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**INSTITUTIONAL CAPACITY AND CLIMATE ACTIONS: SUMMARY PAPER**

**by Stéphane Willems**

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## FOREWORD

This document was prepared by the OECD and IEA Secretariats at the request of the Annex I Expert Group on the United Nations Framework Convention on Climate Change. The Annex I Expert Group oversees development of analytical papers for the purpose of providing useful and timely input to the climate change negotiations. These papers may also be useful to national policy makers and other decision-makers. In a collaborative effort, authors work with the Annex I Expert Group to develop these papers. However, the papers do not necessarily represent the views of the OECD or the IEA, nor are they intended to prejudice the views of countries participating in the Annex I Expert Group. Rather, they are Secretariat information papers intended to inform Member countries, as well as the UNFCCC audience.

The Annex I Parties or countries referred to in this document refer to those listed in Annex I to the UNFCCC (as amended at the 3<sup>rd</sup> Conference of the Parties in December 1997): Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, the European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, and United States of America. Korea and Mexico, as new OECD member countries, also participate in the Annex I Expert Group. Where this document refers to “countries” or “governments” it is also intended to include “regional economic organisations”, if appropriate.

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## EXECUTIVE SUMMARY

The aim of this paper is to explore the role of institutional capacity in selecting the most appropriate climate actions. More specifically, it investigates why, for some countries, institutional capacity may need to be considered as an important criterion for selecting future climate actions, alongside environmental, economic and/or political considerations. This paper is a synthesis of results of an OECD/IEA project undertaken in 2003 for the Annex I Expert Group, which led to several publications, namely a framework paper on Institutional Capacity and Climate Actions, three national cases studies, respectively on Mexico, India and Bulgaria, as well as a paper assessing the status of national inventory preparation in Annex I and non-Annex I Parties (OECD/IEA, 2003).

The paper argues that the very nature of a country's institutional development suggests a progressive approach to climate actions, which takes into account the specificity of a country's existing institutional setting. More specifically, substantial changes in a country's existing institutions are likely to be required when particular levels or types of institutional capacities need to be developed, for example when these changes affect public governance as a whole. Finally, particular forms of actions may require significant changes in a country's institutional setting. For example, legally-binding quantified national targets tend to require significant institutional development in all functions of climate policy. With other approaches, such as those based on non-binding targets, sectoral targets or policies and measures, institutional development may be more progressive and targeted. Thus, when considering particular forms of climate actions, countries might benefit from investigating what kind of institutions are likely to be needed and whether they will be able to develop sufficient capacity in time to implement these actions.

Overall, this analysis suggests a step-by-step, dynamic model for prioritising climate actions and capacity development measures over time. Such an approach could help countries select climate actions that are consistent with the pace of their institutional development, thereby building confidence in their capacity to act and paving the way to the development of more ambitious policies over time.

## 1. Introduction

Moving beyond Kyoto, countries around the world are slowly beginning to investigate which kinds of climate actions they could adopt for the medium term. A central issue in national and international discussions on future climate actions relates to the choice of the relevant decision criteria for selecting the most appropriate climate actions.

The aim of this paper is to explore the role of institutional capacity in selecting the most appropriate climate actions. More specifically, it investigates why, for some countries, institutional capacity may need to be considered as an important criterion for selecting future climate actions, alongside environmental, economic and/or political considerations. This paper is a synthesis of results of an OECD/IEA project undertaken in 2003 for the Annex I Expert Group, which led to several publications, namely a framework paper on Institutional Capacity and Climate Actions, three national cases studies, respectively on Mexico, India and Bulgaria, as well as a paper assessing the status of national inventory preparation in Annex I and non-Annex I Parties (OECD/IEA, 2003).

### *Main results*

Discussions on future climate actions often presuppose that governments decide on the type and level of ambition of their climate actions on the basis of environmental, economic and/or political considerations. Only after such decisions are taken are they supposed to assess and develop the institutional capacity that is needed to implement such actions. This approach may suit countries that already have a solid institutional basis, because in this case capacity development needs for implementing new policy decisions are limited. However, this approach may not fit the situation of other countries, in particular some developing ones, which lack sufficient institutional capacities.

For countries with a relatively low level of institutional capacity, implementing particular forms of climate actions might require a high level of capacity development within a limited timeframe, i.e. the timeframe that has been set for implementing these actions. If a country is unable to develop sufficient capacities within this timeframe, this may result in lack of implementation, loss of confidence in achieving policy outcomes and, possibly, instances of non-compliance with any national or international commitment. Indeed, research suggests that, in the case of international agreements, most instances of non-compliance are not wilful, but are due to lack of state capacity (see Brown Weiss and Jacobson, 1998).

Thus, it might be worthwhile for some countries to adopt an “institutional” approach to climate actions, which takes into account their ability to develop institutional capacities over time. This suggests a step-wise model: with each step, countries adopt a set of climate mitigation (and adaptation) actions that is consistent with the level and type of capacities they can develop as they are implementing such actions. The development of capacities and the successful implementation of climate actions lead to increased confidence to take further action, which in turn leads to more capacity development. In such a dynamic model, actions drive capacities *and* capacities drive actions. While climate actions act as drivers for the development of capacities, the pace of development of a country’s institutional capacities also determines the type and level of climate actions that a country can adopt over time.

To some extent, many countries have already acknowledged the importance of institutional capacities for climate policy. However, there might be some benefits in integrating more fully institutional capacity development into the *design* of future climate policies, particularly for some countries that have large institutional capacity needs. This calls *inter alia* for the use of country-level institutional capacity assessments as tools to inform possible discussions on future climate actions.

### *Contents of the paper*

This paper discusses the rationale for such an “institutional approach” to climate actions. More specifically, the paper identifies the main reasons why the development of climate actions needs to take into account the ability of a country to build institutional capacities over time. Country case studies on Mexico, Bulgaria and India, as well as a study on the status of preparation of national inventories, provide concrete examples on the role of institutional capacity in climate policy.

Section 2 provides a general discussion of institutional capacity and climate policy. The very nature of a country’s institutional development, as well as of climate policy itself, suggests a progressive approach to climate actions, which takes into account the specificity of a country’s existing institutional setting.

Section 3 analyses different *levels* and *types* of institutional needs. Developing particular levels or types of institutional capacities are likely to require substantial changes in a country’s existing institutional setting. This suggests that the pace of a country’s institutional development might be slower or faster, depending on the level or type of capacity that a country needs to develop for a particular climate action.

Section 4 analyses different *forms* of climate actions in terms of their institutional requirements. This analysis suggests that some particular forms of actions may require more substantial changes in a country’s institutional setting. Thus, when adopting particular forms of climate actions, countries might benefit from investigating whether they will be able to develop sufficient capacity in time to implement these actions.

Section 5 presents a step-by-step model, proposed in the Mexico case study (Tudela, 2003), for prioritising climate actions and capacity development measures over time. Such a model is meant to increase the probability that countries would build sufficient capacities to implement actions that have adopted, thereby building confidence in their capacity to act and paving the way to the development of more ambitious policies over time.

A few final words about this paper: institutional capacity issues are complex and vary substantially from country-to-country. The paper is only meant as a short, conceptual piece to stimulate in-depth discussions on the role of institutional capacity for future actions. Thus, while the case studies, summarised in various chapters, illustrate some of the points made in the paper, more case studies are needed to provide further evidence to underpin them. Similarly, the paper stops short of saying that any country in particular may -or may not- be able to implement particular forms of actions. This would require in-depth capacity assessment studies that are beyond the scope of this paper. Finally, as a short conceptual piece on country-level capacity development for climate policy, the paper makes no particular reference to the existing international programmes on capacity building. It also focuses primarily on mitigation actions, even though some of its results could also apply to adaptation actions.

## 2. Institutional capacity for climate policy

This chapter provides a general discussion of what is meant by institutional capacity for climate policy. The very nature of institutions suggests that a country's institutional setting can only be adapted progressively to address new policy challenges. This is particularly true for climate policy, which involves many policy functions. Developing capacities for all such functions can only be done in a step-wise manner.

### 2.1 The nature of institutions

Institutions help structure social interactions and provide stability to human relations. If well-designed, they greatly facilitate the completion of tasks or the implementation of actions. Yet, they take time to develop and, once set up, they have a life on their own and may resist necessary changes. Thus, building institutional capacity for climate actions is a "home-grown", progressive process that requires adapting the complex web of institutions that each country has developed over time. Depending on the country concerned, this might require more or less substantial changes to the rules, processes or practices that define a country's institutional framework. The process of developing national inventories in both Annex I and non-Annex I countries, presented in section 2.1.2, illustrates this analysis.

#### 2.1.1 *Institutional capacity: what is it and why does it matter?*

"Capacity" can be defined as the "ability to perform functions, solve problems and set and achieve objectives" (Fukuda-Parr & al., 2002). There are different factors that influence a country's ability to perform functions, solve problems and set and achieve objectives, in a particular policy field, like climate change. A well-known dimension of capacity is the ability to allocate appropriate financial and human resources to solving problems, such as climate change. Indeed, a main issue facing many countries, in particular developing countries, is their ability to earmark resources to climate actions, considering their level of economic wealth or the state of their public finances. However, the capacity to find financial and human resources for climate policy is just one aspect of capacity.

*Institutional* capacity is another key aspect, whose importance is, however, often less understood. In this project, institutional capacity of a particular country is defined as its ability to mobilize and/or adapt its institutions to address a policy issue, like climate change. Institutions should be seen broadly as *sets of rules, processes and practices that prescribe behavioral roles for actors, constrain activity, and shape expectations* (Keohane, 1988). Thus, institutions are pervasive throughout society: they not only include discrete organisations, which are often called "institutions", but also all formal or informal rules, processes and practices that exist within society.

Institutions matter because they are able to help structure repeated interactions among individuals and organizations. By prescribing *how* individuals and organisations should interact, institutions facilitate the completion of tasks, because there is no longer any need to negotiate at every step of a project how to pursue it. An indicator of a strong institutional setting is thus the ability to perform specific functions on a regular basis, with a view to improved performance over time.

By the very nature of institutions, however, they can only be built progressively. Since institutions define "how things should be done" and thus constrain individual actions, it takes time to agree on them. Since they exist to create some stability in people's interactions, adapting institutions to new challenges may only



be done step-by-step, because this requires renegotiating rules, processes, practices, which people have gotten used to.

The process of adapting the complex web of institutions that each country has developed over decades or even centuries may be, however, very different from country to country. Depending on the country concerned, a particular problem might require more or less substantial changes to the rules, processes or practices that define a country's institutional framework. While institutions always take some time to build, some countries may thus require more time than others to adapt their institutions to emerging problems.

### **2.1.2 An illustration: national GHG inventories**

Most countries can, using their own resources or foreign assistance, hire or train experts to prepare a GHG inventory. However, successful completion of this inventory does not guarantee that the country has the institutional capacity to prepare inventories on a regular basis, which are needed if that country wishes to assess the effectiveness of its climate actions over time. Meeting such regular responsibilities requires a well-established system with a clear rules, processes and practices that are accepted by all stakeholders.

Establishing such a system, however, takes many years, as the case study on the status of preparation of national inventories (Herold, 2003) illustrates. To date, only a few Annex I countries have established national systems that seem to fully comply with the Kyoto Protocol guidelines, despite the progress that most countries have achieved over the years. As far as non-Annex I Parties, although most of them have prepared national inventories, the vast majority lacks an institutional framework that would allow them to prepare such inventories on a regular basis.

The Herold (2003) study analyses what progress Annex I and non-Annex I Parties have made in preparing national inventories according to IPCC and UNFCCC guidelines. To do so, it evaluates the quality of inventories across countries, using a variety of assessment criteria. The case study itself does not assess directly country's institutional settings (or national systems) to prepare national inventories. However, the degree to which national inventories comply with some of the assessment criteria gives a general indication of the quality of institutions that have been built to prepare inventories. Key results include:

- Availability and timeliness: in 2003, almost 80% of Annex I Parties provided an inventory submission. The mere fact that these countries now provide inventories annually is a sign that at least an initial inventory system has been set up, which allows for a periodic reporting. As far as timeliness is concerned, only over half of Annex I Parties, however, have managed to meet the 15 April deadline in 2003. This suggests that procedures have not yet been established to submit inventories on time. As far as non-Annex I Parties are concerned, 104 Parties have by now provided national inventories as part of their national communications, but only one country, Mexico, has provided a second inventory (as part of its second NC). This implies that, for most Annex I Parties, inventory teams are only working temporarily on a project basis, and inventory processes have not been institutionalised.
- Completeness: the number of Annex I Parties which have submitted inventories for all years since the base year and for all sources/sinks is still not higher than 25%. This figure hides major improvements in many countries over the years. However, it also suggests a difficulty to collect activity data on a regular basis, for some or all sources/sinks. Seven non-Annex I Parties have estimated emissions for more than three years, which suggests in their case the availability of a continuous data collection system. Most non-Annex I Parties covered all required sectors in their inventories, but there are frequent gaps within estimated sources.

- Transparency: transparency refers to the availability of information needed to assess the quality of inventories. For all Parties, this is a key problem. Only half of Annex I Parties submitted a National Inventory Report, which gives information on methodologies, data and procedures used, while a few non-Annex I Parties provided such information. The fact that Parties do not report such information suggests a lack of human resources to collect such information, but may also suggest a lack of clear rules and procedures supporting the work of inventory teams, which thus cannot be reported on. Without sufficient transparency, it is difficult to assess other criteria, such as consistency and accuracy.
- Quality assurance/quality control: these procedures, which are meant to improve the quality of inventories over time, are a good sign of the existence of strong national inventory systems. Only a few Annex I Parties have at this stage a complete –or almost complete- QA/QC system. However, it is also a fact that this is a rather new requirement, and that such systems are quite complex to build.

## 2.2 Institutions and functions of climate policy

Institutional capacities are not just needed for a few isolated climate actions, but for many different actions, which have different functions within a country's climate policy process. Each of these functions requires a specific capacity development: human and financial resources must be allocated and specific rules, processes or practices developed for them to function properly. A particular challenge of climate policy is thus to make sure that all actions that are envisaged receive the appropriate institutional support. Countries that already have a solid institutional basis might afford to undertake many different climate actions, because institutional capacity needs for each of them is quite limited. For some countries, however, initiating *at the same time* many actions, which all require significant capacity development, might be too challenging. This suggests prioritising capacity development measures, as well as climate actions, over time.

The case study on Mexico's institutional capacity for climate change mitigation (Tudela, 2003) illustrates the difficulty of developing institutional capacity for many different actions at the same time. This section presents an overview of climate functions within the climate policy process. A synthesis of the Mexican case study is then presented, to provide an example of how these issues can play out in actual practice.

### 2.2.1 Climate policy functions

Climate actions, as functions, can be classified into three categories or clusters, which follow a logical order in the policy process:

- National assessment, strategy formulation and participation in international negotiations. The first function is to assess the country's national circumstances as regards climate change. This includes an assessment of its mitigative and adaptive potentials, as well as an initial inventory of its GHG emissions and removals. This assessment is used for the formulation of strategies and goals (or national plans). The second function (strategy formulation) is intended to identify and co-ordinate future actions as well as to develop a national position for the international negotiations on climate change. The third element above refers to the actual participation in the negotiations, whose outcomes may have an impact on the national strategy itself.
- Design and implementation of specific policies and measures. The first of these two functions refers to the identification and preparation of the specific features of each individual measure and their adoption through political institutions. This is followed by the actual implementation of the measure.

- Monitoring, reporting, review, and enforcement. These four related functions aim to monitor, report and assess the performance of the climate strategy over time and to make sure it is properly enforced, when legally-binding instruments have been adopted.

The particular difficulty of climate policy lies in the fact that all of these functions seem important. As a cross-cutting issue with an international dimension and a long term perspective, climate change does not just require a set of policies and measures. National strategies and plans provide policy coherence over the long term and across sectors and help define a position in international negotiations. Similarly, monitoring, reporting, review and enforcement functions are essential for improving the effectiveness of the climate strategy over time. In practice, countries do need to make choices as to what functions they will develop on a priority basis.

### **2.2.2 Climate functions and capacity development: the case of Mexico**

The Mexico case study provides an example of how the different functions of the climate policy process have been developed over the last decade, and what institutional capacities have been built for each of these functions. It especially illustrates the challenge of developing all these functions simultaneously. In fact, capacity development has been uneven in Mexico. Most climate functions in Mexico still seem quite fragile. However, some functions fare better than others: for instance, the development of the national inventory system can be considered a relative success, as this system is now able to prepare inventories every two years, with a potential to improve its quality over the years. This suggests that a certain threshold of capacity development has been attained for this function, with an institutional framework able to deliver results on a regular basis.

#### ***National assessment, strategy formulation and participation in negotiations***

##### National assessment

Mexico is the only non-Annex I country to have presented two complete national communications to the UNFCCC. These communications include assessments of the country's national circumstances as regards climate change, and of its GHG emissions and mitigation potential. Institutional capacities have been developed accordingly, but there does not seem to be yet sufficient indigenous knowledge on climate change to support the various studies that are requested on a regular basis.

The National Institute for Ecology (INE) is the leading public body in charge of NCs and inventories. Work has been carried out with the help of external academic teams and with external financial assistance. Over the years, INE's capacity has been progressively enhanced, so that, for the first time, INE's expanded personnel now has the technical capacity to carry out the work by itself. In addition, a few other institutions carry out research projects on climate change. It has been estimated that about 253 researchers are working in the field of climate change/climate variability in Mexico.

##### Strategy formulation

There have been initial efforts towards developing a *climate change strategy* in 1998-1999. Although the strategy was basically a compilation of sectoral actions, it was not adopted. Also, the involvement of local authorities (state governments) in climate policy has so far been very limited.

Efforts to develop institutional arrangements to co-ordinate actions have had so far mixed results. The ministry of environment and natural resources (SEMARNAT) is in charge of climate change inter-sectoral co-ordination. In 2003, there were about four experts, working part-time on climate change issues, to

support this co-ordination. An Inter-ministerial Committee on Climate Change was formed in 1997 on an ad hoc basis. An agreement to strengthen this Committee was reached in 2000, but it has not been pursued since then. In the last few years, regular contacts between ministries on climate change have resulted in better policy integration. A major institutional improvement might occur with the creation of a Mexican Office for Climate Change in 2004, with its own budgetary resources.

The Consultative Council on Sustainable Development has been the main forum for the participation of civil society in the formulation of the climate strategy. In the recent past, its agenda included regularly climate change issues. Also, INE/SEMARNAT has a web page with links on climate change.

#### International negotiations

Mexico ratified the UNFCCC in 1993 and the Kyoto Protocol in 2000. In the last ten years, existing capacity has allowed for a reasonable participation in the negotiation process, despite periodic difficulties. The number of staff in SEMARNAT devoted to international activities has remained stable over the last ten years, despite the increase in international activities. Turnover of personnel is quite frequent. Training efforts have been informal and sporadic.

#### ***Design and implementation of policies and measures***

##### Sectoral policies

The starting point for climate policy in Mexico, as in many countries, is a set of *un-coordinated sectoral policies and measures*. In Mexico, policies and measures exist mostly in the LULUCF and energy sectors, where most of the mitigation potential lies. In the last ten years, the federal government has carried out forest conservation and restoration policies and measures, at unprecedented scale. As for energy-related mitigation efforts, it is estimated that these have resulted in a reduction of GHG of about 5% below business-as-usual, mainly through energy efficiency measures and fuel substitution.

It is difficult to say, however, whether additional institutional capacity has been built over the years, or if climate change has been a trigger for more effective action in these sectors. Some institutional capacity exists in ministries, such as SEMARNAT and SENER (energy ministry), or in special bodies, such as the National Forestry Commission, the Federal Electricity Commission, the National Commission for Energy Savings and the Fund for Saving Electric Energy. However, few experts in these organizations actually have climate-specific knowledge.

##### Climate-specific measures

No measure specifically aiming at limiting GHG emissions seems to have been taken so far, with one exception: a CO<sub>2</sub> emission trading system was launched by the Mexican Petroleum Company (PEMEX), with the participation of 25 business units throughout Mexico. This is the first trading system in a developing country, although it is not a government initiative. Much institutional capacity within PEMEX is expected to be developed from this measure.

As regards GHG mitigation projects, Mexico has had several projects under the AIJ pilot phase and a few CDM projects are in the pipeline. However, CDM projects still lack adequate institutional support. The federal government has not yet developed guidelines for investors interested in the mechanism and for the approval process. As of mid-2003, no permanent national CDM authority has yet been designated.

***Monitoring, reporting and review***

Providing an initial inventory, as part of a national communication, is an important first step to assessing a country's national circumstances. However, monitoring GHG emissions on a regular basis has another function, to assess the progress of climate actions over time. Thanks to a decade long efforts to develop monitoring capacity, Mexico seems to be the only non-Annex I Country in a position to prepare every second year an inventory at the level required for non-Annex I Countries. Although INE seems to have the capacity to develop such inventories in an autonomous way, external technical and financial support is still sought, so as to improve the quality of inventories over time. A more detailed analysis of Mexico's experience in developing its monitoring capacity could help better understand the reasons why building this particular function of climate policy was successful in this case.

### 3. Levels and types of institutional capacities

This chapter explores further the concept and substance of institutional capacity. Section 3.1 describes five institutional *levels* that are involved in developing climate actions, from the micro- to the macro-level, while section 3.2 investigates the difference between climate-*specific* institutions and climate-*relevant* institutions. This chapter argues that institutional changes may be particularly difficult to take effect, when climate actions require changes at the highest institutional levels, or when changes to climate-relevant institutions are needed.

#### 3.1 From micro-institutions to macro-institutions

The task of adapting existing institutions –or building new ones- to facilitate the implementation of climate actions vary according to the type of institution that needs to be reformed or created. In particular, different layers –or levels- of institutions can be involved in the implementation of a climate action from a micro- to a macro-level: the level of an individual, an organisation, a network (of individuals or organisations), a government, or the level of society as a whole.

At first sight, most climate actions seem to require micro-institutions, which might seem less difficult to create or adapt than macro-institutions. However, micro-institutions often cannot be isolated from macro-institutions, i.e. the broader institutional setting of a country. This may be particularly true for climate change policies. When significant institutional changes are needed to the broad institutional setting of a country, it can very difficult to assess whether a country will be able –or willing- to make such changes within the timeframe that has been set for the implementation of climate actions.

The case study on Bulgaria (Peeva, 2003) aims at assessing Bulgaria's institutional capacity at all institutional levels. While the study itself does not suggest that the Bulgarian overall institutional framework would require major changes for climate actions to be strengthened, it does point to institutional difficulties that may be related to issues of public governance and public participation.

##### 3.1.1 Five institutional levels

Capacity assessment studies often distinguish five institutional levels:

- Individual level: the performance of individuals in their functions is the basis for the success of any action or policy. This performance is influenced by the sufficiency of human resources, but also by the variety of rules, processes, practices that exist for hiring, training or providing individuals with financial and non-financial incentives.
- Organisational level: the performance of organizations is another key measure of capacity. Human and financial resources, as well as rules, processes and practices that structure interactions between individuals within organizations, form the backbone of an organisation's performance.
- Network level: policies or actions often require the cooperation –or partnership- of many individuals and organizations, through networks. The efficiency of these networks which are developed for a specific purpose –in this case, climate policy- depends on the ability to develop appropriate institutional arrangements that define how individuals and organizations interact with each other.

- **Government level:** the actions of individuals, organizations, or networks of organizations are embedded in a wider institutional context, or an “enabling environment”, which consists of the rules, processes and practices that shape political institutions and the civil service, including the body of existing laws and regulations. Public governance, or the ability of public institutions to design, implement and enforce effective laws and regulations, will to a large extent determine a country’s ability to design, implement and enforce effective laws and regulations in a specific field, such as climate change.
- **Society level:** the public sector itself functions within an even broader cultural, economic and social environment. The nature of societal norms, values and practices will determine civil society’s acceptance of any law or regulation in the field of climate change, as well as the degree to which civil society will take initiative on its own to address climate change.

Many climate actions involve primarily the work of individuals and organisations in charge of formulating strategies, designing and implementing climate policy, as well as networks of organisations, which are set up to co-ordinate climate actions. Many countries have by now managed to develop at least a minimum set of institutions at these levels, mainly teams of climate experts within organisations and institutional arrangements for the official network of ministries, agencies and other organisations that work on climate change. In many countries, the involvement of higher levels of government in climate policy is rare, however, and the participation of citizens even more rare. This may precisely be the reason why in many countries climate policy lacks effectiveness. The case study on Bulgaria, whose results are presented below, may illustrate this point.

### ***3.1.2 Institutional capacity needs in Bulgaria: survey results***

The Bulgaria case study (Peeva, 2003) is a survey of Bulgaria’s current institutional capacity needs. The study identifies capacity needs and problems at the five institutional levels described above.

#### ***Level of the individual***

Needs identified relate to a large extent to a lack of financial and human resources. Personnel working full time on climate issues are very limited. The Ministry of Environment and Water (MOEW), which is the focal point for the UNFCCC, has only three full-time experts to cover all functions of the policy process. As far as training is concerned, many training needs identified, but there is no national source of funding for them. All training is provided through international projects.

There are also problems, which have an institutional nature and do not seem to be specific to climate change. Working conditions are difficult. The stability of contracts and career opportunities are undermined by possible political interference. The wage level is lower than in the private sector.

#### ***Level of the organisation***

Needs identified are also related primarily to a lack of human and financial resources. There is no special budget allocation to climate change activities in ministries or agencies. Institutional issues identified are related to a lack of formal mandates regarding climate policy rules (except for the MOEW) or a lack of formal processes and rules -in particular on inventory preparation- within organisations. In particular, national inventories must be prepared under the general tender procedures for procurement of services, which are not relevant for highly specialised work involved in inventory preparation, while the National Statistical Institute has no mandate with regard climate change. Traditional organisational structures have not been adapted to climate policy. Even the MOEW has no specific structural unit to deal with climate

issues. Problems of vertical integration are also identified: there are many cases when personnel in higher management posts have no sufficient understanding of climate issues.

### ***Level of the network***

There is no specific legal basis for the climate change institutional framework as a whole. A recent review of the national policy programmes concluded that climate policy is not clearly defined and structured in the strategic policy documents of the government and its ministries, even in the MOEW. The only legally approved document related to climate change is the National Climate Change Action Plan (NCCAP). Most responsibilities regarding climate change are allocated to the main ministries and agencies. However, the lack of allocation of responsibilities for specific stages of the policy process affects the authority of the MOEW, which is not strong enough to influence other ministries or agencies.

The inter-ministerial Commission on climate is given the authority to co-ordinate the implementation of the NCCAP, but its authority is not sufficient. In practice, it has become an expert level body and its decisions are not easy to enforce, because the NCCAP has no funding associated with it. The Commission itself has no special funding. A gradual increase in the activity of the Commission can be noticed, however. Most ministries are involved in policy process, but there is no involvement of other stakeholders. A separate body, the JI Steering Committee, co-ordinates the implementation of the JI mechanism. It does not meet regularly.

More generally, the institutional framework for climate policy is still underdeveloped. There have been no substantial changes to it, while the burden of the existing staff has increased in relation to the strengthening of international commitments. However, there are plans to reform the institutional framework for climate policy, based on proposals resulting from the GEF project on National Capacity Self Assessment.

### ***Level of the government***

As expected, an evaluation of institutional needs at this level is far from easy from a climate change perspective. General problems are mentioned: the intensive legislative activity related to the accession to the European Union, which sometimes results in legal documents with low quality; the possible lack of reliability of statistical data; the slow reform of the judiciary system, with crime and corruption continuing to be risk factors. As far as climate change is concerned, a recent review of government programmes has provided evidence that climate change considerations are not integrated in most of them, even in the environmental strategy of the government.

### ***Level of society***

As expected, public participation and public knowledge in the field of climate change is limited. The climate change community is very small in Bulgaria. Even environmental non-governmental organisations are not sufficiently interested in climate change.

## **3.1.3 The role of public governance and public participation**

The institutional problems identified in the case study on Bulgaria are many. However, a general problem that seems to be omnipresent in all climate institutions in Bulgaria is their ad hoc nature. Generally, motivated individuals are able to fulfil the necessary tasks related to the Convention, such as the preparation of a national plan, of annual inventories and national communications. However, when the need is felt for more formal legal mandates, rules or processes, it has not been possible yet to develop them, because climate experts in government have little influence on the more formal policy-making



processes within government. When there are general rules at government level, they do not seem adequate for climate change activities. This is the case for the preparation of the national inventory, in particular. In fact, climate policy seems completely isolated from the higher levels of government. According to the study, climate change does not raise any controversy, because it is just ignored by the higher levels of government and the public in general.

This situation may indeed reflect the fact that climate change is not a priority issue for the government or for society. But it may also reflect a problem of governance. This could be the case for many countries, developed or developing. "Public sector institutions in OECD countries have proven to function in a certain context, for example to deliver efficient and effective services to citizens. But they may not be automatically suited to address new challenges with a high level of complexity (OECD, 2002).

Complexity refers mainly to the fact that climate change is a long term, cross-cutting issue, which is closely related to the way firms run their businesses and private individuals their life. This requires new capacities, such as the ability to set long term and sustained commitments, to create strong policy coherence and integration, as well as to enter into partnerships between governments and civil society (OECD, 2002). Traditional forms of public governance, which are characterised by a short term, sector-based approach to policy and by a lack of public participation, are ill-suited for issues like climate change.

Without due consideration of climate change by the highest levels of governments, and by society as a whole, it is likely that climate teams in organisations, or networks as co-ordinating mechanisms, will remain rather weak within government. However, only major institutional reforms may create changes to current models of public governance. Similarly, changes in social attitudes, practices or values, for instance, those that relate to environmental awareness or public participation, may take at least a generation to take effect. This does not mean that nothing can be done at these levels. Rather, it hints at the need for a longer term and broader perspective to finding solutions to the climate change problem. In addition to traditional policy instruments, public education, partnerships, actions by non governmental organisations, business initiatives, public sector reforms may be highly relevant to addressing climate change.

In addition to these general problems of governance and public participation, each country may have specific strengths and weaknesses of its broad institutional framework. The case study on Bulgaria identifies problems that are specific to Bulgaria or to other similar transition countries. For instance, the study mentioned problems with the statistical and the judiciary systems, or the political interference in the civil service. Other countries might experience other governance issues, which might make it difficult to implement an effective climate policy. For instance, countries with a federal structure may have a particular difficulty to implement a climate policy, where initiatives from different levels of government are strongly integrated. This issue is mentioned in the case studies on Mexico and India, which are federal states. The political economy of decision-making, if it emphasises confrontations and strong lobbying by interests groups, rather than consensus-building on long term priorities, may also make it very difficult to find long term solutions to climate change in some countries.

### **3.2 Linking *climate-specific* and *climate-relevant* institutions**

Institutions for climate policy differ, not only according to their institutional level, but also according to whether they are created specifically for climate policy, or they exist for other purposes, even if they are relevant to climate policy. In order to be effective, climate policy is likely to need to reach out to climate-relevant institutions, with a view to change them progressively. Because they are usually beyond the reach of climate policy-makers, the time and effort that is needed to change these climate-relevant institutions may vary a lot from country to country.

The first section of this chapter further assesses the difference between climate-specific and climate-relevant institutions. The second section provides a synthesis of the case study on India (Gupta, 2003), which analysed the possible implementation of market-based instruments, in particular emission trading, on the basis of existing air pollution control institutions.

### **3.2.1 *Climate-specific and climate-relevant institutions***

Institutions for climate policy can be divided into two categories. *Climate-specific* institutions are specifically devoted to climate change: trainings in climate change, climate units within organizations, climate-specific networks (to coordinate climate actions) are all examples of climate-specific institutional capacities. *Climate-relevant* institutions have been developed for other reasons than climate change, yet are critical for the development of climate policy: ministries or agencies in charge of climate-relevant policies, such as energy, transport, agriculture and forestry, economics and finance; as well as the body of laws and regulations on such issues.

Provided there are sufficient financial and human resources, it may be relatively easy to develop climate-specific institutions, such as climate teams, offices or networks. Many countries have by now developed a minimum level of climate-specific capacity. However, it might be much more difficult to influence institutions that are beyond the reach of climate policy itself, yet are climate-relevant. For instance, when energy, transport and agriculture ministries, statistical agencies or the judiciary system are weak or rigid institutions, it is usually very difficult for climate-policymakers to make sure that they integrate emerging issues, such as climate change, in their policies or actions.

The challenge of integrating climate policies into other policy fields is, however, the most crucial test of an effective climate policy. A climate policy that is run like a sectoral policy, in isolation from other policies, is likely to be rather inefficient, because climate change is fundamentally a horizontal issue. In fact, if climate change is fully integrated into sectoral policies, there may even no longer be much need for climate-specific institutions, isolated from other institutions.

### **3.2.2 *Institutional capacity needs: the case of emission trading in India***

The Indian case study examines the institutional implications of implementing a specific form of climate action, that is, market-based instruments, in particular GHG emission trading. What institutions would be needed in India, if such instruments were to be implemented? To answer this question, the study explores a particular aspect of institutional capacity building: the possibility of using existing environmental institutions, which have been developed for other purposes than climate change, to develop climate-specific instruments, such as GHG emission trading or carbon taxes.

The main message of the study is that market-based instruments do not require (at least in principle) more institutional capacity than traditional command-and-control regulations, which are the dominant form of environmental legislation in India. However, they do require significant changes in existing institutions, in particular those in charge of air pollution control.

#### ***Design and implementation of air pollution control legislation***

Both the design and implementation of existing air pollution regulations would need significant changes, if these regulations were to take on additional climate change policy goals.

Indian air pollution legislation, based on the Air Act of 1981 and the Environment Protection Act of 1986, is set at federal level. States can have more (but not less) stringent environmental standards than federal standards. The opinion that design of environmental laws is adequate, but that their implementation is poor, is often heard in the Indian context. Yet, the design of air pollution regulations, typical of command-and-control (CAC) instruments, also has a number of flaws:

- Legislation usually stipulates *how* emissions are to be abated (best-available technology). Emphasis is on end-of-pipe treatment, as opposed to pollution prevention.
- Emission standards are specified in terms of concentration or rates and do not limit total emission loads. The move to load-based standards has been slow.
- There is too much reliance on “pseudo-monitoring and enforcement”, i.e. monitoring that pollution control devices are installed, rather than monitoring actual discharges.
- Monitoring procedures are cumbersome. When actual discharges are monitored, there is excessive burden of proof on the monitoring agency to prove that a violation has occurred. This reduces the expected penalty and weakens enforcement.
- The law has an all or nothing nature. Penal provisions do not make distinction for the extent of violation of standards.

The implementation of air regulations is entirely delegated to state pollution control boards (SPCBs). As a result, it is very difficult to generalise for a country as varied as India. There is a considerable difference among states in terms of economic development and this is reflected in their institutional capacity to address environmental issues. Yet, generally, the following institutional issues related to implementation, according to a review recently conducted by the Program Evaluation Organisation (PEO), are the following:

- Management of SPCBs: several problems exist within the state boards, which are managerial in nature and not only due to a paucity of resources: frequent changes in chairpersons, boards dominated by non-technical members, lack of environmental professionals, in particular for carrying out inspections of polluting units (in particular in the north-eastern states).
- Compliance with environmental standards: it was found that compliance by firms was “poor” in some states. This is related to the fact that the probability of being monitored is low. This is not only due to management problems in SPCBs and a shortage of resources, but to the monitoring procedures themselves (see point above). It was also found that the inventory of polluting units was unsatisfactory, particularly for smaller units. Most small and medium-sized enterprises are outside the monitoring and enforcement net.

### ***Strengthening institutional capacity for the use of MBIs***

The study suggests the following institutional changes to support the use of MBIs, such as emission trading:

- Legislative and regulatory changes: there is a need to alter clean air legislation to allow for differential pollution abatement entailed by MBIs and a move to a regulation of total emissions. Rules and regulations for monitoring and enforcement should be changed to allow for the monitoring of actual discharges. Monitoring procedures would also need to become relatively straightforward, so that compliance would be easily verified. For CO<sub>2</sub> emissions, data on fuel used exist for thermal power plants and large industrial units and can be used to estimate emissions. Finally, there is a need to establish a national registry of sources and a system of regular reporting (and verification) of fuel use.

- Management of SPCBs: Boards should be made more autonomous from state governments, in particular on staffing, to bring in more technical staff. The move to MBIs should also be accompanied with the possible hiring of environmental economists, in addition to environmental scientists and engineers. MBIs will indeed require policy analysis capabilities that are currently lacking, as emission trading would require careful analyses of abatement costs across sectors/sources, impacts of alternative allocation rules, likely permit prices and market structure. Finally, there would be a need to develop the administrative machinery for issuing permits, tracking trades and monitoring actual emissions. Possible pecuniary incentives could also be awarded to staff in charge of monitoring, such as rewards for detecting violations.
- Access to information and public education: MBIs, in particular when they are phased in, require the ability for stakeholders to have access to information and be consulted on the design of the system. However, government agencies have had until now no tradition of openness and public participation. The right to information in laws and practices should thus be integrated in laws and practices. More generally, there is a need to strengthen the knowledge base, promote understanding of MBIs among stakeholders and, in particular, to dispel the notion that emission trading is a licence to pollute.
- Overall economic and cultural environment: maintaining the deregulation and opening of India's economy may in fact facilitate the use of MBIs, as a more market-oriented mindset from both regulators and businesses is needed for their acceptance. Despite progress towards privatisation, deregulation and globalisation of the economy during the 1990s, the tradition of direct state intervention is still very much alive in India. Indian regulators tend to view markets with suspicion. Firms themselves may also find an interest in such a dirigiste model. It might be easier to lobby regulators for permit licences than to operate in a competitive market to buy or sell GHG allowances.

In fact, changes that would be required in India for the use of emission trading would not likely be very different from those that other countries have experienced, when they moved to such an instrument. In principle, there is thus no reason why MBIs could not be implemented in India. However, countries differ in the degree to which they resist changes. Indeed, broad cultural resistance about the use of markets, in particular for environment protection, might be the most important obstacle to overcome. It might also take time to strengthen environment enforcement systems. It is therefore difficult to tell in advance how long it will take for a particular country, like India, to make broad changes to its environmental legislation.

## 4. Forms of climate actions and their institutional requirements

Moving beyond Kyoto, all governments are expected to strengthen their climate policy, in terms of mitigation and/or adaptation. This chapter analyses different forms of mitigation actions that countries might undertake in the medium term, in terms of their institutional requirements. This analysis suggests that these forms of actions could differ substantially as regards their institutional needs. In particular, it is likely that policy frameworks based on legally-binding quantified national targets require more institutional capacity than other approaches, such as those based on non-binding targets, sectoral targets or policies and measures.

### 4.1 Climate actions: main policy frameworks

There are many possible policy frameworks to climate actions. At least as far as mitigation is concerned, these policy frameworks mostly differ according to their *type*, *legal nature* and *scope*. “Type” mainly refers to the type of strategy that is chosen, whether it is based on a quantitative target or not, and if so, which kind of target. “Legal nature” refers to whether the quantitative target is legally-binding, or is just voluntary. “Scope” refers to whether all, most, or only a few GHG sources and/or sinks are covered by the mitigation strategy.

For the purpose of simplicity, this project identifies 7 main policy frameworks, each of which also has different institutional requirements. Although the first option suggests a reference to an international agreement, namely the Kyoto Protocol, in fact, these policy frameworks need not become international commitments. They can also be adopted at the domestic level only.

**Table 1: Policy frameworks**

Option/Approach	Type	Legal nature	Scope
Kyoto-style targets	Quantitative, fixed	Legally binding	All or most sources/sinks
Dynamic targets	Quantitative, dynamic	Legally binding	All or most sources/sinks
Targets with price caps	Quantitative, fixed or dynamic	Legally binding	All or most sources/sinks
Non-binding targets	Quantitative, fixed or dynamic	Non-legally binding	All or most sources/sinks
Sectoral targets	Quantitative, fixed or dynamic	Legally binding or non-legally binding	Some or many sources/sinks
Policies and measures	Non quantitative	Non-legally binding	Some or many sources/sinks
Technology	Non quantitative	Non-legally binding	Some or many sources/sinks

Whichever approach is chosen, climate policy needs to develop to some degree all the different policy functions that were presented in section 2.2. It needs to assess the country’s national circumstances, formulate a strategy, participate in international negotiations, design and implement policies and measures, as well as monitor, report on, review progress and enforce climate actions. However, policy frameworks tend to differ as regards their institutional requirements, as they emphasise different functions within the policy process.

## 4.2 Approaches based on legally-binding quantified national targets

Three types of policy approaches are based on legally-binding quantified national targets: approaches based on fixed (Kyoto-style) targets, on dynamic targets and on targets with a price cap. In many ways, institutional challenges for all three types of approaches are quite similar.

Legally-binding quantified national targets put upper limits to a country's GHG emissions at future points in time. They provide useful signposts for governments in their efforts to progressively reduce GHG emissions over time. They allow governments to focus on a clear policy objective. However, such quantitative targets imply both the ability to set them at the appropriate level as well as the ability to comply with them within a specified timeframe. This creates significant institutional challenges, because many different functions need to be developed simultaneously:

- National assessment and strategy formulation:
  - Many studies are likely to be needed to determine the appropriate level of the target, which will require a solid analytical capacity, but also institutional processes able to translate the results of climate policy research into policy decisions.
  - Strong cross-sectoral institutions that can create policy coherence and integration will also be needed to negotiate the target and define an appropriate strategy to meet the target. The strategy itself cannot just be a compilation of un-coordinated sectoral policies, but will need to include negotiations with different sectors to define their contribution to the overall objective. Strong co-ordination mechanisms will also be needed to review the strategy regularly in light of progress achieved in meeting the target, so as to make sure the target is met.
  - Participation in international negotiations is also likely to be enhanced if countries choose to implement an emission trading system, because of their interest in a participation in international emission trading.
- Design and implementation of policies and measures: although an emission trading system is not needed per se to meet a national target (except when there is a price cap –see below), the choice of a quantitative target tends to favour the use of such an instrument. As illustrated in the case of India (see section 3.2.2), emission trading systems do not necessarily require more institutional capacity than other instruments. However, the transition towards what is still in many countries a new instrument is likely to require additional capacity. Also, a trading system requires in any country underlying market institutions that are properly functioning.
- Monitoring, reporting, review and enforcement: national inventories are needed on a regular basis to assess whether the country is on track to meet its target. High quality inventories are particularly needed if there is a participation in international emission trading. Developing the ability to produce regular, high quality inventories, which comply with national or international standards, requires a long institutional process, however, as illustrated by Herold (2003) (see section 2.1.2). Strong enforcement mechanisms in the country are also needed, in particular if the target is legally-binding and/or if emission trading systems are being set up.

The choice between fixed, dynamic targets, with or without price caps, is mostly determined by various economic and/or environmental considerations (see Philibert & al, 2002). However, these three types of targets also tend to differ somewhat in terms of their institutional requirements.

### **4.2.1 Fixed targets**

Fixed (Kyoto-style) targets are meant to provide some certainty on the level of GHGs a particular country emits in the atmosphere during a specific year or period. However, they tend to create some economic uncertainty: the costs of meeting such a target can vary, because a country's GHG emissions tend to fluctuate from year to year for a variety of reasons, including the level of economic growth. If emissions tend to grow at a higher rate than forecasted, this may raise the costs of reaching the target to politically unacceptable levels.

Even if costs are low, from an institutional perspective, fixed targets tend to require particularly efficient co-ordination mechanisms, and, more generally, strong public governance. Since emissions fluctuate from year to year, the government must be able to closely monitor the level of the country's GHGs over time. It must also be able to review and strengthen the domestic climate strategy in a regular manner, as well as design and implement additional measures in various sectors, if needed. Reacting swiftly to changing conditions and creating national support for additional measures requires well-organised institutional processes.

### **4.2.2 Dynamic targets**

With dynamic targets, allowable emissions fluctuate in response to some other measure, such as the gross domestic product. If well-designed, dynamic targets might reduce the unpredictability of a country's emission reduction requirements, associated with fixed targets. From an institutional point of view, this may reduce the need to frequently review and adapt the climate strategy in response to unexpected fluctuations in GHG emissions.

Agreeing on dynamic targets, nationally and/or internationally, might prove a difficult process, however. The use of dynamic targets might reduce the need for accurate emission projections, on which fixed targets are based, but significant learning may be needed to develop them, as dynamic targets constitute in most countries a new form of target. Moreover, dynamic targets allow many possibilities of differentiation, which can complicate the negotiation process.

Designing domestic trading systems under a policy framework that uses dynamic targets also tends to be administratively more complex than when fixed targets are used, since, contrary to fixed targets, the allowable emission level is not known *ex ante*. There may be ways to address this problem, however, by "fixing" the dynamic target just prior to the budget period (Kim and Baumert, 2002).

Finally, dynamic targets entail extra information needs, since they include other variables, in addition to GHGs. As shown above, significant institutional capacity is needed to produce GHG inventories according to official standards, such as IPCC and UNFCCC guidelines. Similarly, it is important to make sure that the other variables of the dynamic target are based on high-quality data. To take GDP as an example, most governments have generally more experience with such statistics than with monitoring GHG emissions. However, most national accounting systems currently have difficulties adhering to internationally accepted measurement and reporting standards for GDP data. Additional institutional capacity would certainly be needed to improve the quality of GDP statistics in many countries.

### **4.2.3 Targets with price caps**

Fixed or dynamic targets can be coupled with a price cap, which place an upward limit on the price of emission reductions. If market prices were to exceed the price cap, supplementary permits could be sold to

entities at a fixed price (see Philibert & al, 2002). Such an approach has both advantages and disadvantages from an institutional point of view.

As with dynamic targets, price caps reduce cost uncertainties associated with fixed targets. This might facilitate the selection of a target level and thus require less institutional needs. However, price caps add a new feature to the form of the target, which has not been tested yet. This would require a specific learning process for those in charge of designing it, implementing it and/or negotiating it internationally.

Unless the management of such a system is left to an international body, a domestic body would also need to be designated with the administration of a price cap. Specific rules and processes would need to be agreed on to operate it, with potentially significant issues to be dealt with, such as how to recycle revenues from selling supplementary permits.

### **4.3 Other quantitative approaches**

Two quantitative approaches could somewhat reduce institutional capacity needs associated with the options discussed above: approaches based on non-binding targets and approaches based on sectoral targets. These approaches can be seen as transitional measures before the adoption of legally-binding national targets, so as to allow countries to build capacities in a progressive manner.

#### **4.3.1 Non-binding targets**

Both fixed and dynamic targets could be adopted in a non-binding form. With non-binding targets, governments would not be penalised if they do not meet the target. This tends to reduce the pressure on building institutional capacity for all the functions of the policy process, as described above. Institutional processes and systems, such as co-ordinating mechanisms or national inventory systems, need not be as mature as those needed for legally-binding targets. Indeed, the rationale behind non-binding targets is to gain practical experience with quantitative targets and progressively develop the institutional capacity that is needed to manage them.

Yet, if a government is serious about meeting its quantitative target, it will aim to develop in the long run the institutional capacity that is required for legally-binding targets. This is particularly true if a decision is made to develop an emission trading system.

#### **4.3.2 Sectoral targets**

A country may decide to limit the scope of a quantitative target, which can either be fixed or dynamic, to one or a few sectors. This option has the potential to reduce institutional needs quite substantially, while still addressing a sizeable portion of a country's GHG emissions.

Sectoral targets can cover parts of national economies where GHG emissions are most important or rising. This allows institutional efforts to be geared towards one or a few sectors and a limited number of policy functions (to start with). In particular, such an approach does not require much cross-sectoral co-ordination at the highest levels of government.

Institutional capacity needs can even be less if sectoral targets cover sectors for which GHG emissions are relatively easy to monitor and in which policies and measures can be most easily enforced. Indeed, a disadvantage of broad-based national targets is the need to address all sectors, even those where data are



scarce or not reliable, or where regulatory measures are difficult to enforce. For instance, it may be that, in some fast developing countries, GHG emissions in the industry sector, which has grown to be very similar to the industry sector in developed country, might be more easily monitored and regulated than emissions in the agricultural and forestry sectors.

Finally, a sectoral target allows for the use of GHG emissions trading systems, which can bring many GHG benefits. As the India case study suggested, the move towards emission trading is likely to be quite a challenge in many countries that do not have them already, especially developing countries. This may require a lot of institutional building in sectors bound by the target, and in particular in existing system of air pollution regulations and institutions. However, the challenge may be reasonable, if most of the institutional efforts are as a first step geared towards the targeted sector and are not spread across too many policy functions.

#### **4.4 Non-quantitative approaches**

Two policy approaches do not rely on quantified GHG targets: a “policies and measures” approach and a “technology” approach. This does not mean that they do not include specific targets, e.g. for the penetration of renewable energy sources. However, these targets do not focus directly on the level of GHG emissions of a country or a sector. Such approaches require in principle less institutional capacity, as many institutions associated with quantified GHG targets are no longer needed. However, institutional capacity needs can still be significant to design and implement climate policies.

##### **4.4.1 Policies and measures**

As already suggested, the main challenge of national targets is that they put a lot of pressure to build institutional capacity for all functions of the policy process, not just for designing and implementing policies and measures. With limited resources, one approach might thus be to focus on policies and measures, at least as a first step. A “policies and measures” approach indeed focuses on the core of a policy process, which is the design and implementation of policies and measures. This means essentially strengthening current policies and programmes over the medium term, since most countries have already implemented climate change programmes, as required by the Climate Convention.

There may be different ways to strengthen policies and measures, without recourse to national targets to steer the process. For instance, Winkler et al. (2002) outlines the concept of sustainable development policies and measures (SD-PAMs approach), where countries adopt a basket of policies and measures that are primarily geared towards their national sustainable development needs, but which, taken as a whole, would also bring GHG reduction benefits.

Because it would not include a national target, a “policies and measures” approach would reduce institutional needs related to the formulation of a national strategy, the development of strong cross-sectoral co-ordination mechanisms and the set up of high-quality monitoring systems that track GHG emissions over time. Yet, governments would still face significant challenges in designing and implementing policies and measures. Many of the institutional obstacles to implementing climate-friendly policies –e.g. lack of resources and management capacities, weak public governance- are the same, whatever policy approach is chosen and whether or not policies are framed in terms of sustainable development.

Finally, some cross-sectoral co-ordination mechanisms may still be highly relevant. As the previous section suggested, capacities in sectors are climate-relevant, but not climate-specific. It may still be very

difficult to influence other sectors in their policy choices, so that they fully integrate climate considerations. True, specific incentives to develop sustainable development policies and measures might be found in sectors. However, sectoral ministries or agencies might not have the capacity to be proactive and to develop the most appropriate policies. Thus, a “policies and measures” approach is faced with the challenge that all climate change policies face, due to the fact that climate change is a cross-cutting issue: the need to integrate climate change considerations into other sector’s policies, which requires at least some kind of cross-sectoral co-ordination mechanisms. Whatever option is considered, countries are faced with the more general challenge of developing a model of governance that favours a horizontal management of issues (see section 3.1.3). This is the challenge of sustainable development itself.

#### **4.4.2 Technology development and co-operation**

In many ways, a domestic technology policy is part of a “policies and measures” approach, which would target in particular technology development and co-operation. Thus, institutional capacity needs are quite similar to those described in the previous section. However, technology is a very specific area within any domestic climate policy, as it is essential to developing long term solutions to climate change. Thus, this approach may not just be considered as a useful transitional step towards policy frameworks based on legally-binding national targets. It may also be considered as an integral part of any future policy framework as well.

A domestic (or international) policy framework to promote technology development and co-operation would focus resources on building capacity in the technology area. The extent of capacity needs would depend on the kind of technology policy that would be adopted. However, capacities would be needed for many policy functions.

A first step would likely be a national assessment of technology needs as well as the formulation of a technology strategy. This tends to require much expertise, which is specific to each sector that is covered by the technology policy. If this policy includes quantitative targets (e.g. a renewable energy target), setting those targets and making sure they can be reached may also create its own set of capacity needs, which resemble those of GHG targets. The design and implementation of technology programmes can also be quite resource intensive. Many “affirmative” technology programmes (e.g. for research) require substantial funding and highly-skilled personnel in the public service that can design and implement them. In addition, there is a whole set of “enabling” reforms needed to create a sound business environment: market reforms, intellectual property laws etc...While these reforms require less personnel than technology programmes themselves, the political economy of decision-making can be a much tougher barrier to overcome, e.g. with the ability of special interest groups to stall the reform process. Finally, technology policies have their own set of monitoring and review needs. Assessment criteria would need to be developed to review the results of these policies over time and make sure they are still relevant.

Even such a preliminary assessment shows that technology policy, like each single policy that is included in climate strategies, has its own capacity needs. In case of limited resource and limited ability to build new capacities, this may point to the need to select the policies (e.g. energy, transport, agriculture, technology etc...) for which institutional capacities can be developed in priority.

## 5. Towards an institutional model of climate policy development

The analysis undertaken so far suggests that decisions on future actions could be informed by detailed assessments on the level and type of institutional capacity that such actions would require. The analysis also suggests a step-by-step, dynamic model of climate policy development, which would be consistent with a country's institutional development. F. Tudela (2003) proposes such a framework, which includes different steps of both policy and capacity development, and applies it to the Mexican situation.

### 5.1 A step-by-step approach: the example of Mexico

Based on an analysis of the Mexican situation with regard to its climate policy and its institutional development (see section 2.2.2), F. Tudela (2003) proposes the following steps for further developing a Mexican climate policy, which would be consistent with the development of institutional capacities over time.

**Table 2: Step-by-step policy and institutional development in Mexico**

	Sustainable development (SD)	SD plus GHG monitoring	SD + GHG control	SD + GHG control + GHG target
<b>Climate actions</b>				
Strategy formulation	--	Initial co-ordination	Full co-ordination	Integrated CC policy Possible national target
Design and implementation of policies and measures	Sectoral unco-ordinated policies and measures AIJ; possible CDM projects	Sectoral policies and measures Enhanced CDM	Expanded sectoral policies Enhanced CDM	Sectoral policies with sectoral targets Enhanced CDM
Monitoring, reporting and review	Initial GHG inventory	GHG inventory	Regular GHG inventory + NC	Regular high quality GHG inventory +NC
<b>Capacities</b>				
Co-ordination mechanisms	--	CC Office Initial institutional framework for co-ordination	CC Office Full Institutional framework for CC	CC Office Fully functional framework
Capacities for policies and measures	Capacities in sectors only	Capacities in sectors National Authority CDM	Enhanced capacities in sectors National Authority CDM	Enhanced capacities in sectors National Authority CDM
National inventory systems	Inventory only with external assistance	Inventory with some external assistance	National inventory system	Fully developed National inventory system

Source: adapted from Tudela (2003)

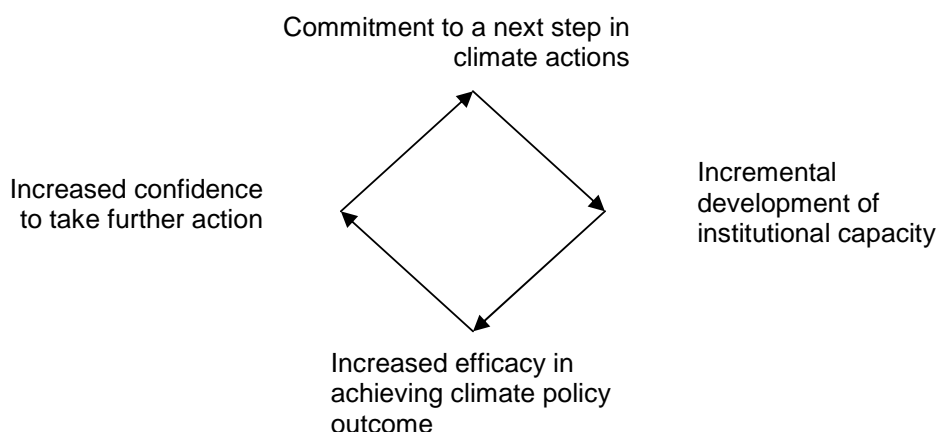
### 5.2 Institutional dynamics of climate policy: some preliminary thoughts

The step-by-step development of capacities and actions illustrated in Table 2 is one possible approach, which may only fit the Mexican situation. In particular, it emphasises the importance of a step-wise development of co-ordination mechanisms and GHG monitoring. As suggested by Gupta (see section 3.2.2), an alternative may be to emphasise the need to develop capacities in specific sectors, with the possibility to adopt a sectoral target, in an earlier step. In this case, the development of national inventories and co-ordination mechanisms, while still important, would become less of a priority, so as to avoid

developing many different capacities simultaneously. Alternatively, the adoption of a non-binding national target might also be envisaged earlier on. Country-specific circumstances will determine what should be the most appropriate path of climate policy development for a particular country.

Beyond Mexico's specific example, this approach suggests a possible institutional dynamic of climate policy development. In this approach, the development of climate actions drives the development of institutions *and vice versa*. Figure 1 provides an initial model of how such a dynamic might work. It could be worthwhile to search for empirical evidence of such a dynamic in some specific countries, where successful institutional development has taken place.

**Figure 1. Dynamics of policy and institutional development**



Source: based on an unpublished note by Tas Sakellaris (2004)

The main advantage of such an incremental approach is to emphasise the need to build over time the necessary confidence to take on further action. This confidence can only be strengthened by developing sufficient institutional capacity, which in turn will increase a country's effectiveness and efficiency in delivering on policy results and therefore its ability to commit to further actions. Actions drive institutions because deciding on a policy goal provides the necessary incentive for capacity development. Institutions drive actions because countries can only commit to climate actions for which they are confident they can build the necessary capacity in time to implement them. In other words, it is likely that a step-by-step approach to climate policy development, which is consistent with a country's institutional development, will increase a country's ability *in the long run* to reduce its GHG emissions. Finding the appropriate level of ambition for a country's climate policy is thus critical: while a climate policy that is not ambitious enough will not create the dynamics to develop sufficient institutional capacity over time, a climate policy that is too ambitious might also backfire, if a country is not confident that it can implement the actions it has committed to.

## 6. Concluding remarks

This project on institutional capacity has analysed the role of institutional capacity in selecting the most appropriate climate actions. In particular, it has investigated the reasons why it may be important for a country to assess whether they can develop sufficient capacity in time to implement the climate actions they are considering as next steps.

Firstly, this project has analysed the concept and substance of institutional capacity for climate policy. As the case of national inventories illustrates, the very nature of institutions suggests that institutional change may only occur progressively and that countries may have different abilities to adapt existing rules, practices and processes in time for delivering on the decisions they have taken. As the experience of Mexico in the last decade also suggests, it may also be very difficult for some countries to develop the capacity for all possible climate actions *at the same time*. Hence, priorities will likely need to be made, both in the development of climate actions and in the development of the corresponding capacities.

Secondly, this project has assessed different kinds and levels of capacities that are needed for climate policy. In particular, capacities at higher institutional levels –i.e. at the level of the government and society as a whole- are the most difficult to build. If certain actions require institutional development at those levels, it might take a certain time to do so. The Bulgarian case study illustrates in this regard the role of public governance and public participation. The same may be true when climate-relevant capacities need to be developed. For example, the Indian case study illustrates the fact that an emission trading system in India would require significant changes to the existing air pollution control institutions.

Thirdly, this project has analysed the main options available for climate policy over the medium term as regards their institutional requirements. The analysis has shown that these options may differ significantly in this regard. In particular, legally-binding quantified national targets require institutional development in all functions of climate policy, so as to create a high level of policy coherence and integration. Other approaches, while still requiring policy coherence and integration, tend to require less institutional-building for all functions of climate policy, thereby freeing additional resources for developing appropriate sectoral policies. Approaches based on non-binding targets, sectoral targets or policies and measures may thus increase the likelihood that some countries with a relatively low level of institutional capacity will be able to develop climate actions within an agreed timeframe. These approaches may provide useful transitions to more institutionally demanding policy frameworks. In addition, a “technology” approach can usefully complement the other approaches cited above.

Finally, this project has also intended to provide a positive message on *how* institutional capacity can be taken into consideration when deciding on climate actions. The final chapter provides an interesting model, developed for Mexico, of step-by-step development of climate actions that match the development of institutional capacities. An assessment of country-level capacities and how they might evolve over time may give insights to countries on how to develop climate actions. A step-by-step approach that assesses at the same time what is desirable (climate actions) and how to achieve it (through institutions) might create more confidence in a country’s ability to reach ambitious goals in the long term. This is particularly relevant for developing countries (which do not have yet quantitative targets), but such an approach could also be relevant for developed countries.

### *The need for capacity assessments*

Obviously, the approach suggested above does not by itself provide sufficient clues to define what actions different countries around the world might be able to undertake. As far as developing countries are concerned, even if some are unlikely to have sufficient capacities to take on “softer” types of policy

approaches, others may have some capacity to take on certain “hard” actions, possibly even including quantitative ones. However, even economically advanced countries may have specific capacity barriers that prevent them from taking more ambitious forms of actions. For instance, countries with a federal structure could have difficulties in reaching national consensus about quantified national targets or how to implement them, especially if these targets are legally-binding.

Thus, more detailed capacity assessments could provide a clearer picture of the kind of future options a country can use with success. Capacity assessments could even mark the beginning of a process whereby countries would define the kind of next steps that are consistent with their capacity level, including the kind of capacity development that is needed.

The capacity issue could also be part of policy discussions among governments. Both developed and developing countries could share information on the level of their current capacities and discuss how to identify the policy options that are most consistent with their capacities. True, there is a danger in international discussions that countries could use capacity constraints as a reason not to act, while in fact, they may simply be unwilling to act. Though this danger may exist, capacity constraints already shape national positions in international negotiations. Honest discussions about what countries can and cannot do, considering their respective capacities and constraints, could promote better understanding and provide a non-confrontational way to consider how to move forward on climate change policies.

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## 8. Glossary

AIXG	Annex I Expert Group
CAC	Command-and-Control
CDM	Clean Development Mechanism
CO <sub>2</sub>	Carbon dioxide
GDP	Gross domestic product
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
MBIs	Market-based Instruments
NC	National Communication
QA/QC	Quality Assurance/Quality Control
SD-PAMs	Sustainable Development Policies and Measures
UNFCCC	United Nations Framework Convention on Climate Change