Energy efficiency, governance
and other short stories

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Today’s talk

Brought to you by the letters:

E A G
‘E’ is for energy efficiency

In general

\[
\frac{\text{input}}{\text{output}}
\]

In general energy terms

\[
\frac{\text{input}_{\text{energy}}}{\text{output}_{(\text{product/service})}}
\]

Measured as

\[
\begin{array}{ccc}
\text{kWh} & \text{litres} & \text{PJ} \\
\text{widget} & 100\text{km} & \\
\end{array}
\]
Another take...

- Increasing Energy Efficiency
- Decreasing energy use
- Energy Conservation
- No change in energy efficiency
- Increasing energy use
- Declining Energy Efficiency

Source: EECA
‘A’ is for Australia
25 energy efficiency policy recommendations across 7 priority areas

1. Across sectors
   1.1 Measures for increasing investment in energy efficiency;
   1.2 National energy efficiency strategies and goals;
   1.3 Compliance, monitoring, enforcement and evaluation of energy efficiency measures;
   1.4 Energy efficiency indicators;
   1.5 Monitoring and reporting progress with the IEA energy efficiency recommendations themselves.

2. Buildings
   2.1 Building codes for new buildings;
   2.2 Passive Energy Houses and Zero Energy Buildings;
   2.3 Policy packages to promote energy efficiency in existing buildings;
   2.4 Building certification schemes;
   2.5 Energy efficiency improvements in glazed areas.

3. Appliances
   3.1 Mandatory energy performance requirements or labels;
   3.2 Low-power modes, including standby power, for electronic and networked equipment;
   3.3 Televisions and “set-top” boxes;
   3.4 Energy performance test standards and measurement protocols.

4. Lighting
   4.1 Best practice lighting and the phase-out of incandescent bulbs;
   4.2 Ensuring least-cost lighting in non-residential buildings and the phase-out of inefficient fuel-based lighting.

5. Transport
   5.1 Fuel-efficient tyres;
   5.2 Mandatory fuel efficiency standards for light-duty vehicles;
   5.3 Fuel economy of heavy-duty vehicles;
   5.4 Eco-driving.

6. Industry
   6.1 Collection of high quality energy efficiency data for industry;
   6.2 Energy performance of electric motors;
   6.3 Assistance in developing energy management capability;
   6.4 Policy packages to promote energy efficiency in small and medium-sized enterprises.

7. Utilities
   7.1 Utility end-use energy efficiency schemes.

Global implementation of recommendations could save around 8.2 GtCO₂/yr by 2030; this is equivalent to 20% of global reference scenario energy related CO₂ emissions in 2030.
Base 450 Scenario (OECD+)
Second Gear Scenario (OECD+)
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?
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”

What done in the past?


- **Two key limitations:**
  - *Scope* – institutions & national level
  - *Method* – desk top studies
IEA energy efficiency governance framework
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
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?
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
The end

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