Assisting countries to implement energy efficiency policies

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ENERGY EFFICIENCY

International Energy Agency

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- Progress reporting

- Policy Pathways

- Governance

25
Energy Efficiency
Recommendations
across **7** Sectors

Worldwide **I**mplementation **N**ow

Cross-sectoral

Buildings

Appliances and equipment

Lighting

Transport

Industry

Energy utilities

About the recommendations

- **IEA Energy Ministers:**
  - committed to "*maximizing implementation of the IEA's 25 energy efficiency recommendations, or taking equally effective measures appropriate for national circumstances*."

- **Extensive analysis**

- **Four criteria**
  - Significant energy savings at low cost
  - Address market imperfections or barriers
  - Address significant gaps in existing policy
  - High degree of political support

- **Cohesive set**

- **Early implementation is key**

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.
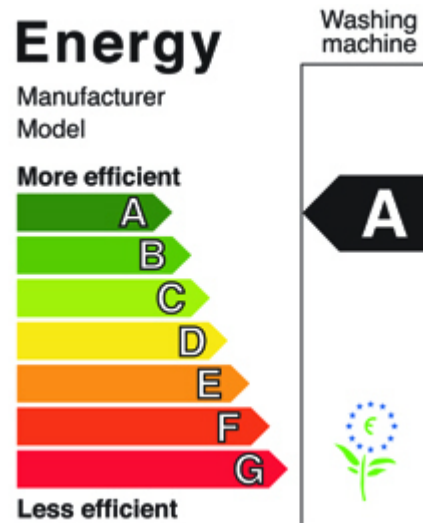
7. Utilities

7.1   Utility end-use energy efficiency schemes.

2.1 Building Codes for New Buildings

Governments should set and regularly update mandatory building codes.

3.1 Mandatory Energy Performance Requirements or Labels

Energy performance requirements and labels – a proven cost-effective policy tool
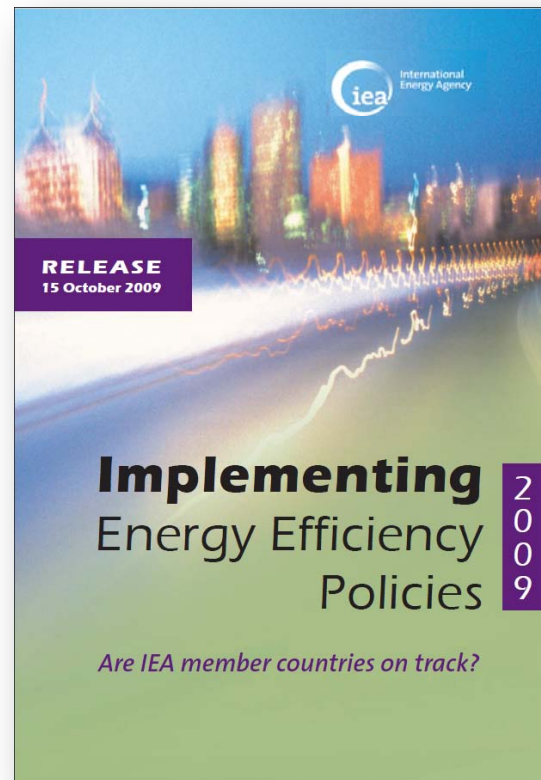
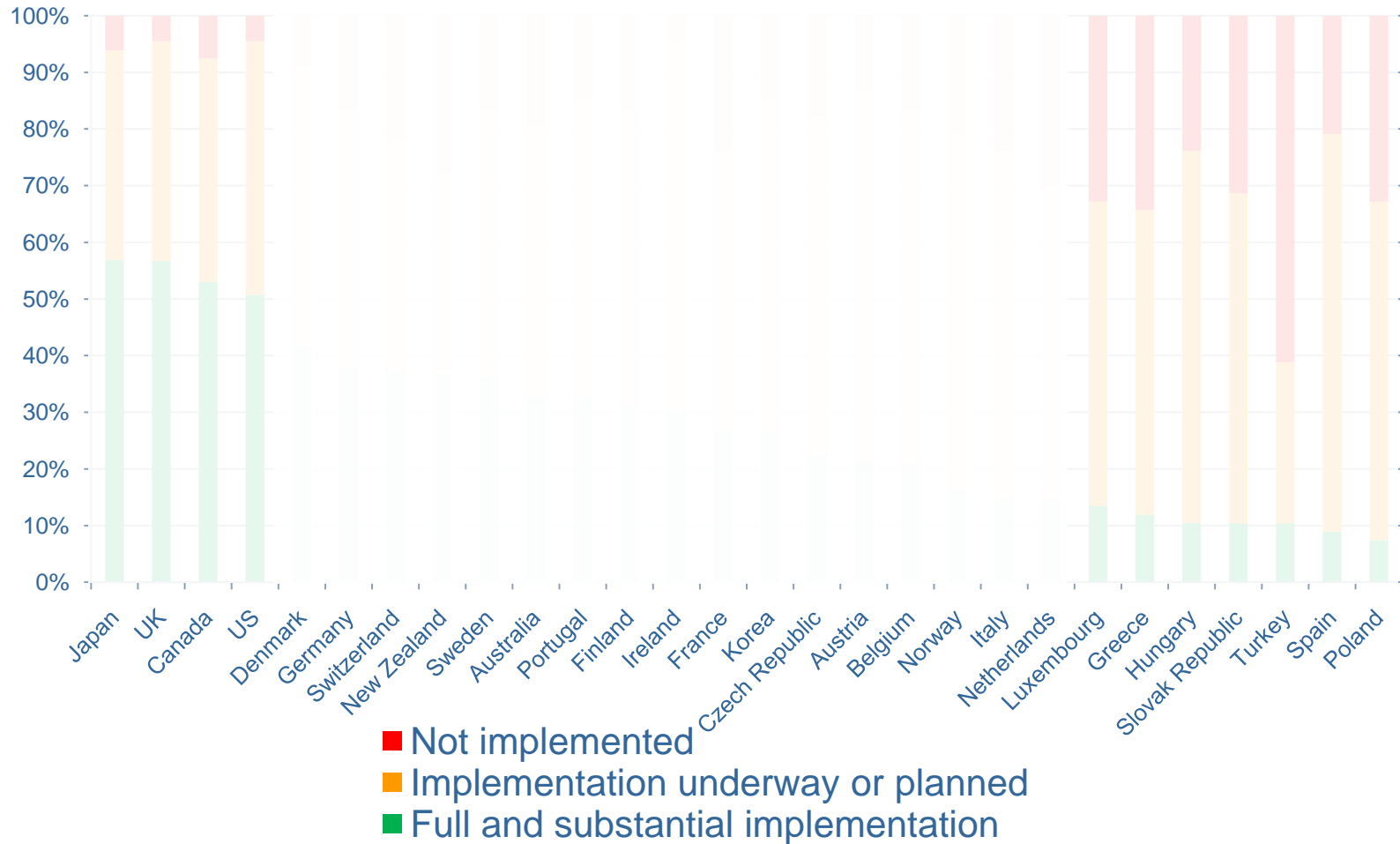# 5.2 Mandatory Fuel Efficiency Standards for Light-duty Vehicles

European Union recently improved its fuel standards, bringing it 130 g/km in 2012, which will lead to a projected 19% reduction in CO_2 emissions

Source: European Commission

Implementing energy efficiency policies: are IEA member countries on track?

# How does implementation compare across countries – all recommendations?

Legend:
- Not implemented (red)
- Implementation underway or planned (orange)
- Full and substantial implementation (green)

Countries (left to right): Japan, UK, Canada, US, Denmark, Germany, Switzerland, New Zealand, Sweden, Australia, Portugal, Finland, Ireland, France, Korea, Czech Republic, Austria, Belgium, Norway, Italy, Netherlands, Luxembourg, Greece, Hungary, Slovak Republic, Turkey, Spain, Poland

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

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Fuel efficient tyres

Labelling on tyre rolling resistance
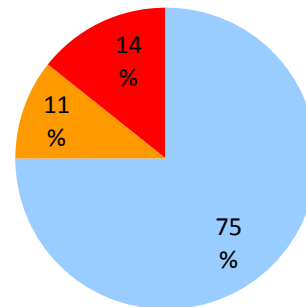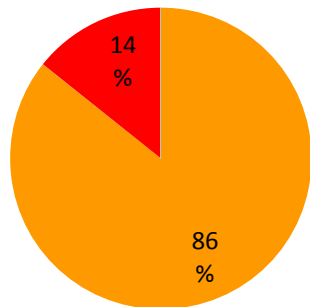
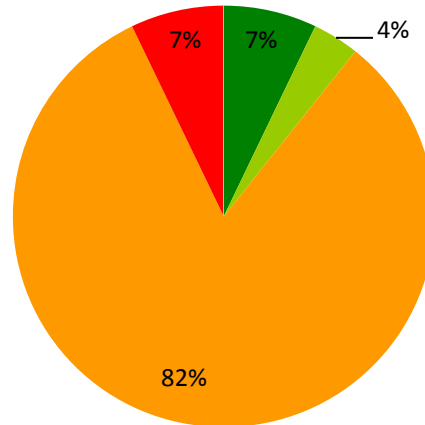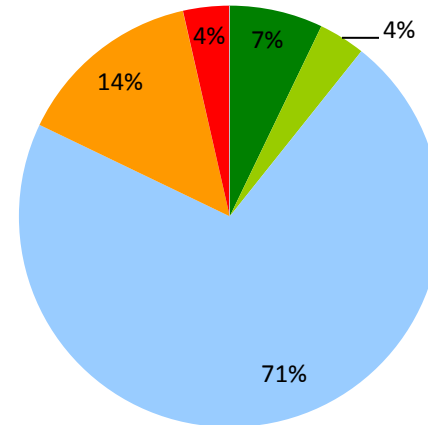**Tyre pressure monitoring systems**
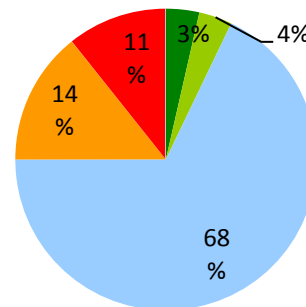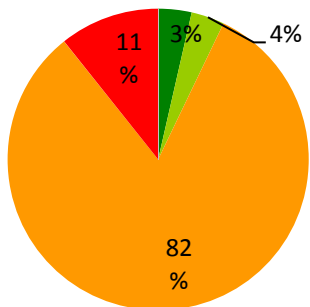
March 2009   **May 2010**

- **EU adopted regulations for TPMS, tyre rolling resistance and labelling**
- **Japan started voluntary tyre labelling scheme**

Fuel efficiency standards for LDV

March 2009

May 2010

- **EU adopted a regulation for CO2 emission for passenger cars**
- **US tightened CAFE standards for MY 2012–2016**
- **Canada changed voluntary scheme to mandatory**
- **Australia plans to introduce mandatory targets**

Policy
Pathway

**International
Energy Agency**

iea

Aims & objectives

- **Aim** is to assist governments to implement energy efficiency policy effectively

- **Objective** is to identify, analyse and communicate to all governments innovative policy pathways (steps and milestones) for implementing energy efficiency

Policy Pathway series

- **Schedule of work**
  - Policy Pathways
    - → Appliances monitoring, verification and enforcement (Oct 2010)
    - → Buildings certification (November 2010)
    - → Public-private partnerships for energy efficiency finance (June 2011)
    - → Industrial energy management (Dec 2011)

  - *New* Energy efficiency <u>roadmaps</u>:
    - → Advanced windows for buildings (October 2011): roadmap
    - → Solid state lighting (2011): roadmap
    - → Vehicle efficiency (2011/12)

Monitoring, Verification and Enforcement

Improving compliance within equipment energy efficiency programmes

Policy Pathway

Equipment energy efficiency programmes

Standards & labels (S&L) programmes are a common policy tool for promoting energy efficiency in equipment

" ... having a compliance regime is not only about good governance, but also happens to be one of the most cost-effective ways to cut greenhouse gas emissions."
Mark Ellis, quoted in _Bright Spark, Efficient Electrical End-use Equipment Implementing Agreement_

What is monitoring, verification and enforcement?
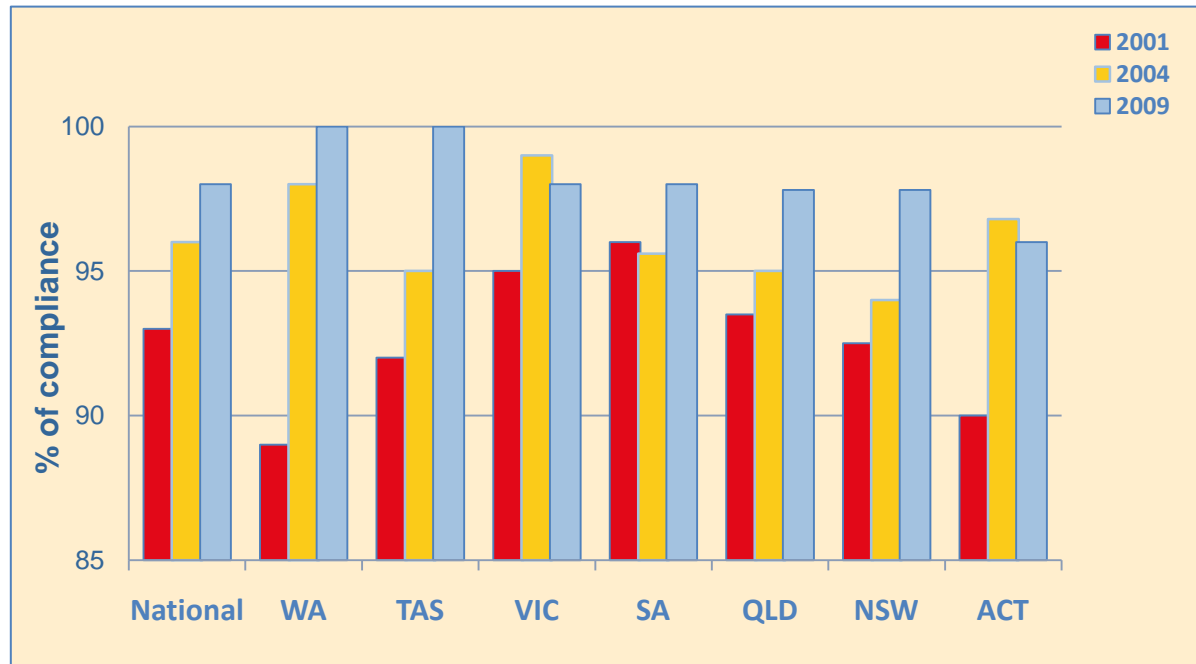
MVE activities ensure the integrity of S&L programmes by minimising non-compliance.

Benefits of monitoring, verification and enforcement

- More "bang for your buck"
- Assists policy makers
- Assists manufactures
- Gives confidence to consumers

Consumer interest must be protected, … . We are working to ensure that consumers have faith in our labelling scheme.

Sandeep Garg, Energy Economist and Manager, Standard and Labelling Bureau of Energy Efficiency, India

Policy Pathway

The equipment MVE Policy Pathway

POLICY PATHWAY to MVE implementation

EVALUATE
- 10 Evaluate continuously
- 9 Accept diversity
- 8 Communicate openly

PLAN
- 1 Determine legal framework
- 2 Propose shared resource arrangements
- 3 Ask the difficult questions

MONITOR
- 7 Assess compliance levels
- 6 Match data collection and analysis to priorities

IMPLEMENT
- 4 Establish transparent procedures
- 5 Provide education and support

Policy Pathway

Main messages
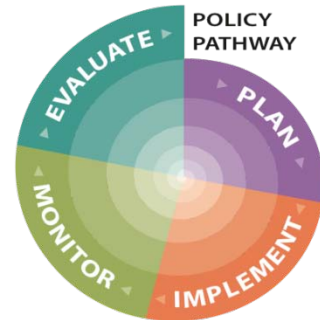
- MVE is critical

- MVE not simple – not obvious to everyone at every stage of policy pathway.

- MVE requires training and support for new programme managers.

- MVE must be:
  - robust and match needs with resources and changing goals of maturing S&L programmes.
  - tailored to legal requirements, the capacity of the people involved and time available to complete the actions.

- International cooperation is important

- *If you need an MVE wheel, don't re-invent it yourself.*

Energy Performance Certification of Buildings

A policy tool to improve energy efficiency

Policy Pathway

Governance definition:

The combination of legislative frameworks and funding mechanisms, institutional arrangements, and co-ordination mechanisms, which work together to support implementation of energy efficiency strategies, policies and programmes.

Background

- Global effort led by the International Energy Agency's Energy Efficiency Unit
- Financial and analytical support from EBRD and IDB
- Project advised by a Reference Group of Governance experts
- Coordinated with parallel efforts being underway by UNESCAP, World Bank, WEC, and others

Energy
Efficiency
Governance

Drivers For EE: IEA Study

Worldwide

Chart legend:
- Non-IEA Asia, MENA and Africa
- Latin America
- EBRD
- IEA

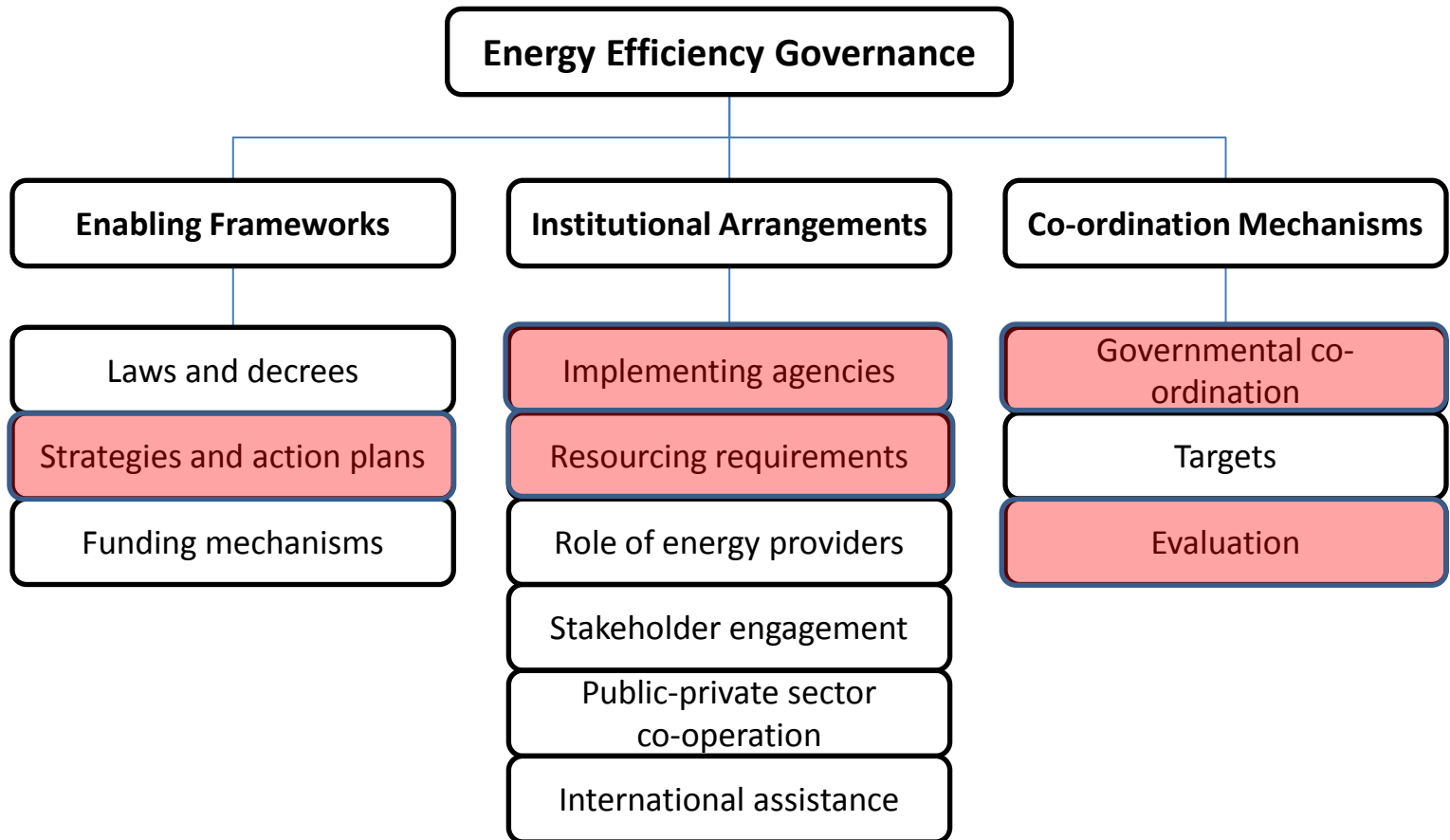% of respondents identifying the main driver for energy efficiency policy in their country

Category	IEA	EBRD	Latin America	Non-IEA Asia, MENA and Africa
Energy security	31%	50%	56%	57%
Economic development	4%	26%	19%	24%
Climate change	43%	10%		11%
Economic competiveness	18%	6%	19%	5%
Public health	1%			
Other	2%	8%	6%	3%

Source: IEA study, forthcoming)

Energy Efficiency Governance Framework

Energy Efficiency Governance

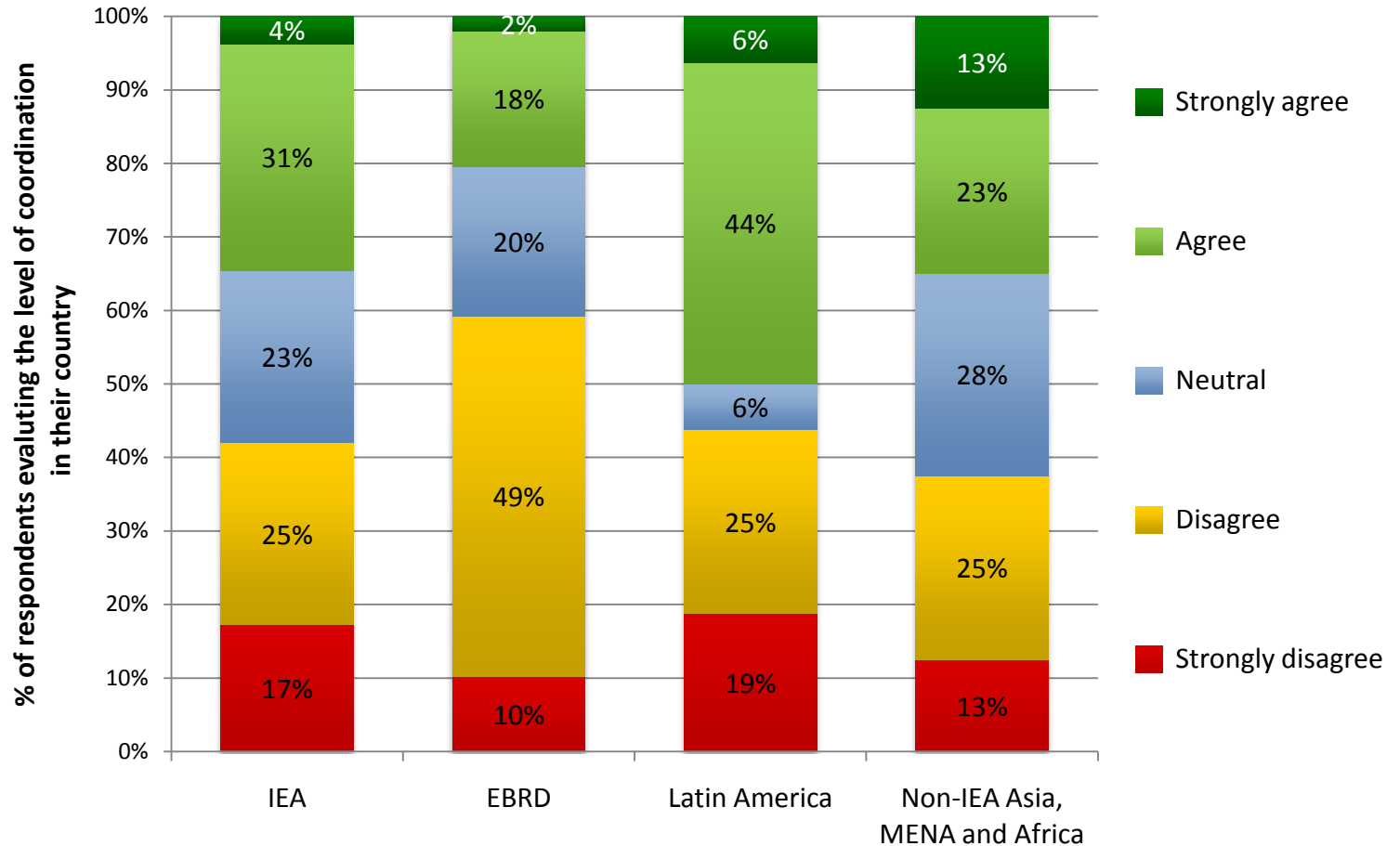| Enabling Frameworks	Institutional Arrangements	Co-ordination Mechanisms
Laws and decrees	Implementing agencies	Governmental co-ordination
Strategies and action plans	Resourcing requirements	Targets
Funding mechanisms	Role of energy providers	Evaluation
	Stakeholder engagement	
	Public-private sector co-operation	
	International assistance	

Strategies and Action Plans

- Importance
  - Place EE policy within the broader policy context;
  - Prioritise energy efficiency policies;
  - Capture synergies between policies;
  - Engage stakeholders and build consensus;
  - Assign responsibility & establish accountability
- Strategy & action planning guidelines
  - Take a long-term, high-level viewpoint
  - Have a strong analytic foundation;
  - Incorporate specific time-bound targets;
  - Be comprehensive and consider all sectors
  - Prioritise the most-promising sectors and policy measures;
  - Identify the resources needed to turn strategy into action.

Energy
Efficiency
Governance

IEA Survey Results
Is energy efficiency well-coordinated?

Worldwide

Source: IEA

Pros and Cons of Organizational Types

| Organizational Type	Advantages	Disadvantages
Government energy agency	Access to decision-makers Influence on policy & legislation	Limitations on salary and staff Difficulty in taking decisions Must compete for attention Turnover of officials
Government energy efficiency and clean energy agencies	Credibility with other public agencies Ability to specialize and focus Often have a firm basis in law Cultural benefits	Limitations on salary and staff Potential opposition from elsewhere within government
Independent energy efficiency and clean energy Statutory Authority or Corporation	Linkages to private sector Access to multiple public & private funding sources Independence and autonomy Firm basis in law Cultural benefits	Cannot directly access donor funding
Energy efficiency and clean energy Public/private partnership	Independence and autonomy Access to private sector resources, Cultural benefits	Only indirect access to policy makers Difficulty in policy coordination May not be permanent arrangement
Energy efficiency and clean energy NGO or public benefit organization	Independence and autonomy Credibility with stakeholders and consumers Cultural benefits	Only indirect access to policy makers Must compete for resources Lack of authority Difficulty in policy coordination May not be permanent arrangement

Energy Efficiency Governance

Estimated EE resourcing

Source: IEA

© OECD/IEA, 2010
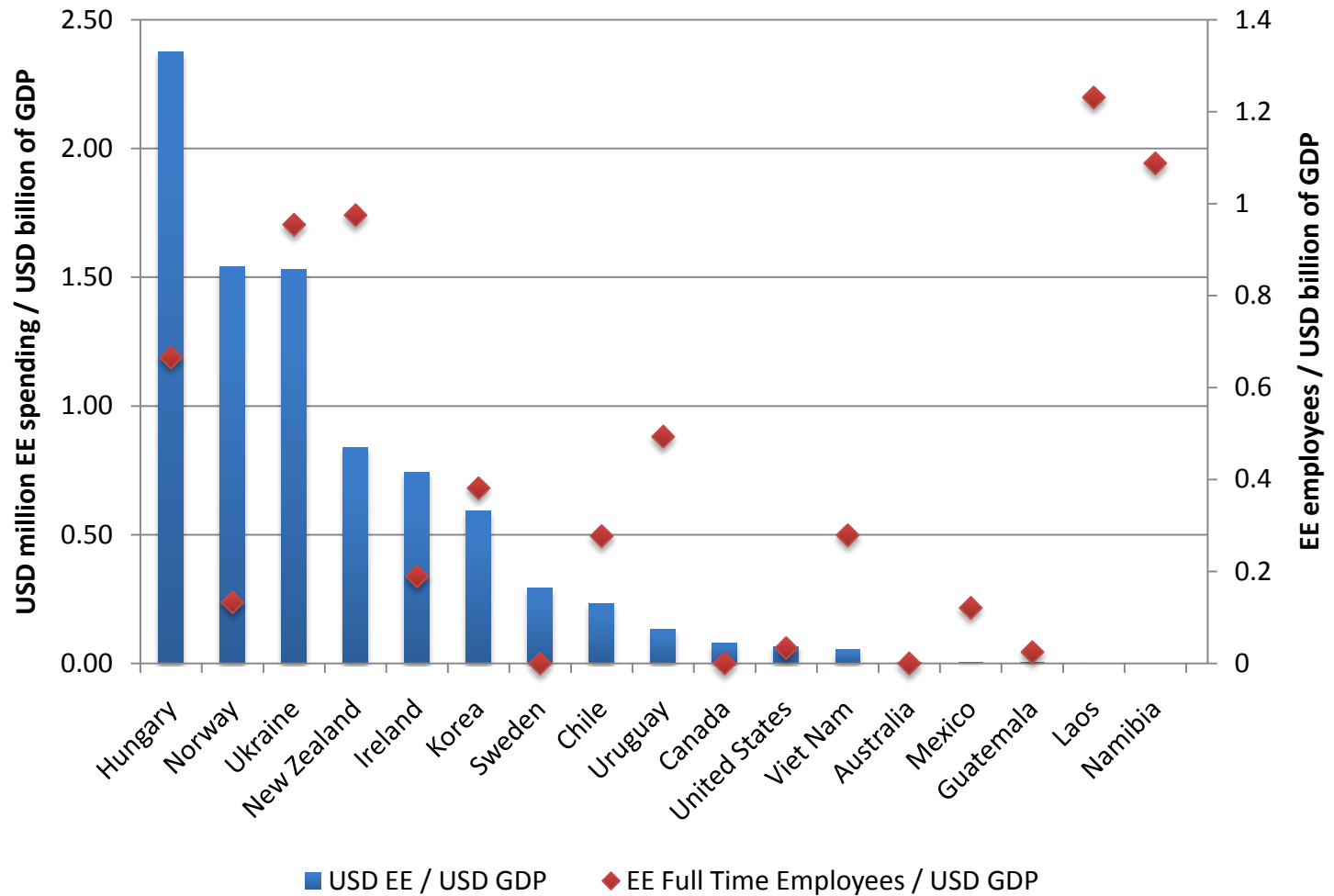
IEA Survey: Does Your Country Conduct Evaluations of EE Policies and Programs?

Worldwide
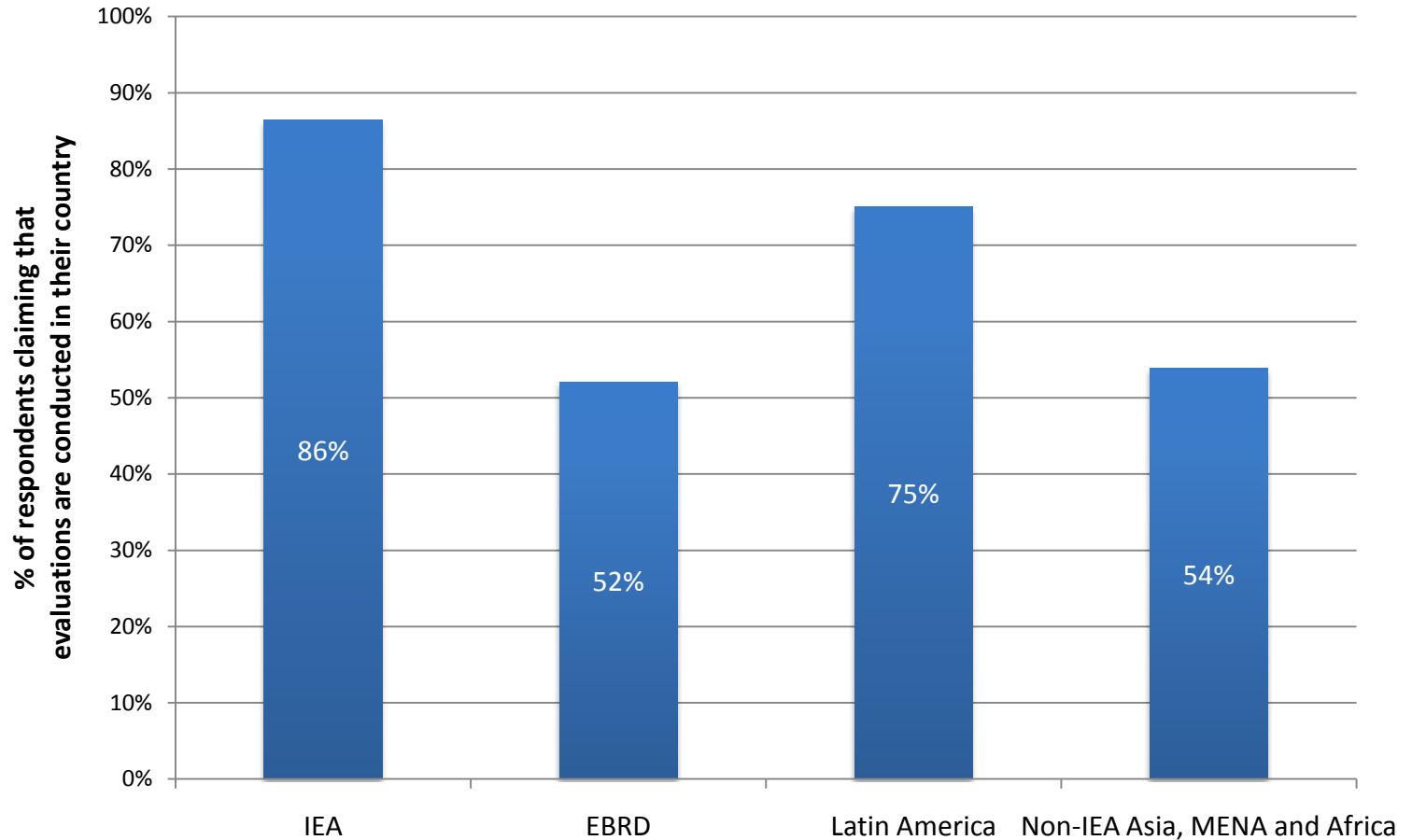
Source: IEA

Evaluation

Worldwide

Entity conducting evaluations
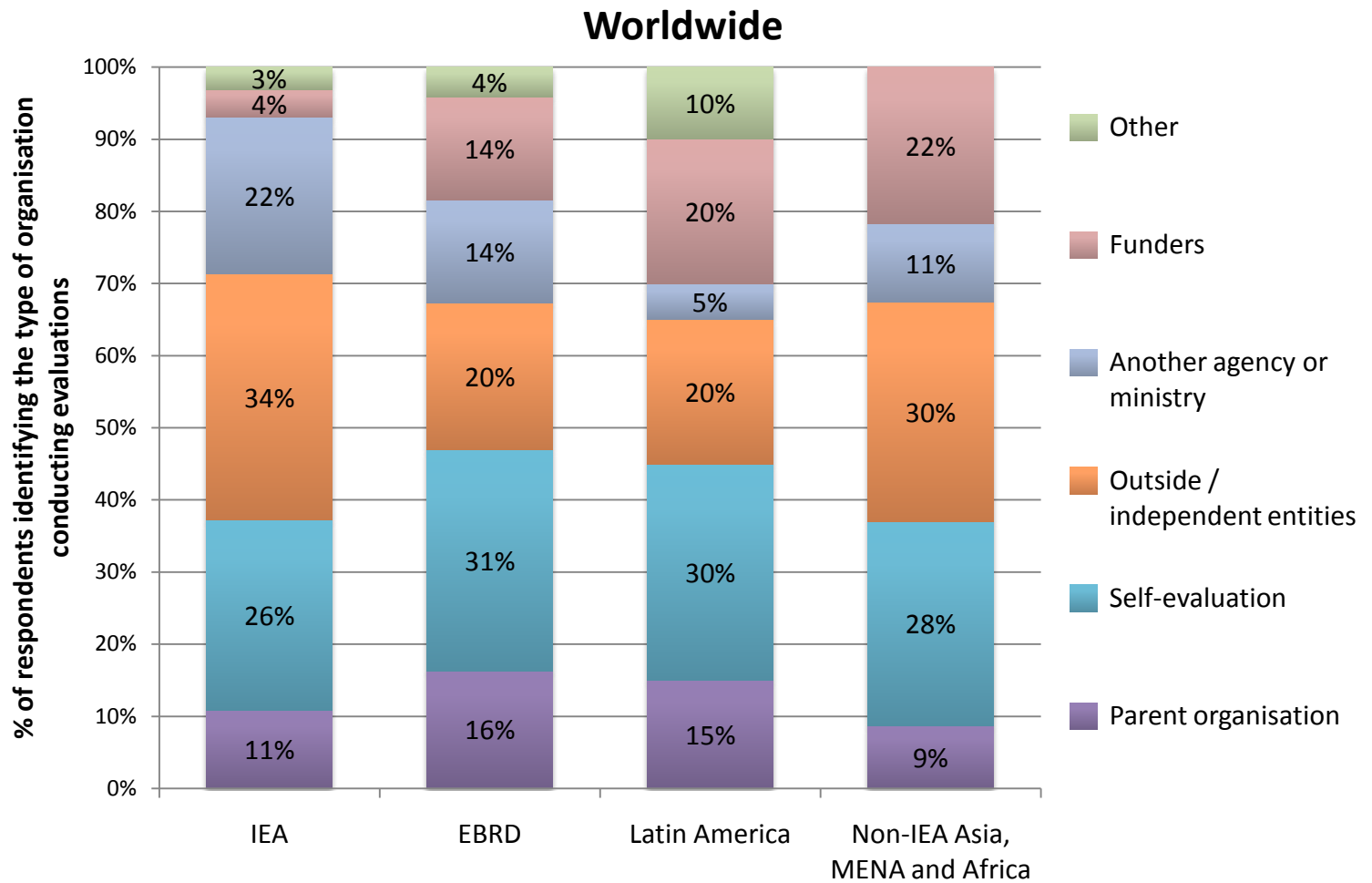
Correlation between institutional effectiveness and evaluations

Country has effective energy efficiency institutional structures

Strongly agree — 10%

Agree — 27% | 4%

Neutral — 17% | 7%

Disagree — 12% | 15%

Strongly disagree — 4% | 4%

Country conducts evaluations

Country does not conduct evaluations

Guidelines for Effective EE Evaluation

- Success factors:
    - Include evaluation as an integral part of policy & program design
    - Adopt and require common methodologies and protocols
    - Invest in accurate data and statistics
    - Assure adequate funding, including evaluation set-asides
    - Develop and retain high calibre staff
    - Create an "evaluation culture"
    - Make evaluation integral to results monitoring and oversight arrangements
- Adopt "good governance" especially for evaluation:
    - Data credibility
    - Independence and objectivity of analysis
    - Transparency of results

Summary

- Energy efficiency recommendations

- Progress reporting

- Policy Pathways

- Governance

Thank you!

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