

Energy efficiency governance – an emerging priority

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Abstract

End-use energy efficiency is widely accepted as providing least-cost solutions to greenhouse gas mitigation and energy supply. However, maximising this potential resource is proving difficult, even elusive. Despite widespread energy efficiency policies covering many sectors, most evaluations show that we are falling well short of the potential level of energy efficiency. One reason for this is that estimates of potential tend to cover the whole of an economy or large sectors, whereas policy measures tend to be targeted towards individual, smaller parts of the economy. The authors contend that the energy efficiency potential within an economy will not be maximised without understanding the complete governance framework – the central mechanism for marshalling drivers within the public and private sectors of an economy – and ensuring that it is aligned towards energy efficiency. This paper explores the rationale for focusing on energy efficiency governance. In doing so, we attempt to define energy efficiency governance and present a conceptual framework for the better understanding of the issues involved. After reviewing the available literature in this field we present a description of the IEA governance programme of work that aims to assist countries to establish the most effective energy efficiency institutional structures at national and local levels.

Introduction

End-use energy efficiency is widely accepted as providing least-cost solutions to greenhouse gas mitigation, energy security and development needs. However, maximising this potential

resource is proving difficult. Despite widespread energy efficiency policies covering many sectors, many studies show that we are falling well short of the potential level of energy efficiency (DLR 2006; Ecofys 2001; Intergovernmental Panel on Climate Change 2001; Interlaboratory Working Group 2000).

Analysts cite various reasons for this ‘energy efficiency gap’ – the difference between the optimal and actual achievement level of energy efficiency improvement. This gap is explained by the presence of market barriers (such as the low priority of energy issues, access to capital and incomplete markets for energy efficiency) and market failures (International Energy Agency 2007). Typical examinations of how to address these impediments focus on parts of the problem – for example, removing the impediments to the uptake of more energy-efficient refrigerators, or setting policies to encourage higher levels of building insulation. Further reasons for sub-optimal energy savings include the ‘rebound’ effect, where actors take some or all of the benefits from improved efficiency in higher levels of energy services, and lower than predicted levels of ‘compliance’ with energy efficiency policy measures (where they exist).

The temptation for energy efficiency policy makers to focus on micro-level issues is understandable since energy-savings resources are widely dispersed amongst a large number of individual actors in society and the barriers (and hence the policy measures) are very specific to particular sectors of the economy. These micro-level energy efficiency policies have been extremely successful within their sphere of influence, however there are large gaps in policy coverage which can only be understood and addressed by governments considering the broader governance system issues. Indeed, we contend that an appropriate energy efficiency governance framework is the

sine qua non for successfully addressing the energy efficiency gap. Furthermore, our experience and literature reviews suggest that policy practitioners have paid too little attention to understanding and establishing effective energy efficiency governance frameworks.

The overall aim of this paper is to raise the profile of energy efficiency governance structures with energy efficiency policy practitioners. In achieving this aim, this paper will:

- a. outline the rationale for focusing on energy efficiency governance;
- b. review past studies on energy efficiency governance;
- c. define the dimensions of the energy efficiency governance issue;
- d. develop a conceptual framework for guiding energy efficiency governance work;
- e. outline the scope and direction of phase one of the IEA 'energy efficiency governance' project: institutions and resources for energy efficiency.

Rationale

Governments are putting increasing store on the ability of energy efficiency policies to contribute towards greenhouse gas mitigation, energy security and economic development goals (International Energy Agency (IEA) 2008). As such, there is growing interest in ensuring that the energy efficiency policies are effective (Ecofys 2007; Energy Charter Secretariat 2006; Gillingham *et al.* 2004; International Energy Agency Implementing Agreement on Demand-Side Management Technologies and Programs 2005; KEMA 2006; Lund 2007). Unfortunately, experience shows that many countries are not fulfilling their energy efficiency policy potential (International Energy Agency 2008). Examinations of how to implement energy efficiency and stimulate energy savings typically focus on micro-economic technological opportunities, consumer awareness campaigns and measures targeting small parts of the economy.

Dealing with parts of the energy efficiency puzzle in isolation may be one of the reasons why general levels of energy efficiency typically do not improve as rapidly as expected, or reach levels which might be expected from techno-economic models. The level of a country's energy efficiency is an function of a broad and complex social-economic energy system (Peet 1992). In this context, energy efficiency policy makers need to deal with the whole system of activities which drive an economy and its energy-productivity patterns. This is particularly the cases since to achieve enhanced energy efficiency means policy makers need to influence the actions of large number of individual actors and elements which interrelate in often complicated ways. In addition, it is important that policymakers recognize that socio-economic-environment systems have unique characteristics. In these systems, facts are uncertain, values in dispute, stakes high and decisions urgent (Funtowicz & Ravetz 1992). Thus, energy efficiency policy makers need to ensure they take a whole-system, pragmatic perspective when developing and implementing policies.

Adopting a systems perspective for energy efficiency policy is easier said than done. Systems are complex, messy and there are no simple rules to direct policy analysis. Nevertheless, systems theory can provide some guidance. Systems thinking reminds us that in order to 'manage' a system it is important to identify the critical leverage points in that system (Russwurm & Sommerville 1974). That is, those points in the system that have significant influence over the broad range of actors.

In the context of energy efficiency, critical leverage points include the market mechanisms (price of energy, etc) and the policy governance framework. While the role of market forces has received significant attention in energy efficiency literature and takes a central role in public policy, importantly, Hisschemoeller (2006) points out that market conditions for innovations such as energy efficiency are largely shaped by governance arrangements.

Energy efficiency governance frameworks are also a critical leverage point – they are a central mechanism for marshalling energy efficiency efforts in the public and private sectors of an economy. Indeed, experience shows that without an appropriate energy efficiency governance framework, energy efficiency policy efforts are destined to be piecemeal and limited in their impact on energy consumption patterns (International Institute for Energy Conservation 2007; Laponche *et al.* 1997; Limaye *et al.* 2007). An effective energy efficiency governance framework is therefore the *sine qua non* for successfully addressing the energy efficiency gap.

Unfortunately, there has been little systemic assessment of energy efficiency governance issues covering all levels of government and sectors. The few attempts at this work such as Limaye (2007) are a useful first start, however, they tend to only focus on a single dimension (such as institutional structure in the case of Limaye (2007)) of the overall governance issue. There is a need for a broader, more 'holistic' assessment of energy efficiency governance.

The lack of attention to energy efficiency governance is surprising. Unlike the supply side, where many governments have robust, well-resourced long-term governance structures in place, demand-side/energy efficiency governance structures are less well-established and understood. If economies are to reach their policy objectives regarding increased energy efficiency, there is an urgent need to better understand the topic of energy efficiency governance.

What is energy efficiency governance?

Before attempting a definition of energy efficiency governance, we need to understand the broader concept of governance.

The governance literature is confusing in its conceptualization of governance. For example, Hisschemoeller *et al.* (2006), state that whereas 'government' refers to a monocentric interventionist perspective, governance refers to a polycentric model, which envisions concerted actions by decentralized actors, each of which has only limited coercive capacity. In contrast, Murphy (2005) argues that the central concern of governance is the difference between coercion and influence. Biermann (2007) states that governance usually stands broadly for new forms of regulation that differ from traditional hierarchical state activity and implies some form of self-regulation by societal actors, private-public co-operation in the solving of soci-

etal problems and new forms of multilevel policy. For Bulkeley (2005), governance includes the actions of the state and, in addition, encompasses actors such as communities, businesses, and NGOs. From a sustainable development perspective, the Improvement and Development Agency for local government (IDeA) (2008) maintains that governance is an all-embracing concept capable of conveying diverse meanings not covered by the traditional term 'government'.

In the crowded lexicon of governance definitions, Rhodes (2000) provides a useful typology. He identifies seven groups of governance definitions, as follows:

1. *corporate governance* – relating to the way that corporations are governed and managed.
2. *new public management* – focusing on institutions designed to exercise collective control and influence, and preoccupied with questions of public sector reform.
3. *'good governance'* – the focus of international institutions promoting systemic political and economic reform.
4. *international interdependence* – focusing on new forms of international cooperation in the face of a growing awareness of international interdependencies.
5. *a socio-cybernetic system* – highlighting the limits to governing by a central actor.
6. *the new political economy* – which re-examine the government of the economy and interrelationships between civil society, state and the market economy as these boundaries become blurred.
7. *as networks* – focusing on the complex sets of organisations drawn from the public and private sectors that are involved in the system of governance.

Meanwhile, Pierre (2000) attempts to summarise the main research problem that the governance concepts listed above all attempt to address. That is, "to what extent the state has the political and institutional capacity to steer and how the role of the state relates to the interests of other influential actors".

Developing a definition of governance depends on the questions being asked (Rhodes 2000, p.67). In the context of energy efficiency we ask how can decision-making and implementation systems be improved to deliver enhanced energy efficiency? Therefore, drawing on several of Rhodes' (2000) categories (in particular the governance as 'new public management', 'the new political economy' and 'networks') we can define energy efficiency governance as **"use of political authority, institutions and resources by decision-makers and implementers to achieve improved energy efficiency"**.

What studies into energy efficiency governance have been conducted? What are their key findings and relevance?

Studies about energy efficiency governance specifically are scarce, although there is no shortage of papers on energy efficiency from a more technical point of view, or on governance more broadly. Only two specific pieces of work about energy efficiency governance have been identified to date – a study by

the World Bank about Institutional frameworks for energy efficiency implementation by Limaye et al. (2007), and the book by Laponche et al. (1997) about energy efficiency policy in general with a chapter on energy efficiency governance. These two studies are briefly discussed below.

REVIEW OF LIMAYE, D., G. HEFFNER, AND A. SARKAR. 2007. AN ANALYTICAL COMPENDIUM OF INSTITUTIONAL FRAMEWORKS FOR ENERGY EFFICIENCY IMPLEMENTATION. WORLD BANK ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAM ESMAP

In 2006 the World Bank's Energy Sector Management Assistance Program (ESMAP) undertook a project designed to examine the interplay of structure, role, and function of energy efficiency institutions, in order to identify key elements to consider when establishing new or reformed institutions designed to stimulate energy efficiency. It describes, categorizes and analyzes the main elements of institutions, which proved effective in promoting energy efficiency measures particularly in the end-use consuming sectors. Energy efficiency institutions from 27 developed and developing countries were analysed by the authors. The study also suggests guidelines for designing new energy efficiency institutions.

The analysis of the energy efficiency agencies revealed seven institutional models, ranging from government agency to privately owned entities. The older energy efficiency agencies, established during the 1990s, were mainly broad-based national energy agencies with a small energy efficiency component, while, in more recent years, specialized agencies focused on energy efficiency and related clean energy investments are more commonly found. Several recently established institutions were independent statutory authorities or government-owned corporations. There are also relatively few public-private partnerships and non-governmental implementation frameworks.

Based on reviewing 29 different energy efficiency agencies, the study proposes the following key criteria to be considered when establishing new energy efficiency agencies:

- Country context, especially the relative importance of energy efficiency in energy sector policy;
- Energy efficiency-related technical and management capacity resident within existing institutions;
- Statutory and regulatory basis for promoting energy efficiency investment;
- Types of interventions (e.g. mandatory or voluntary programs) developed to support energy efficiency improvement;
- Integration between energy efficiency and other clean energy and clean development goals;
- Benefits of organizational autonomy, flexibility, and agility;
- Funding mechanisms, and
- Importance of stimulating private-sector participation.

The report identifies following core competencies of energy efficiency institutions that make them effective in implementing energy efficiency policy:

- Ability to work collaboratively with multiple public and private agencies with energy efficiency responsibilities;

- Ability to leverage private-sector participation in energy efficiency implementation;
- Ability to effectively engage with energy efficiency stakeholders;
- Ability to influence energy goods and services providers, including utilities and energy services companies;
- Ability to facilitate the role of energy regulators in scaling-up energy efficiency;
- Independence and flexibility in decision making;
- Adequate resources, including staff and funding;
- A credible scheme for results monitoring.

Since the selection of a particular institutional model confers both advantages and limitations, the report compares seven institutional models of energy efficiency agencies in terms of their distinctive advantages and limitations (see Table 1).

REVIEW OF LAPONCHE, B., B. JAMET, M. COLOMBIER, AND S. ATTALI. 1997. ENERGY EFFICIENCY FOR A SUSTAINABLE WORLD. INTERNATIONAL CONSEIL ENERGIE, PARIS

This book deals with the fundamentals of public policy to address energy efficiency and, despite being over a decade old, it still provides a wealth of relevant information. The book deals with the foundations and contents of an energy efficiency strategy, its methods, implementation and instruments. The main characteristic of an energy efficiency strategy is that it extends over all economic and social activities; it is not confined to the energy sector. Therefore its success depends on the interaction between government action, the mobilisation of partners, economic agents and an efficient market operation.

Laponche et al acknowledged that improving energy efficiency is a decentralised and diversified activity, encompassing a network of partners such as enterprises, local authorities, government services, the service sector and households. To deal with the management of these complex networks, the elaboration, coordination, and launching of programmes, follow-up and assessment of projects and measures, a new type of public service entity is needed that is different from traditional structures. The authors maintain that permanent institutions devoted to energy efficiency, such as agencies, allow for the development and implementation of a coherent energy efficiency strategy.

The authors identify the tasks of a national energy efficiency agency and the prerequisites for agency success. The tasks include integrating the objectives of energy efficiency into the economic, industrial, scientific and energy policy of the country; designing a national energy efficiency programme, giving impetus to all energy efficiency activities, organising and promoting national energy audit programmes, demonstration operations, and disseminating programmes of efficient techniques, organising and coordinating financial incentives, and participating in international cooperation. According to Laponche et al, an energy efficiency agency should have a light administrative structure with highly-qualified staff.

Important prerequisites are sufficient political will, freedom of action, full legitimacy, autonomy of management, and high-quality human and financial resources available to the agency.

Decentralisation of decision-making is seen as another prerequisite for the success of an energy efficiency strategy. The agency can be organised locally, regionally and nationally.

The authors also deal with other important issues such as the national agency's status, its level of autonomy and financial status. They conclude that an energy efficiency agency's status must be well-defined, that it needs sufficient legitimacy and authority, and not surprisingly, that the agency's financial support needs to be secure over the long-term.

An important observation made by Laponche et al is that energy efficiency measures are ultimately carried out at the level of the end user. Therefore, a large number of agents are involved in implementing these measures. An energy efficiency agency needs to be skilled at empowering others to make relevant decisions, highlighting the importance of a partnership approach in its work.

CRITIQUE

These studies offer useful insights into energy efficiency governance – but there are two key limitations with their work.

First, the studies focus only on a limited aspect of energy efficiency governance – the role of formal energy efficiency institutions at the national level. Other aspects of the governance system tend to be overlooked or only briefly touched upon. For example, the comparative assessment of whether public policy objectives can best be met through obligations on utilities (or similar mechanisms) versus the establishment of new institutions. Furthermore, the studies tend to be primarily descriptive. For example, Limaye et al. (2007) describe the main structural elements of energy efficiency institutions. Unfortunately, they stop short of identifying all the key factors that determine an institution as successful, even though they raise the question. Also, it was beyond the scope of Limaye et al's (2007) study to examine the extent to which national circumstances influenced the decision of a country to select a particular institutional structure, and if so, which circumstances were most relevant. Other issues, such as resourcing and human capacity requirements of the governance system, are not investigated.

Second, both studies tend to be desktop analyses. This approach is limited in its ability to address some of the critical governance issues such as the influence of the political context on energy efficiency governance, the relationship between institutional design and effective implementation outcomes, and the degree to which human capacity influences energy efficiency governance decisions. Much of this is seldom documented but is crucial in building up an understanding of why decisions are made in reality. This information can only be accessed by interviews with involved parties.

These previous studies provide an excellent basis to build on. In particular, they provide background for developing a framework for energy efficiency governance and helped to illuminate areas where new investigations are required.

A framework for energy efficiency governance

Clearly, the concept of energy efficiency governance has an extremely broad scope. The definition proposed above crosses many spatial dimensions; from local, regional, state to national and international locations. It also encompasses all decision-

Table 1. 7 energy efficiency institution types identified by Limaye et al. (2007)

Model	Advantages	Limitations	Examples
1. Government agency with broad energy responsibilities	<ul style="list-style-type: none"> -There is greater credibility with stakeholders. -Government agencies have access to public funding. -There is integration of energy efficiency within broad sector objectives 	<ul style="list-style-type: none"> -Energy efficiency must compete with other energy programs for resources and management attention. -Large bureaucracy may impede decision making. -It is difficult to retain staff. 	<ul style="list-style-type: none"> -U.S. Department of Energy -Danish Energy Authority -Hungarian Energy Authority -Portugal: ADENE -Slovak Energy Agency
2. Government agency focusing primarily on energy efficiency	<ul style="list-style-type: none"> -Agency focus is consistent with energy efficiency. -It is easier to attract dedicated staff. -Dedicated "clean energy" agency provides greater voice in sector policy and obtaining resources. 	<ul style="list-style-type: none"> -Narrower focus provides less clout. -Potential for competition between technologies (energy efficiency) within the clean energy umbrella. 	<ul style="list-style-type: none"> -Australian Greenhouse Office -Mexico: CONAE -Czech Energy Agency -France: ADEME -NL: NOVEM -Swedish Energy Agency
3. Government agency focusing entirely on energy efficiency	<ul style="list-style-type: none"> -There is opportunity to create a pro-energy efficiency agency culture. -It is easier to attract dedicated staff and dynamic management. -There is possible leveraging of other resources (e.g., GEF, donors). 	<ul style="list-style-type: none"> -Narrower focus provides less clout. -Success is highly dependent on effective top management. -Agency may not be isolated from broader energy policy agenda. -Agency must compete for resources. 	<ul style="list-style-type: none"> -Thailand: DEDE -Brazil: PROCEL -New Zealand: energy efficiencyCA -Japan: ECCJ
4. Independent statutory authority (ISA) focused on energy efficiency	<ul style="list-style-type: none"> -Independence facilitates operational discretion. -There is flexibility in accessing outside advice and support. -ISAs have flexibility in hiring management and staff. - flexibility in fund raising and decision making. 	<ul style="list-style-type: none"> -Agency may not be viewed as mainstream. -There is potential competition between ISA and public agencies. -ISAs have less direct access to public funding. -Changing scope may require legislation. 	<ul style="list-style-type: none"> -U.K. Energy Saving Trust -Sustainable Energy Ireland -Greece: Center for Renewable Energy Sources
5. Independent corporation focused on energy efficiency	<ul style="list-style-type: none"> -Independence facilitates operational discretion. -Independent corporations can access private-sector talent and technical capacity. -They have the ability to form Joint Ventures and subsidiaries. - Flexibility to obtain external inputs and funds, including shares flotation. 	<ul style="list-style-type: none"> -Independent corporations have less direct access to public funding. -Board selection and composition will determine effectiveness. -Agency may not be viewed as mainstream. -Potential competition exists between IC and public agencies. 	<ul style="list-style-type: none"> -South Africa: Nenergy efficiencyA -Korea: KEMCO -Finland: Motiva -Norway: ENOVA -Spain: IDEA -Italy: ENEA
6. Public/private partnership focused on energy efficiency	<ul style="list-style-type: none"> -Partnerships have flexibility in obtaining private sector inputs (and funding). -Independence allows greater freedom and flexibility in decisions. 	<ul style="list-style-type: none"> -There are potential conflicts between public and private perspectives. -Partnerships have less direct access to public funding. 	<ul style="list-style-type: none"> -Polish National Conservation Agency -Germany: DENA
7. Nongovernmental organization focused on energy efficiency	<ul style="list-style-type: none"> -NGOs have greater credibility with some stakeholders. -They may attract dedicated staff and management. -energy efficiency focus helps build core competencies. -There is flexibility to obtain external inputs and funding. 	<ul style="list-style-type: none"> -NGOs have less direct access to public funding. -Some public and private sector stakeholders may find the NGO not credible. -NGO governance structure may impose other strictures. 	<ul style="list-style-type: none"> -Austrian Energy Agency -Croatia Energy Institute

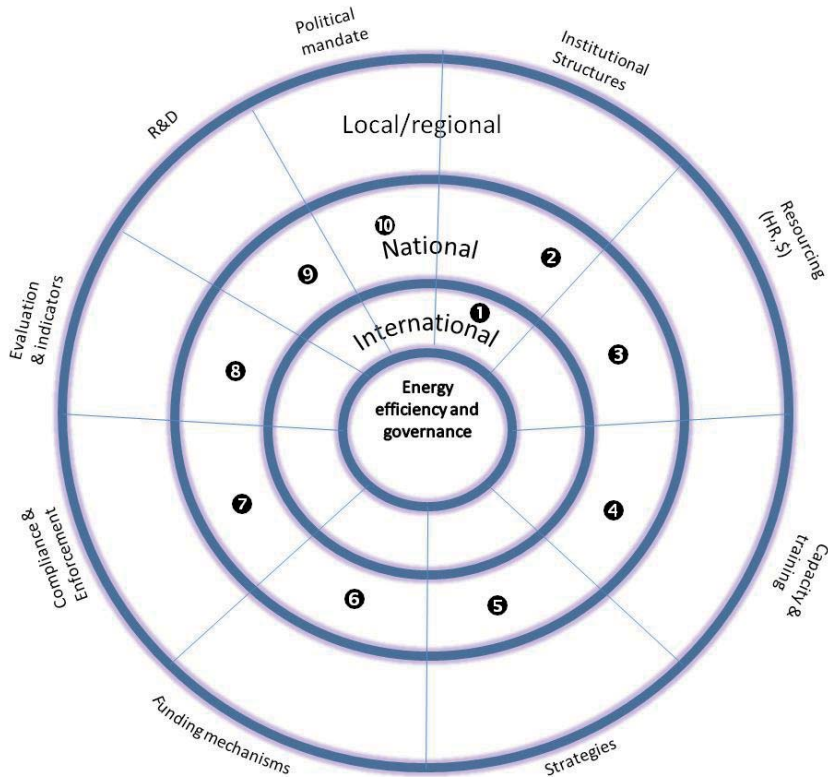


Figure 1. Schematic of governance dimensions

makers including government and non-governmental organisations as well as addressing many cross-cutting issues.

Based on our combined experience in energy efficiency policy and following discussion with peers, we can identify a range of relevant issues covered by the governance concept:

- Foundations for governance – that is, the resources and structures required to establish a governance system:
 - Institutional structures;
 - Resources (people and finance);
 - Human capacity and training;
 - Political support/mandate
- Governance activities – that is, the actions that governance systems undertake:
 - Energy efficiency strategies as direction-setting and enabling tools;
 - Policy development processes, including the integration of energy efficiency with related climate change, social, economic and environmental policies;
 - Mechanisms to fund energy efficiency;
 - Monitoring energy efficiency programmes (evaluation, indicators);
 - Compliance and enforcement;
 - Research and innovation to both underpin strategy delivery and advise further strategy review and evolution

Addressing all these dimensions of energy efficiency governance and their interdependencies is an essential element in ensuring energy efficiency policies are developed and implemented effectively. Using the multiple dimensions outlined above, it is possible to prepare a schematic outlining the span of energy efficiency governance, as shown in Figure 1.

The concentric rings are used to represent the various spatial levels and the segments represent issues that have been preliminarily identified as crucial to energy efficiency, although these may be altered as a result of future research. It is important to note that energy efficiency policy is not explicitly mentioned in this diagram. This is because the diagram attempts to represent energy efficiency governance as the foundation on which energy efficiency policies are built and delivered. Obviously, energy efficiency governance issues can not be addressed in isolation of policy mix.

One purpose of this framework is to convey the interrelated aspects of the many dimensions of energy efficiency governance. For example, decisions about institutional structures at the national level can have an influence on local level actors, and decisions about institutional structure will have implications for resourcing and human capacity requirements. There are clearly questions about whether energy efficiency services are delivered by utilities or third parties which relate to several of the segments.

A benefit of this schematic is that it demonstrates that individual aspects cannot be addressed in isolation of the other dimensions, which is a central theme to the energy efficiency governance issue. It is also helpful for identifying where there is

Table 2. Key research questions associated with elements of energy efficiency governance

❶ What is the role of the international organisations in assisting energy efficiency governance and international partnerships?
❷ What institutional structures exist for promoting energy efficiency in countries? What is the most appropriate institutional structure for enhancing energy efficiency at national, regional and local levels? What is the most appropriate process for establishing and energy efficiency institution? What are examples of innovative national-local governance linkages?
❸ What resources (HR and financial) are required for effective energy efficiency governance
❹ What human resource capacity is needed for energy efficiency governance?
❺ What comprises an effective national energy efficiency strategy? How much can energy efficiency strategies enhance good energy efficiency governance?
❻ What are the best and most innovative mechanisms for funding energy efficiency?
❼ How can compliance with energy efficiency policies be enhanced?
❽ What evaluation mechanisms are required for energy efficiency?
❾ What are the R&D requirements for energy efficiency policy?
❿ What degree of political mandate is required?

existing on-going work relating to energy efficiency governance and where there are gaps that need to be filled.

As the authors have developed their thinking on this subject, it has also become apparent that addressing energy efficiency governance would also provide some answers to some of the key questions which are repeatedly asked by policy-makers, many of which are impossible to respond to in isolation. Examples of these questions are shown in the Table 2.

IEA nascent work on energy efficiency governance

This section of the paper outlines the IEA's proposed work programme in the area of energy efficiency governance. This program opens up a new field of work for the IEA. As such, the description below outlines the aims and expected phases of the overall programme and then provides detail on the first phase of research.

THE AIM OF THE OVERALL WORK PROGRAMME

The aim of the overall work programme is to ensure that effective governance systems are established in all countries leading to optimal levels of energy efficiency. In particular, given the role of the IEA, the proposed work programme focuses on how to assist governments to achieve this aim by seeking to identify, analyse, understand and communicate the key factors for ensuring optimal energy efficiency governance.

It is envisaged that the outputs of the work programme will include a series of practical materials useful for in-field work on energy efficiency, as well as a document that combines the lessons from each phase into an overall product. The IEA considers that such outputs would apply equally to developing and developed countries.

THE KEY WORK PROGRAMME PHASES

The IEA energy efficiency governance work programme will proceed in several phases. This is because the IEA considers it important to balance the need to take a holistic/systemic view with a pragmatic approach. That is, although the interrelated aspects of energy efficiency governance make it difficult to tackle items discretely, it is important to ensure that any project

does not become too unwieldy and bogged down by trying to address everything at once.

Five key phases in the energy efficiency governance work programme are proposed:

- Phase 1: Institutions and resources (2009)
- Phase 2: Human capacity and governance (2009-2010)
- Phase 3: Energy efficiency strategies (November 2008 – June 2009)
- Phase 4: Compliance, enforcement and evaluation (February 2008 – December 2009)
- Phase 5: R&D to support energy efficiency policy (December 2009 – March 2010)

PHASE 1: INSTITUTIONS AND RESOURCES FOR ENERGY EFFICIENCY

The first phase of the IEA energy efficiency governance programme of work focuses on the interrelated aspects of institutions and resourcing.

Aims

The aim of phase 1 is to provide relevant information to energy efficiency practitioners and government officials that can assist them to establish:

1. The most effective energy efficiency institutional structures at national and local levels;
2. Appropriate resource allocations for the energy efficiency task.

Project research questions

The difficulty of answering the question: “what is the most effective institutional structure for energy efficiency?” is that countries have differing social, economic and political context. Therefore it is simply not possible to identify, and a generic level, a rule of thumb “most effective energy efficiency institutional structure” that is internationally applicable. Instead, it is more appropriate to ask two key questions:

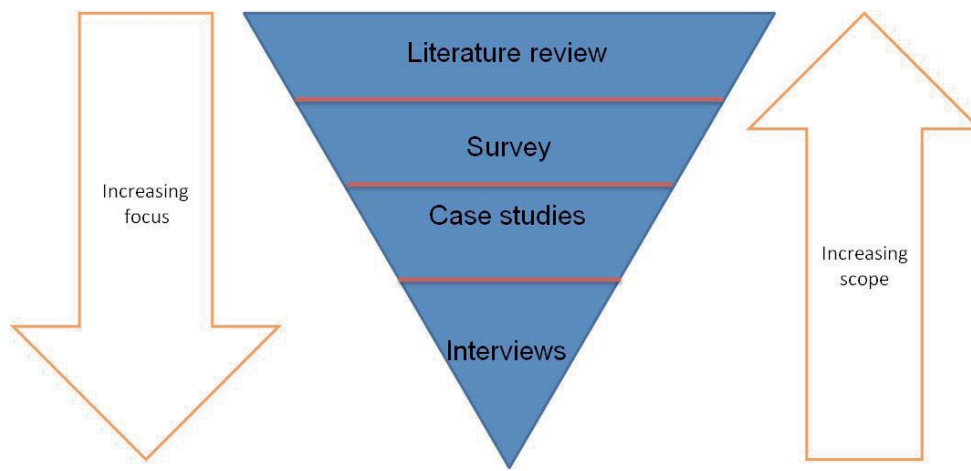


Figure 2.

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?
 - What is the possible range of institutional arrangements at national and local levels, and what are their strengths and weaknesses?
 - What are the key principles that need to be considered with establishing energy efficiency institutions?
 - What are the critical success factors for ensuring effective energy efficiency institutions are established (process, structure, range of stakeholder engagement)?
 - How to ensure that energy efficiency institutions work effectively across government departments and between levels of government?
2. What level of resourcing (people and financial) is needed for energy efficiency institutions?

Method

In order to answer these questions, the project team will take a four-tiered approach to gathering information: general literature review, surveys of IEA member countries, selected case study countries and, most importantly, a series of semi-structured interviews with key personnel from a small sample of case of the countries.

1. *Literature reviews*: a review of available literature will aim to:
 - Identify the key governance principles that must be addressed when developing energy efficiency institutional and governance structures.
 - Establish a discrete typology of possible energy efficiency institutional structures at different levels of government (both national and local, as well as the links between levels). Key documents in this review will draw on will be the forthcoming World Bank report on en-

ergy efficiency institutions and the recent IEA paper on the topic.

- Understand past experience with different energy efficiency institutional and governance structures.
2. A *survey* will be used to gather information on all IEA member countries and selected non-member countries relating to:
 - The energy efficiency goals and policy context of their country;
 - How their energy efficiency institutions are structured;
 - Why their energy efficiency institutions were established in that form;
 - The process used to establish the energy efficiency structures;
 - The advantages and challenges of these structures;
 - The level of resourcing of these institutions.
 3. *Case studies* will be selected for each typology set identified in step one. These case studies will be the subject of in-depth analysis.
 4. *Semi-structured interviews* of key decision makers (from government, utilities, market actors, NGOs etc) from a random sample of case study countries will provide detailed information on the energy efficiency institutional and governance arrangements.

Project outputs

The first phase of the IEA energy efficiency governance programme of work aims to deliver four key outputs:

1. A concise field handbook on energy efficiency institutions and resources. The audience for this handbook would be energy efficiency policy practitioners working with national and local governments on issues relating to institutional structures for energy efficiency.

2. A scorecard for evaluating existing energy efficiency institutional structures and resourcing.
3. A set of indicators comparing energy efficiency resource allocation per capita or per GDP.
4. An international workshop on energy efficiency governance focusing on institutions and resourcing.

Reference Group

A key element of this project will be the establishment of a Reference Group. This group will comprise representatives from contributing agencies (and selected experts). The role of the Reference Group will be to provide:

1. Scrutiny of the project plan and method;
2. Expert reviews of the analysis;
3. Assistance with accessing key information sources.

Conclusion

Energy efficiency now has a central role in public energy policy as a means of delivering economic, environmental and developmental objectives. Techno-economic studies into the potential energy savings have been undertaken in many regions, which have been used to develop national energy efficiency strategies, and several countries have adopted explicit national targets for energy efficiency.

However, despite widespread energy efficiency policies covering many sectors, most evaluations show that we are falling well short of the potential level of energy efficiency. Amongst several explanations for why this is the case we contend that estimates of potential tend to cover the whole of an economy or large sectors, whereas policy measures tend to be targeted towards individual, smaller parts of the economy. This is not a criticism of these individual policies since they necessarily need to be designed to overcome particular barriers in sectors of the economy. However, unless they form a part of a framework whereby the public and private sectors of an economy are aligned towards energy efficiency, the energy efficiency potential will not be maximised.

This framework is termed 'energy efficiency governance' and is here defined as the **"use of political authority, institutions and resources by decision-makers and implementers to achieve improved energy efficiency"**.

By considering this broad area of governance, which views energy efficiency as the product of the inter-relationships between many of the factors which are key influences, it is possible to begin to answer some important questions facing policy-makers today. These include issues of appropriate institutional structures, human and financial resource allocation, roles and responsibilities, and the prioritisation of public policy.

Only two previous pieces of work have been identified covering this topic, although they are both limited in their ambition, tending to deal primarily with the establishment of new energy efficiency organisations. The IEA considers that there is scope to build on this work, in particular to include a more thorough

analysis of all aspects of governance with the aim that effective governance systems are established in all countries.

In proposing further work in this area, the IEA has developed a conceptual framework for understanding the issue of governance and has undertaken a desktop review of other projects related to governance. The project, as outlined in the workplan, is necessarily ambitious and will require considerable human and financial resources from a range of stakeholders. The IEA intends to proceed with the first phase of the project, using it to gain support for the remainder of the project, with the end result being the establishment of effective governance systems in all countries leading to optimal levels of energy efficiency.

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