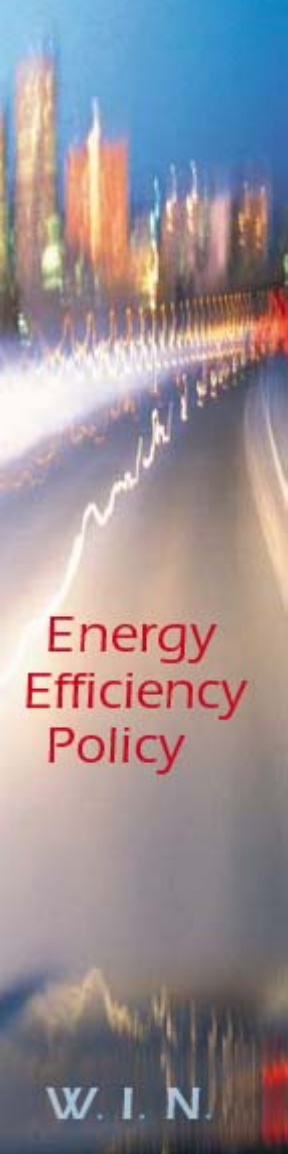


# Phase 1 outputs

1. Concise field handbook on ee institutions and resources
2. Scorecard for evaluating existing ee structures
3. Indicators of institutional resource allocation per capita and GDP
4. Workshop

Energy  
Efficiency  
Policy

W. I. N.



Energy  
Efficiency  
Policy

W. I. N.

© OECD/IEA, 2008

# The end

[Nigel.jollands@iea.org](mailto:Nigel.jollands@iea.org)