WORLD RESOURCES INSTITUTE

Working Paper

CLIMATE POLICY IMPLEMENTATION TRACKING FRAMEWORK

PRIYA BARUA, TARYN FRANSEN, AND DAVIDA WOOD

EXECUTIVE SUMMARY

Countries around the world are increasingly developing policies to address climate change and mitigate greenhouse gas (GHG) emissions. While this trend is encouraging, policies will only be successful in meeting the climate challenge to the extent that they are fully implemented. Tracking the progress of a diverse range of climate-related policies in a consistent manner has presented a challenge to analysts, advocates, and policymakers.

This paper offers a framework for tracking climate policies through the process of adoption, implementation, and eventually to impact. The framework guides users through five key steps:

First, users identify and characterize the policy to be tracked in specific, concrete terms. They determine whether the policy in question is a broad policy or plan or a specific policy instrument that obligates or incentivizes GHG mitigation. They also determine whether the policy has yet been adopted and has begun to be implemented.

Second, for policies that have not yet been adopted, users identify the applicable legislative or regulatory milestones that will mark progress toward adoption.

Third, users develop policy implementation indicators. These indicators cover inputs to policy implementation, such as finance or other resources, as well as activities and effects associated with implementation. Implementation activities may include those associated with licensing, permitting, and procurement; information collection and tracking; compliance and enforcement; or other policy administration activities. Implementation indicators also

CONTENTS

Suggested Citation: Barua, P., T. Fransen, and D. Wood. 2014. "Climate Policy Implementation Tracking Framework." Working Paper. Washington, DC: World Resources Institute. Available online at http://wri.org/publication/climate-policy-tracking.

IN PARTNERSHIP WITH

OPEN CLIMATE NETWORK

cover intermediate effects—changes in behavior, technology, processes, or practices that result from the policy—as well as GHG and non-GHG effects.

Fourth, users develop a plan for tracking milestones and indicators over time. The tracking plan identifies data sources, monitoring frequencies, methodologies, and quality control measures.

Finally, users implement the plan and report their findings.

In addition to the five key steps, the framework provides a set of in-depth questions designed to help users probe more deeply into the reasons for implementation success or failure, as well as a set of worksheets for use in developing milestones, indicators, and tracking plans.

INTRODUCTION

Policy action on climate change over the coming years will determine the risks and costs that we are likely to experience in a warming world. As of 2011, the world had used over half of its carbon budget – the amount of carbon dioxide that can be emitted while retaining some chance of limiting global warming to 2°C (IPCC 2014). Projections show that the remainder of the budget will be depleted in the next 30 years under a carbon-intensive trajectory (Levin and Tompkins 2014). Governments around the world are responding by designing and implementing domestic policies to support low-carbon development and to deliver on pledges they have made to reduce their GHG emissions.

These policies vary widely in terms of the momentum with which they proceed through adoption and implementation to the outcome of reduced emissions. Articulating broad policies and plans is only a first step in a series of developments that governments must pursue in order to achieve GHG reductions and related objectives, such as energy security and economic co-benefits. Ensuring adoption and, ultimately, successful implementation of specific policy instruments is a critical next step to ensure that intended GHG reductions are achieved.

Reporting on climate policies has primarily focused on the existence of policy instruments and their potential GHG impacts, but monitoring on-the-ground implementation of policies is also needed (Fransen and Cronin 2013). Transparent monitoring and reporting on policy progress can corroborate estimates of policy impact and facilitate the identification and resolution of implementation risks and barriers.

Box 1 | Relationship to Other WRI Frameworks and Standards

The *Climate Policy Implementation Tracking Framework* is one of a suite of policy tools being developed by the World Resources Institute (WRI) and its partners. It can be used in conjunction with any combination of these resources to provide a more complete assessment of policy process and impact. The key objectives of each of the policy tools are presented below:

- *Climate Policy Implementation Tracking Framework:* Supports monitoring of progress toward climate policy adoption and implementation. Also provides guidance for evaluating institutional and governance factors that influence the effectiveness of policy implementation, for users who want to conduct a deeper policy implementation analysis.
- *GHG Protocol Mitigation Goal Standard:* Addresses how to assess and report overall progress toward national, subnational, and sectoral GHG reduction goals. (The Climate Policy Implementation Tracking Framework can be used to track policies that will be used to achieve a goal.)
- *GHG Protocol Policy and Action Standard:* Addresses how to estimate the change in GHG emissions and removals caused by specific policies and actions.
- *10 Questions series:* Provides frameworks to assess policy design on specific topics. See for example 10 Questions to Ask about Scaling On-Grid Renewable Energy.

Purpose of this Framework

The Climate Policy Implementation Tracking Framework is designed to help its users to develop a basis for monitoring progress toward policy adoption and implementation in an applied policy context. This could include progress in implementing broad climate action plans such as the United States Climate Action Plan; a specific standard, such as fuel economy standards for light duty vehicles in Mexico; or an economy-wide policy instrument, such as South Africa's carbon tax. It can also apply to subnational policies, such as Beijing's emissions trading scheme. In fact, elements of this framework have been pilot-tested on each of the policies named above.

The Climate Policy Implementation Tracking Framework allows users to:

- Monitor progress of a broad policy, plan, or specific policy instrument over time against procedural milestones (for policies that have yet to be adopted) and against implementation indicators associated with inputs, activities, and intermediate effects (described in Box 2, for policies that have already been adopted);
- Consider a set of in-depth implementation questions to facilitate identification of implementation barriers and solutions; and
- Develop a comprehensive approach to monitoring policy implementation and impact, when used in conjunction with the GHG Protocol *Policy and Action Standard* (described in Box 1).

Two complementary aspects of policy monitoring provide insight into policy effectiveness: (1) monitoring the policy implementation process (identifying and tracking the way in which a policy is implemented by the responsible authorities over time) and (2) evaluating the effects of policy implementation (assessing outcomes that can help to determine whether the policy's objectives were achieved). This framework is designed to provide guidance on the first part — selecting milestones and indicators that help to monitor the policy implementation process. However, it can be used in conjunction with the GHG Protocol *Policy and Action Standard*, which provides guidance on selecting indicators that help to estimate the effects of policies on GHG emissions or other policy objectives.

Who Should Use This Framework?

This framework is designed for a wide range of users — governments, civil society organizations, research institutes, donor institutions, advocacy groups, and others — interested in tracking the adoption and implementation of policies that address climate change mitigation.

Examples of users and applications of the framework include:

- Governments (municipal, subnational, national): Provide transparency on the implementation progress of broad policies and plans (for example, climate action plans, energy efficiency programs, performance standards, emissions trading programs, taxes, incentives).

Box 2 | Key Terms and Definitions

Activity indicator: A metric that describes activities (such as licensing, permitting, procurement, information monitoring, compliance and enforcement, and other policy administration activities) that are undertaken by the relevant authority or entity to support policy implementation.

Adopted policies: Policies for which an official government decision has been made and there is a clear commitment to proceed with implementation, but that have not yet begun to be implemented (for example, a law has been passed, but regulations to implement the law have not yet been established or are not being enforced).

Broad policy or plan: A document or declaration that defines high-level objectives or desired outcomes (such as increasing energy efficiency by 20 percent by 2020).

Effect indicator: A metric that measures changes that result from the policy. Examples include changes in relevant environmental, social or economic conditions (such as GHG effects, air or water pollution effects, public health effects, household income effects) or intermediate effects (such as changes in behavior, technology, processes or practices).

Implemented policies: Policies that are currently in effect and for which implementation is in progress, as evidenced by one or more of the following conditions: (a) relevant legislation or regulation is in force; (b) one or more voluntary agreements have been established and are in force; (c) financial resources have been allocated; (d) human resources have been mobilized; (e) other input indicators or activity indicators referred to in this Framework signal that implementation is taking place.

Input indicator: A metric that describes the delivery of resources that support policy implementation (such as finance).

Key performance indicator: A metric that describes the performance of a policy. Indicators can be either absolute (such as number of homes insulated) or intensity-based (such as grams of carbon dioxide equivalent per kilometer or gCO_2e/km) and can cover inputs, activities, and effects.

Milestone: A specific action or decision by a relevant government authority that represents meaningful and significant progress toward the adoption of a policy instrument. Milestones can include actions or decisions by legislative or executive bodies at the national, subnational or municipal level, and can include actions that are legally obligated as well as those that are optional but that government authorities are likely to undertake.

Mitigation goals: Commitments to reduce, or limit the increase of, GHG emissions by a specified quantity, to be achieved by a future date.

Policy instrument: The specific mechanism that obligates or incentivizes the technological or behavioral change that will mitigate GHG emissions. Examples include a regulatory instrument, such as an energy efficiency standard for appliances, or an economic instrument, such as a carbon tax.

Identify and address institutional barriers to increase effectiveness of policy implementation.

- Research institutions and non-governmental organizations (NGOs): Provide regularly updated and transparent snapshots of implementation progress of key climate policies. Provide more nuanced assumptions for emissions modeling scenarios, based on real-world implementation rather than theoretical emissions reduction potential. Identify institutional barriers to effective policy implementation.
- Donor agencies and financial institutions: Monitor policy implementation progress and identify potential gaps in institutional processes for specific policies and actions that are being financed (through loans and grants) to support GHG reductions and low-emissions development strategies at a local, state, or national level.
- Advocacy groups: Identify key influence points in the implementation process where public participation could be useful and/or enhanced. Identify and build awareness around key gaps in implementation progress for further investigation and/or corrective measures.

On What Types of Policies Should this Framework be Used?

This framework applies to interventions at various stages along a policymaking continuum (see Figure 1), from broad policies or plans that define high-level objectives or desired outcomes (such as increasing energy efficiency by 20 percent by 2020), to specific policy instruments to carry out a strategy or achieve desired outcomes (such as an energy efficiency standard for particular appliances), to the adoption, implementation, or modification of specific policy instruments that incentivize or require changes to technologies, processes, or practices that drive emission reductions.

This framework is policy-neutral and is applicable to broad policies and plans and specific policy instruments:

- At any level of government (national, subnational, municipal) in all countries and regions;
- In any sector (such as energy supply, residential and commercial buildings, industry transportation, waste, or agriculture, forestry, and other land use (AFOLU)), as well as cross-sector policy instruments (such as emissions trading programs or carbon taxes);
- Intended to mitigate GHG emissions or intended to achieve objectives unrelated to GHG emissions, but that affect GHG emissions, either positively or negatively;
- That are planned, adopted, or implemented, or are extensions, modifications, or cancellations of existing plans and policies.

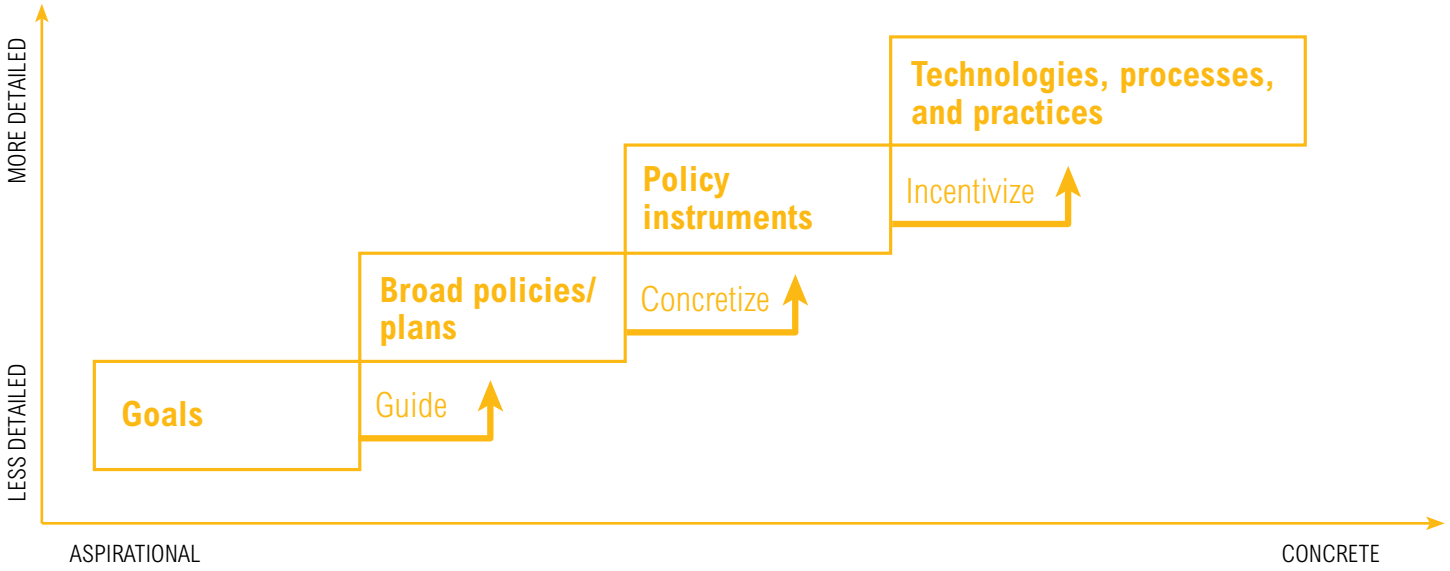
In addition, effective application of the framework will depend on practical considerations, including access to relevant data, which prospective users should consider after reviewing the framework with a particular policy in mind.

The scope of this framework is limited to identifying and tracking key milestones toward policy adoption and key indicators of policy implementation. The framework focuses on the role of government institutions, including national ministries and state and local agencies for energy, transport, and environment.

This framework does not identify whether a chosen policy is the most effective or appropriate policy to address GHG emissions reductions – it merely tracks the progress of policy adoption and implementation against key procedural milestones and indicators associated with full implementation.

Finally, the framework does not explicitly address external factors that might impede policy implementation, but that are beyond the control of executive institutions, such as global financial crises or fuel cost volatility.

Figure 1 | **Interventions at Various Stages Along a Policymaking Continuum**



What Level of Effort is Required to Apply this Framework?

The amount of time required to implement the framework might range from a few days (full-time equivalent) for a simple assessment, where relevant data are readily accessible from government web sites and/or previous analysis, to one month of time (full-time equivalent) for a more detailed and complex assessment that might require several interviews with relevant government agencies.

The amount of time required depends on a variety of factors, including:

- Complexity of the policy or plan being assessed – this could vary from a broad policy or plan, which includes multiple policy instruments in different sectors, to a specific policy instrument;
- Data availability — whether relevant data are transparent, available, and easily accessible;
- Desired level of detail — the complexity of the assessment could vary depending on whether the key objective is to apply the tracking framework to monitor progress toward climate policy adoption and implementation, or whether the aim is to go further and evaluate policy implementation effectiveness as well.

It is important to plan appropriately for the assessment to ensure that adequate time and resources are allocated. This may require a brief pre-assessment of data availability.

OVERVIEW OF KEY STEPS

The framework is intended to guide monitoring of a policy or plan, so as to provide a view of policy implementation progress against procedural milestones and indicators. It tracks the administrative functions associated with policy adoption and implementation, outlining the steps that need to be taken by key government entities for a policy to be adopted and implemented and providing a basis to track progress toward completing them. In addition to this tracking structure, the framework also lays out sets of in-depth questions on various policy implementation issues that can guide users in diagnosing and correcting barriers.

The framework is divided into five main sections:

- Identifying and characterizing the policy or plan
- Identifying policy adoption milestones
- Identifying policy implementation indicators
- Creating a tracking plan
- Tracking the policy over time

Figure 2 illustrates how the sections fit together.

I. IDENTIFYING AND CHARACTERIZING THE POLICY OR PLAN

The first section of this framework defines the type of policy or plan to which the framework is being applied, and determines whether it has been adopted and is being implemented or whether it is in the process of being adopted. Users should undertake the following steps as shown in Figure 3.

1. Name the policy or plan to be monitored

Provide the title of the broad policy or plan or the specific policy instrument as given in official documentation.

2. Classify the policy as a broad policy or plan, a specific policy instrument, or a set of specific policy instruments

A **broad policy or plan** lays out a government's broad goals and priorities on climate change. Examples of broad policies or plans include South Africa's National Climate Change Response White Paper and Mexico's Special Program on Climate Change (PECC). Broad policies or plans can cover multiple sectors or specific sectors. A number of countries have both national policies and sector-specific plans. For example, Brazil has a national climate change policy as well as sectoral plans that cover specific sectors (for example, agriculture, energy) and ecosystems (for

Figure 2 | **Process for Applying the Climate Policy Tracking Framework**

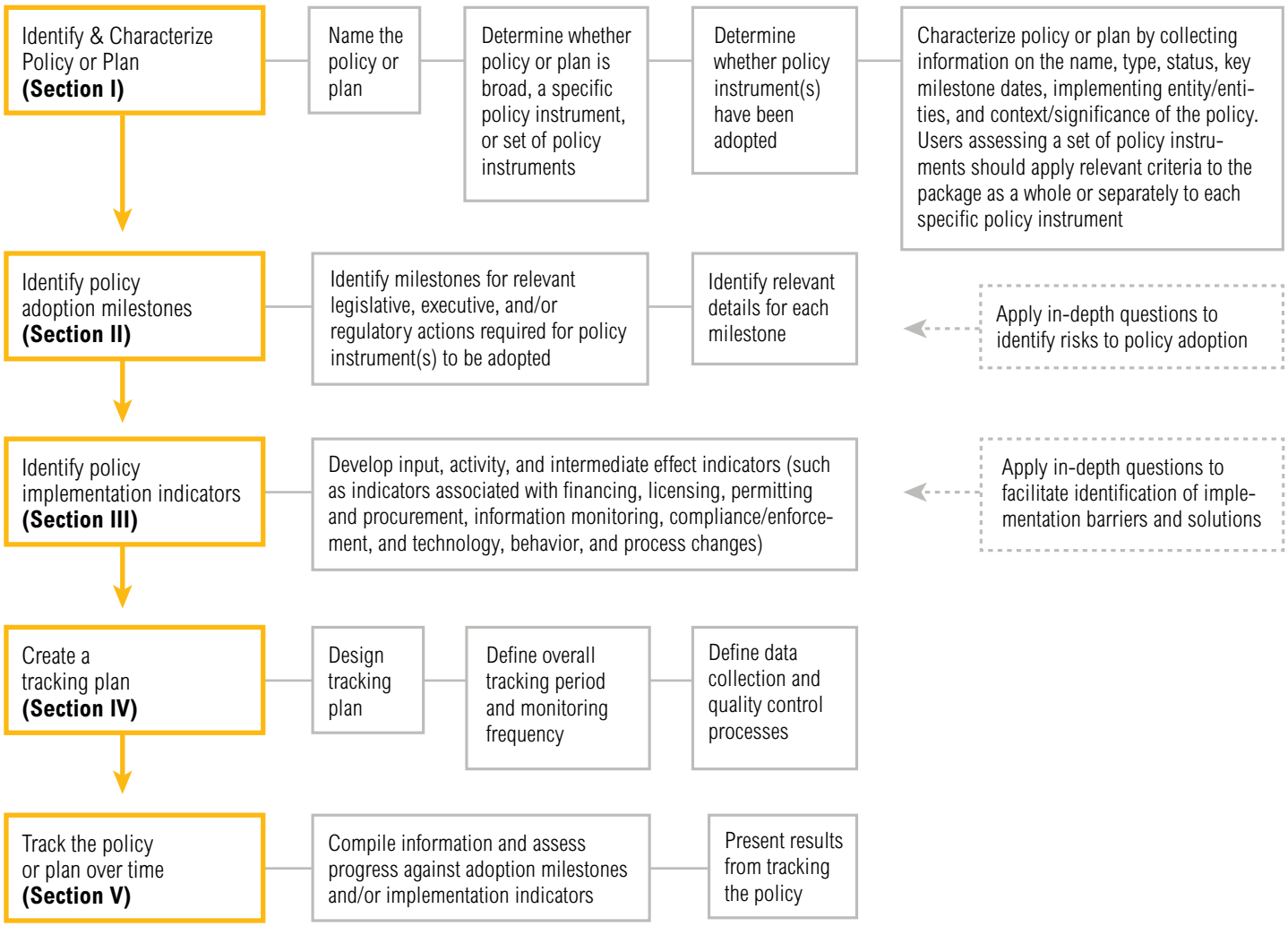
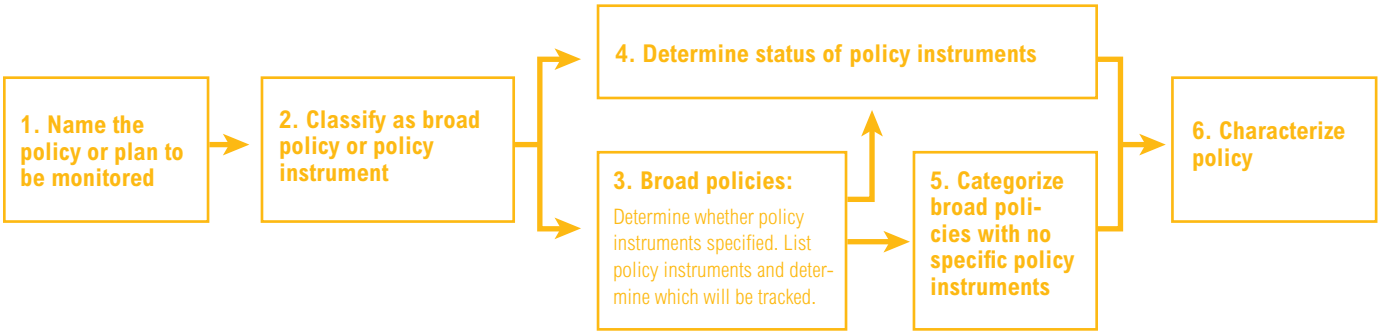


Figure 3 | **Steps Involved in Identifying and Characterizing a Policy or Plan**



example, the Amazon, the Cerrado). India has a national climate change policy as well as climate change "missions" on renewable energy, energy efficiency, and other topics.

A **policy instrument** is the specific mechanism that obligates or incentivizes the technological or behavioral change that will in turn mitigate GHG emissions. Examples of policy instruments include carbon taxes, tradable permit schemes, renewable portfolio requirements, energy efficiency standards, subsidies and tax credits, product labeling schemes, and voluntary agreements. Table 1 outlines general types of policy instruments.

The relationship between broad policies and policy instruments varies. Some broad policies also create or modify policy instruments. Other broad policies give guidance to policy-makers regarding policy instruments that would support the broad policy, but do not actually catalyze the creation or modification of such instruments. Still other broad policies do not provide any guidance about the instruments to be used to implement them – but in general, policy instruments will be required in order to achieve the broad policies' objectives.

3. If broad policies or plans, determine whether they identify specific policy instruments. If so, determine which instruments will be tracked. If not, skip to Step 5

Broad policies or plans vary widely in terms of the specificity with which they identify the policy instruments that will be used to achieve their goals. In some cases, a broad policy or plan identifies specific instruments for some objectives but not for others. For example, the U.S. Climate Action Plan identifies emission standards for new and existing power plants (a specific policy instrument), but it also articulates broad objectives, such as the goal to reduce methane emissions, for which no specific policy instrument is identified, but the development of an interagency methane strategy is proposed.

In this step, users should list any specific policy instruments contained in the policy or plan, as well as broad objectives for which specific policy instruments have not been identified. An illustrative example of how to refine the scope of analysis from a broad policy or plan to a set of specific policy instruments is presented in Annex I.

In the context of a broad policy, certain policy instruments may be more central to achieving the policy's objectives than others. Given the resources involved in tracking policy adoption and implementation, users may wish to prioritize a subset of policy instruments for tracking. Several considerations may be relevant:

- GHG abatement potential of each policy instrument, as determined through a literature search, application of the GHG Protocol *Policy and Action Standard*, or expert judgment
- Non-GHG co-benefits potential of each policy instrument, as identified in existing literature or by expert judgment
- The potential of each instrument to contribute to the enabling environment necessary for the broad policy or plan to succeed, as determined by expert judgment

While the decision to prioritize a subset of policy instruments is at users' discretion, users should disclose and justify the criteria and methodology used in determining the chosen approach.

Table 1 | **Examples of Policy Instrument Types**

TYPE OF POLICY INSTRUMENT	DESCRIPTION
Regulations and standards	Regulations that specify abatement technologies (technology standard) or minimum requirements for energy consumption, pollution output, or other activities (performance standard). They typically include penalties for non-compliance.
Taxes and charges	Levies imposed on each unit of activity, such as fuel tax, carbon tax, traffic congestion charge, import or export tax.
Subsidies and incentives	Direct payments, tax reductions, price supports or the equivalent, from a government to an entity, for implementing a practice or performing a specified action.
Tradable permits	Programs that establish a limit on aggregate emissions by specified sources, require each source to hold permits, allowances, or other units equal to its actual emissions, and allow permits to be traded among sources. These are also known as emissions trading programs, emissions trading systems (ETS), or cap-and-trade programs.
Voluntary agreements or measures	Agreements, commitments, or measures undertaken voluntarily by public or private sector actors, either unilaterally or jointly in a negotiated agreement. Not all voluntary agreements are truly voluntary; some include rewards and/or penalties associated with participating in the agreement or achieving the commitments.
Information instruments	Requirements for public disclosure of information. These include labeling programs, rating and certification systems, and information or education campaigns aimed at changing behavior by increasing awareness.
Research, development, and deployment (RD&D) policies	Policies aimed at supporting technological advancement, through direct government funding or investment, or facilitation of investment, in technology research, development, demonstration, and deployment activities.
Public procurement policies	Policies requiring that specific attributes (such as environmental attributes) are considered as part of public procurement processes.
Infrastructure programs	Provision of infrastructure, such as roads, high-speed rail.
Financing and investment	Public or private sector grants or loans (for example, those supporting development strategies or policies).

Source: GHG Protocol *Policy and Action Standard* (2014), adapted from Gupta et al. (2007), Chapter 13, Box 13.1, and IPCC 2007.

4. Determine whether each policy instrument that will be tracked has been adopted

In this framework, a policy instrument has been adopted when the relevant government authority has made a formal decision to proceed with its implementation and has provided sufficient clarity on how implementation will function for the policy instrument to take effect.[1]

Milestones that indicate that a policy instrument has been adopted include:

- Details governing the administration of the policy instrument have been published or finalized internally
- A start date for implementing the policy instrument has been set and the responsible entity has been identified
- An official document or notification of policy adoption has been issued by a relevant government or administrative entity

In this step, for each policy instrument being tracked, users should identify the specific action by which a government entity will signal that the instrument has been adopted. Users should then determine whether that action has happened — that is, whether the policy instrument in question has been adopted.

The following are illustrative examples of specific actions by specific government entities that could signal that a policy instrument has been adopted:

- Ministry of Transport publishes final fuel economy standards for light-duty vehicles
- Environmental Protection Agency publishes final GHG emission standards for existing power plants
- A final voluntary agreement is signed by the relevant government authority and industry representative

For policy instrument(s) not yet adopted: Apply sections II, IV, and V of the tracking framework as shown in Figure 2. *If there is a clear sense of the implementation plan for the policy or plan once it has been adopted, it might be possible to identify appropriate implementation tracking indicators as outlined in section V — for future monitoring of implementation progress — but this will need to be determined on a case-by-case basis.*

For adopted policy instrument(s): Apply section III, IV and V of the tracking framework only as shown in Figure 2.

5. For broad policies or plans with no specific policy instruments identified: Determine whether the broad policy or plan identifies responsible authorities, processes, timelines, and/or other guidance regarding the development of specific policy instruments to achieve the policy objectives

There might be some instances in which specific policy instruments have not been identified under a broad policy or plan. For example, an integrated resource plan (IRP) might be formally agreed upon, laying out the fuel-mix goals over a 10- or 20-year time horizon, but specific policy instruments for procuring this energy mix might not yet have been decided. In the same way, a national climate plan might have been approved by government, but sectoral plans and supporting policy instruments might not have been identified or developed.

If the broad policy or plan does provide guidance or mandate to authorities, users should establish processes and timelines, determine whether legislative and/or executive action is required to identify the specific policy instruments, and if so, characterize the expected policy instruments and apply the relevant portions of Section II (see Figure 2). If the policy or plan does not provide any such guidance or mandate, it may be too difficult to track its adoption and implementation any further; this could indicate a risk to policy effectiveness.

6. Characterize the policy or plan according to the checklist of information presented in Tables 2 and 3

Once the specific policy instruments have been identified, it is important to define further and characterize the policy or plan that is in the process of being adopted or implemented, as outlined in Tables 2 and 3 below. The process for defining and characterizing a policy or plan is adapted from the terms and definitions used in the GHG Protocol *Policy and Action Standard* (Chapter 5).[2] If the framework is being used in conjunction with the GHG Protocol *Policy and Action Standard*, users might prefer to apply the full definition process outlined in the GHG Protocol *Policy and Action Standard* (see Annex II). This is a more comprehensive checklist, collecting additional information that is relevant to calculating the GHG emissions impact of a specific policy.

As outlined above, if the policy chosen is a broad policy or plan, tracking implementation progress effectively will require users to identify the policy instruments included within the policy or plan and then to examine implementation progress of these instruments. Therefore, these instruments would need to be defined and characterized at the level outlined in Table 3.

Users can find blank versions of Tables 2 and 3 in Annex IV under "Worksheets for characterizing the policy."

Table 2 | **Information for Broad Policies or Plans**

INFORMATION	EXAMPLE	
Title Name of broad policy or plan	U.S. Climate Action Plan	
Responsible authority List the government entity or entities charged with carrying out the broad policy/plan	Multiple departments within the Federal Government, with support from state agencies	
IF POLICY INSTRUMENT(S) NOT IDENTIFIED		
INFORMATION	**EXAMPLE**	
Process Any information about the process by which policy instruments might be identified or developed	Varies by action	
Timeline Any information about the timeline on which policy instruments might be identified or developed	Supporting policy instruments to be adopted prior to 2020	
Other specifications Any other specifications relevant to the identification or development of specific policy instruments under the policy or plan	Climate Action Plan is divided into 3 key goals/pillars: 1. Cut Carbon Pollution in America 2. Prepare the United States for the Impacts of Climate Change 3. Lead International Efforts to Address Global Climate Change Each of these pillars cuts across different sectors and includes broad policies to support each goal. The broad policies are further subdivided into proposed policy measures. Some measures go down to the specific policy instrument level, but others do not. A few examples of measures that do not go down to specific policy instrument level include: ■ Administration to pursue collaborative approach (with state governments and private sector) to reduce emissions ■ 20 percent of Federal Government electricity consumption to be provided from renewable energy sources by 2020	
IF POLICY INSTRUMENT(S) IDENTIFIED		
INFORMATION	**INSTRUMENT**	**WILL IT BE TRACKED? JUSTIFY**
Policy instruments List each policy instrument identified in the broad policy or plan. Stipulate and justify whether it will be tracked.	Carbon pollution standards for new power plants	No; relatively low abatement potential (Bianco et al. 2013)
	Carbon pollution standards for existing power plants	Yes; relatively high abatement potential (Bianco et al. 2013)
	Issue permits for 10 GW of renewable energy by 2020	No; relatively low abatement potential (Bianco et al. 2013)
	Increase funding for clean technology across all federal agencies by 30 percent	No; relatively low abatement potential (Bianco et al. 2013)
	Make up to $8 billion in loan guarantees available for advanced fossil energy projects	No; relatively low abatement potential (Bianco et al. 2013)
	Quadrennial Energy Review	No; relatively low abatement potential (Bianco et al. 2013)
	Post-2018 fuel economy standards for heavy duty vehicles	No; relatively low abatement potential (Bianco et al. 2013)
	Research and development for next generation biofuels	No; relatively low abatement potential (Bianco et al. 2013)
	Efficiency standards for appliances	Yes; relatively high abatement potential (Bianco et al. 2013)
	Efficiency standards for federal buildings	Yes; relatively high abatement potential (Bianco et al. 2013)
	Energy Efficiency and Conservation Loan Program to provide up to $250 million for rural utilities to finance efficiency investments	No; relatively low abatement potential (Bianco et al. 2013)

Table 2 | **Information for Broad Policies or Plans (Continued)**

IF POLICY INSTRUMENT(S) IDENTIFIED		
INFORMATION	**INSTRUMENT**	**WILL IT BE TRACKED? JUSTIFY**
Policy instruments List each policy instrument identified in the broad policy or plan. Stipulate and justify whether it will be tracked.	$23 million Multifamily Energy Innovation Fund	No; relatively low abatement potential (Bianco et al. 2013)
	Expand Better Buildings Challenge to multifamily housing	No; relatively low abatement potential (Bianco et al. 2013)
	Launch Better Buildings Accelerators	No; relatively low abatement potential (Bianco et al. 2013)
	Develop interagency methane strategy	Yes; relatively high abatement potential (Bianco et al. 2013)
	Use Significant New Alternatives Policy (SNAP) Program to identify and approve climate-friendly chemicals while prohibiting certain uses of the most harmful chemical alternatives to HFCs	Yes; relatively high abatement potential (Bianco et al. 2013)
	Administration to purchase cleaner alternatives to HFCs when feasible and transition to equipment that uses such alternatives over time	Yes; relatively high abatement potential (Bianco et al. 2013)
	Partnership with private sector for standardized contract to finance federal investments in energy efficiency	No; relatively low abatement potential (Bianco et al. 2013)
	Synchronize building codes across federal agencies	No; relatively low abatement potential (Bianco et al. 2013)
	Use "Green Button" standard in federal facilities	No; relatively low abatement potential (Bianco et al. 2013)

Adapted from the terms and definitions used in the GHG Protocol *Policy and Action Standard* (Chapter 5) (2014)

Table 3 | **Information for Specific Policy Instruments**

INFORMATION	EXAMPLE
Title Title of policy instrument	Carbon pollution standards for new power plants
Type Type of policy instrument (per Table 2)	Regulations and standards
Policy status Whether the policy instrument has been adopted	Instrument has not been adopted
Key milestone dates Any information about the timeline on which policy instruments may be adopted or may begin to be implemented	June 2013 (Presidential memo directing EPA to issue standards) June 2014 (proposed standards issued) June 2015 (final standards issued) June 2016 (implementation plans issued)
Implementing entity/entities Which entity or entities implement(s) the policy	EPA, state governments
The broader context/significance of the policy instrument Broader context for understanding the policy, such as other policies that are being replaced, or the political context of the policy	Existing analysis has identified this as one of the priority policies for reducing GHG emissions in the United States (Bianco et al., 2013)

Adapted from the terms and definitions used in the GHG Protocol *Policy and Action Standard* (Chapter 5) (2014)

II. IDENTIFYING MILESTONES FOR THE ADOPTION OF POLICY INSTRUMENTS

This section applies to policy instruments that have not yet been adopted. For example, users might wish to track the policy instruments that have been identified under a broad policy or plan, but that have not yet been adopted through legislation or regulation. The purpose of this section is to help users to identify milestones toward the adoption of a given policy instrument, and to assess progress against those milestones up to the point where the policy instrument is adopted and ready for implementation.

In this framework, a "milestone" is a specific action or decision by a relevant government authority that represents meaningful and significant progress toward the adoption of a policy instrument. Milestones can include actions or decisions by legislative or executive bodies at the national, subnational, or municipal level, and can include actions that are legally obligated as well as those that are optional but that government authorities are likely to undertake. While policy-making is often a non-linear process, and some milestones might proceed in parallel, the milestones collectively should culminate in the action that identifies the policy instrument as having been adopted, as defined in Section II (see Figure 2).

Once the policy instrument is adopted, users can assess progress against milestones until the policy instrument is implemented.

Milestones are most powerful as a tool for tracking when they are specific, measureable, and time-bound (see Figure 4). Particularly helpful are milestones for which users can identify whether they have taken place via a simple "yes" or "no" question, or can quantify the extent to which they have been attained (for example 5 hearings held, 70 permits issued).

1. Determine whether legislative action is required, and if so, identify legislative milestones

Legislative action might be required if relevant institutions do not have legal authority to adopt or implement a given policy instrument. For example, in the United States, executive and regulatory institutions lack authority to adopt or implement a carbon trading system absent Congressional intervention.[3]

For each policy instrument being tracked, users should determine whether legislative action is needed, and if so, identify legislative milestones. Specific legislative milestones will vary depending on the national (or subnational) context. Table 4 presents examples from India and the United States. Users will need to apply expert judgment and familiarity with a particular legal context in order to design appropriate, context-specific milestones.

In some cases, the existence of legal authority is controversial and contested. A sophisticated legal analysis is beyond the scope of this framework, which is geared toward situations in which the existence of legal authority to pursue a particular policy instrument – or lack thereof – is generally accepted. If, in users' judgment, there is a credible threat to the legality of a policy instrument (as evidenced by actual legal challenges or threat of legal challenges reported in the media, for example), users should consider noting this in evaluating progress toward adoption.

Figure 4 | **Steps Involved in Identifying Milestones for the Adoption of Policy Instruments**

Table 4 | **Examples of Legislative Milestones from the Indian and U.S. Contexts**

STAGE IN THE LEGISLATIVE PROCESS	EXAMPLES OF MILESTONES FROM THE INDIAN CONTEXT	EXAMPLES OF MILESTONES FROM THE U.S. CONTEXT
Initiating phase	■ Notice of motion issued to introduce the bill ■ Bill introduced through official First Reading ■ Bill referred to Standing Committee	■ Bill introduced in the House ■ Bill assigned a specific number ■ Bill printed publicly in its introduced form
Amending phase	■ Bill put through Second Reading to discuss principles and objective ■ Bill through committee hearing or clause-by-clause hearing ■ Final draft of bill written	■ Bill sent to Committee ■ Bill sent to sub-committee ■ Committee report written ■ Bill put through public hearings ■ Bill undergone mark-up ■ Bill sent to floor for debate
Finalizing phase	■ Bill put through an official Third Reading (to vote on bill in its final form) ■ Final bill sent to second house for readings and voting ■ Final bill approved by President or state authority ■ Bill published in official gazette in its final form	■ Final bill voted on in House ■ Bill sent to Senate ■ Bill voted on in Senate ■ Bill sent to Joint Committee (if needed) ■ Bill sent to the President ■ Final Law published

2. Identify appropriate milestones for executive and regulatory action

Policy instruments generally depend on actions by executive and regulatory bodies for adoption. Depending on the policy instrument and the local context, these bodies might:

- Initiate a formal rulemaking process
- Publish draft standards or regulations
- Hold official consultation processes with other ministries, departments, agencies, or stakeholders outside the government
- Conduct government readings, public hearings, or comment periods on draft policy instruments
- Issue updated drafts after consultation processes
- Formally approve plans and processes
- Publish final standards/regulations/rules/supporting laws

For each policy instrument that is being tracked and that has not yet been adopted, users should identify relevant executive and/or regulatory milestones that will lead to the adoption of the policy instrument. Table 5 outlines some key milestones for new or updated/modified regulations and standards.

Table 5 | **Key Milestones for New or Modified Regulations and Standards**

STAGE IN THE REGULATORY PROCESS	TYPES OF MILESTONES TO IDENTIFY AND TRACK
Initiating phase	Issuance of framework document Publication of preliminary analysis or white paper Formal or informal interagency consultations
Drafting phase	Preparation of proposed standard/regulation Public release of draft standard/regulation Publication of proposed standard/regulation on National/Federal/State registry
Consultation phase	Formal interagency consultation periods Industry consultation periods Broad public consultation periods
Finalizing phase	Issuance of interim final standard/regulation Preparation of final standard/regulation Publication of final standard/regulation on National/Federal/State registry

3. Identify relevant details for each milestone

For each milestone identified in steps 1 and 2 of Figure 4, users should identify:

- The government authority responsible for attaining the milestone
- Expected date by which the milestone is to be attained (if applicable)
- Information or data source that can be monitored to determine whether the milestone has been achieved

Table 6 shows example policy adoption milestones for carbon pollution standards in the U.S. Users can find a blank version of Table 6 in Annex IV under "Worksheet for developing and tracking policy adoption milestones."

Table 6 | **Policy Adoption Milestones for U.S. Carbon Pollution Standards for New and Existing Power Plants**

MILESTONE	RESPONSIBLE AUTHORITY	EXPECTED DATE OF ATTAINMENT	DATA SOURCE(S)	STATUS AT LAST MONITORING
Presidential Memo directing EPA to issue standards, regulation or guidelines based on existing authority	President	June, 2013	White House press office; EPA web site	Presidential Memo issued on June 25, 2013
Framework document to be issued for designing standard, regulation or guidelines	EPA	September, 2013	EPA web site	EPA issued proposal for standards for new power plants on September 20, 2013
Public listening sessions	EPA	October and November, 2013	EPA web site; regulations.gov;	Eleven public listening sessions held in October and November, 2013
Publish proposed standard for new power plants in Federal Register	EPA	Not specified	EPA web site; Federal Register	EPA published proposed rule in January 2014, triggering 60-day public comment period
Proposed standards issued	EPA	June 1, 2014	EPA web site; Federal register/ Federal docket web site	Proposed standards for new and existing power plants issued on June 2, 2014
Public listening sessions	EPA	July 29-30, 2014	EPA web site	Hearings held in four locations as scheduled
Comment period on proposed standards	EPA	Through December 1, 2014	EPA web site	In progress
Publish proposed standards in Federal Register	EPA	Not specified	EPA web site; Federal Register	Not begun
Final standards issued	EPA	June 1, 2015	EPA web site; Federal register/ Federal docket web site	Not begun
State implementation plans due	State Governor's designee	June 1, 2016	State government web sites	Not begun
DATE OF LAST MONITORING: October 27, 2014				

Box 1 | **Identifying Risks to Policy Adoption**

The adoption of a given policy instrument may be subject to risks that are not clearly reflected through the tracking framework developed above. In order to assess more accurately whether policy implementation is on track to reach the projected effects, users might decide to include an assessment of risks related to legal or political challenges that can be appended to the tracking report.

If so, users should identify such risks, considering such questions as:

- is there evidence suggesting that the legal basis for the policy instrument might be overturned or insufficient?
- is there evidence suggesting that political support for the policy instrument might be withdrawn?

If potentially serious risks are identified, users might wish to incorporate the status of these risk factors under a "risk" column alongside the milestones identified in steps 1 through 3.

For example, in the power plants standard example described above, industry groups or states that oppose the power plant standards could bring legal cases against the standard in court, which, if successful, could force the EPA to revise the regulation. Even if the existing regulations are allowed to be implemented in more or less in their current form, despite the legal cases brought against them, legal challenges could significantly slow down implementation.

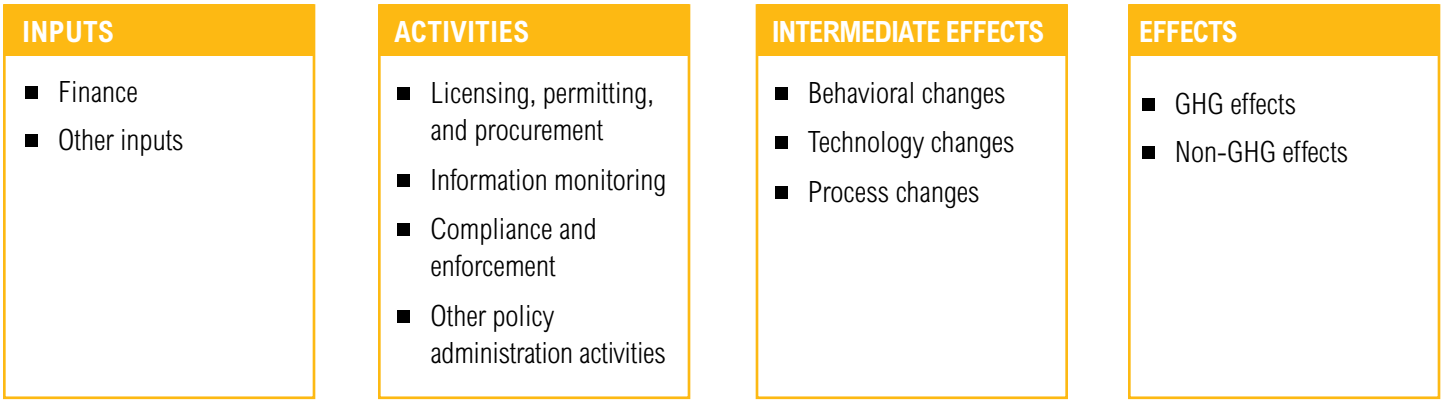
III. IDENTIFYING POLICY IMPLEMENTATION INDICATORS

Policy implementation does not necessarily follow smoothly from policy adoption. It requires the mobilization and allocation of resources, as well as active administration and enforcement. Unlike policy adoption, policy implementation is not binary: While a given policy is either adopted or not adopted, policy implementation exists along a continuum – it is not necessarily meaningful to state that a given policy either "is" or "is not" implemented. Rather, policies are often partially implemented, or implemented with varying degrees of effectiveness.

This framework supports the use of policy implementation indicators (also known as "key performance indicators"). In policy effectiveness literature, such indicators are often classified under inputs, activities, and effects (see Figure 5).[4] In the context of climate policy, subcategories of effects include intermediate effects, GHG effects, and non-GHG effects.[5] GHG and non-GHG effects are addressed separately by the GHG Protocol *Policy and Action Standard*; this framework focuses on those indicators that are most relevant to monitoring implementation (see Figure 5).

The purpose of this section is to help users to identify preliminary indicators that can be used to track the extent to which the policy has been or is being implemented and the intermediate effects it has generated (see Figure 6).[6] This section provides guidance on selecting appropriate indicators to support tracking of implementation functions with reference to policy inputs, activities, and intermediate effects.

Figure 5 | **Types of Policy Implementation Indicators**



For guidance on tracking GHG and non-GHG effects, please see the GHG Protocol *Policy and Action Standard* (2014)

Figure 6 | **Steps Involved to Identify Policy Implementation Indicators**

For users interested in a more in-depth evaluation of the input and activity factors contributing to effective policy implementation, sets of "in-depth questions" on key types of input and activity indicators are also provided at appropriate points in this framework. The questions are organized around five governance principles:

- Clarity of role and responsibility
- Institutional capacity
- Policy coordination
- Transparency
- Stakeholder engagement

More information describing the importance of these principles is provided in Annex III. Each of these principles is examined for "policy as written" and "policy in practice" in order to facilitate the identification of barriers and best practices in policy implementation. "Policy as written" can be defined as any legislation or policy documents that relate to adopted policies or contain guidance for implementation. "Policy in practice" refers to the extent to which guidance in "policy as written" documents is implemented in practice.

1. Develop input indicators

Financial resources are a critical input to support policy implementation. They support subsidies and other incentives, build or upgrade infrastructure, and support the institutions charged with the various functions of policy implementation, including administration; monitoring, and evaluation; and compliance and enforcement. Despite this need, low-carbon policies sometimes fail to identify a specific, intended source of funding, and a range of long-standing policies and programs have faltered when funding evaporated.

This section guides users to consider the extent to which adequate financial resources have been made available to support policy implementation. Of course, the existence of adequate funding is not sufficient to promote intended policy outcomes – funds must also be managed properly, with transparent processes to discourage corruption. The "in-depth questions" for this section help users to consider these issues in more detail.

In identifying whether sufficient financing has been allocated, users should consider the following factors:

- Any specific sources of funding that have been identified (for example, budget appropriations, international public finance including bilateral/multilateral, consumer or user fees, carbon taxes, specific national fund)
- Any institution(s) that have been designated as the recipient of budget allocations, donor contributions, or other forms of finance
- Whether the institution(s) have received the resources designated in a timely manner

Based on the answers to these questions, users should identify one or more indicators related to the mobilization and allocation of financial resources in support of the policy (see Table 7).

Table 7 | **Example Input Indicator: Finance Allocation for a Solar Research and Development Policy**

INPUT FUNCTION	RESPONSIBLE INSTITUTION	INDICATOR	DATA SOURCE(S)
Allocation of $25 million per year to support solar research and development policy	U.S. Department of Energy (DOE)	The amount of funds allocated per year to support solar R&D	DOE budget; funding and financing portion of DOE web site

Input indicators can cover a range of inputs, but many such inputs (for example, human resources) are associated with adequate financing. As such, we have selected

finance as a proxy in our examples. Users may modify this to address other types of inputs more directly if they wish. Indicators for inputs other than finance – for example, human resources – could be developed following the same format as that used for finance in Table 7. Users can find a blank version of Table 7 in Annex IV under "Worksheets for developing and tracking implementation indicators – Input indicators."

As noted above, in-depth questions to evaluate the policy effectiveness of specific indicators are presented throughout the framework. Table 8 provides questions designed to assess barriers to implementation related to finance inputs.

Table 8 | **In-Depth Questions to Evaluate Policy Effectiveness of Finance**

IN-DEPTH QUESTIONS ON FINANCE		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Role and Responsibility	■ Has there been an assessment of the level of funding needed to carry out the policy? ■ Have analyses of cost-effectiveness and distributional impacts (impacts on various stakeholders – including utilities, the general public, and the poor) of the policy been conducted? ■ Have sources of funding been identified (for example, budget appropriations, international public finance including bilateral/multilateral, consumer or user fees, carbon taxes, specific national fund)? ■ Are the sources identified above adequate – both in terms of quantity, type, and target(s) – to meet the needs identified in the assessment? ■ Which executive institution is the designated recipient of budget allocations, donor contributions, or other forms of finance? ■ Does the policy identify support for the full range of institutional needs, including training and capacity building, monitoring and evaluation, stakeholder engagement, etc.? ■ What rules/guidance govern how finance will be spent (for example, language in appropriations bill; tariff methodology)?	■ Has the executive institution identified at left received the resources designated? ■ What evidence exists that the funds are being spent according to the intent of the allocation?
Institutional Capacity	■ Does the institution responsible for managing finance have a clear process and criteria governing programming and allocation decisions? (for example, project budget, institutional budget) ■ Do the individuals involved have adequate technical knowledge and capacity to implement it? ■ Does the institution responsible for managing finance have strong auditing and accounting procedures, including: ☐ Terms of reference for accountants and other financial managers, hiring plans for financial managers? ☐ Mechanisms to track how financing is programmed and spent? ☐ Processes for managing and distributing funds ☐ Tools and resources to manage and distribute funds?	■ Have specific institutional financial mechanisms been created, such as strategic financial planning, to integrate specific concerns of the policy? ■ Has the guidance for spending been followed in programming and allocation decisions? ■ Have disbursement deadlines been met? ■ Has funding been spent as planned? If not, have deviations been justified/followed appropriate procedures?
Coordination	■ Does the policy designate coordination between agencies distributing and agencies receiving funds? ■ In the case of multiple institutions involved in providing financing, what is the process for ensuring that financing from different institutions/sources (including domestic and international sources) is being allocated in a complementary (and transparent) fashion?	■ Which arrangements for coordination across partnerships and funding mechanisms were implemented for the effective functioning of the policy? ■ How has the designated coordination process influenced decisions regarding allocation of financing? What specific documentation has the process resulted in?
Transparency	■ Are there systems in place for the executive institutions to disclose information on the use of finance? ■ Are there rules/laws governing disclosure of information regarding use of finance, for example: ☐ Overarching national legislation, such as Freedom of Information Act ☐ Institutional policy ■ Are there clear criteria governing disclosure of such information (for example, has FOIA been interpreted/operationalized in this specific institutional context)?	Routine reporting: ■ What information is routinely made available to the public regarding the provision and distribution of finance in support of this policy? Formal requests for further information: ■ What formal requests for further information about this policy have been made? What has been the response to such requests? Did the institution respond within the required timeframe?

Table 8 | **In-Depth Questions to Evaluate Policy Effectiveness of Finance (Continued)**

IN-DEPTH QUESTIONS ON FINANCE		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Stakeholder Engagement	To what extent does the law (and/or institutional policy) provide for stakeholder consultations around each of the sources of financing listed in the first box? ■ Hearings around budget allocations ■ Consultations around project-specific financing decisions ■ Hearings around tariff implications	■ Have required consultations taken place? ■ In what respect have they influenced financing decisions?
Synthesis Questions on Finance	■ Overall, how robust is the policy as written in its treatment of finance when viewed through the lens of the five governance principles? ■ Overall, has implementation of the finance functions in practice adhered to the intent of the policy as written? If the policy as written has not addressed all governance principles regarding finance, does this appear to have posed barriers to implementation in practice, or have these factors seemed not to be important in implementation? ■ Has implementation of financial functions in practice revealed other barriers related to finance that are not outlined in the framework? What are they? ■ What options does this section of the assessment suggest for strengthening the administration of finance?	

2. Develop activity indicators

Activity indicators address policy administration activities that must occur on a regular basis while the policy is in effect. Such activities might include licensing, permitting, and procurement; information monitoring; compliance and enforcement; or other policy administration activities, depending on the policy. Table 9 identifies sample policy administration functions for common policy types.

This section guides users in identifying the administrative functions relevant to the policy instrument in question, and developing indicators for tracking the extent to which they are being implemented. The in-depth questions provide a framework for considering factors contributing to the effectiveness of these functions.

Licensing, permitting, and procurement

In identifying licensing, permitting, and procurement indicators, users should consider the following factors:

- Any ongoing administrative functions required by the policy instrument
- The institution(s) responsible for each function
- The quantitative metrics (for example, number of permits delivered, credit lines opened, etc.) that might indicate that the licensing, permitting, and procurement functions have been carried out

Based on the answers to these questions, users should identify any relevant indicators associated with permitting, licensing, and/or procurement (see Table 10).

Table 9 | **Example Policy Administration Functions for Common Policy Types**

EXAMPLE OF POLICIES	EXAMPLES OF ADMINISTRATIVE GOVERNMENT FUNCTIONS
Renewable portfolio standard	Establish long-term contracts with renewable energy power generators; issue renewable energy certificates (RECs); track and record financial transactions detailing purchases and sales of RECs; review and approve state implementation plans; mandate state reporting to ensure compliance
Fuel economy standard	Issue emission certificates annually; collect information from vehicle manufacturers on cars sold annually; run emission tests on selected vehicles to verify reported performance information
Subsidy for home insulation	Collect information on eligible home insulation projects; issue subsidies
Energy efficiency standards for appliances	Publish appliance standards and reporting templates; collect relevant information from manufacturers; maintain database of qualified appliances; administer an audit program
Government buildings retrofit program	Select and procure retrofit products; select contractor for installation (could be through open bidding process or other means)

Table 10 | **Example Activity Indicator: Procurement for a Renewable Energy Goal**

LICENSING, PERMITTING, AND/OR PROCUREMENT FUNCTIONS	RESPONSIBLE INSTITUTION	INDICATOR	DATA SOURCE(S)
Establish long-term contracts with renewable energy power generators to meet renewable energy goal	Department/Ministry of Energy	Number of megawatts (MW) for which contracts have been issued/total MW or renewable energy	Appropriate government web site; conversations with relevant staff in agency/agencies; existing government monitoring systems (if applicable)

Table 11 presents in-depth questions on the effectiveness of licensing, permitting, and procurement. These questions can be used for ex-post evaluation and/or to develop further activity indicators of relevance to a particular policy.

Table 11 | **In-Depth Questions to Evaluate Policy Effectiveness of Permitting, Licensing, Procurement, and Other Implementation Activities**

IN-DEPTH QUESTIONS ON PERMITTING, LICENSING, PROCUREMENT		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Role and Responsibility	■ What legal and regulatory frameworks are in place or need to be developed to enable implementation (for example, regulations for feed-in tariffs; rules for allocating water and land; carbon tax law)? ■ Does the policy provide a mandate to restructure the institutions identified above in line with their policy administration functions?	■ What evidence is there that the mandated restructuring has occurred (for example, transfer of funding, hiring appropriate technical staff, access to appropriate technology, etc.)? ■ What evidence is there that relevant project agreements and associated documents have been issued (for example, requests for proposals, power purchase agreements, etc.)? ■ What evidence is there that activities to support licensing, procurement, and permitting have been initiated (for example, licenses issued; bidding processes initiated; contracts issued)?
Institutional Capacity	■ What skills, resources, and technology are necessary to implement the functions identified above? ■ In what way, if at all, does the policy or plan provide for these resources?	■ What evidence is there that the institutions in question have the skills, resources, and technology identified at left?
Coordination	■ Do the policy administration functions identified above require coordination between different institutions? If so: ☐ What coordination is required? ☐ What mechanisms have been designated in order to facilitate this coordination (for example, information sharing protocols, multi-sectoral bodies, advisory committees, designated liaisons, etc.)? ☐ Have institutions and coordination committees been established for the purpose of managing the policy?	■ What evidence is there that the coordination mechanism has succeeded in ensuring efficient policy administration (for example, required information is shared, each institution's point of view is taken into account; licensing, permitting, and procurement are not delayed due to lack of alignment)?
Transparency	Does the law or institutional policy provide for transparency around: ■ Background analysis informing the policy design ■ Criteria and procedures pertaining to licensing, permitting, procurement?	■ To what extent are documents pertaining to each aspect of policy administration – for example, documents describing criteria and procedures for permitting – publicly available? Are relevant documents easy to access by a range of stakeholders? ■ What information is routinely made available to the public regarding the process and/or results of the licensing, permitting, and procurement functions? How frequently does such reporting occur? Are there any concerns about its quality? ■ What, if any, formal requests for further information regarding the process and/or results of the licensing, permitting, and procurement functions have been made? What has been the response to such requests?

Table 11 | **In-Depth Questions to Evaluate Policy Effectiveness of Permitting, Licensing, Procurement, and Other Implementation Activities (Continued)**

IN-DEPTH QUESTIONS ON PERMITTING, LICENSING, PROCUREMENT		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Stakeholder Engagement	■ What provisions does the law governing the policy administration functions identified above (vis-à-vis permitting, implementing regulations, promulgation of standards, etc.) contain regarding stakeholder engagement? ■ In particular, what legal provisions exist for environmental and social impact assessments, including procedures for public consultations and consideration of stakeholder concerns?	■ To what extent have the provisions identified at left been carried out in practice?
Synthesis Questions on Licensing, Permitting	■ Overall, how robust is the policy as written in its treatment of licensing, permitting, and procurement when viewed through the lens of the five governance principles? ■ Overall, have licensing, permitting, and procurement in practice adhered to the intent of the policy as written? If the policy as written has not addressed all governance principles, does this appear to have posed barriers to licensing, permitting, and procurement in practice, or have these factors seemed not to be important to licensing, permitting, and procurement? ■ Have licensing, permitting, and procurement in practice revealed other barriers related to these functions that are not outlined in the framework? What are they? ■ What options does this section of the assessment suggest for strengthening licensing, permitting, and procurement activities?	

Information collection and tracking

In some cases, information collection and tracking are important aspects of policy implementation. For instance, to implement a fuel-economy or appliance-efficiency standard, an implementing authority might first collect information from manufacturers regarding the number, type, average efficiency, and other characteristics of the products that they manufacture and sell (Table 12). This information can be used to track policy effectiveness (for example, through tracking intermediate effects, discussed below) or in association with compliance functions (see following section).

Compliance and enforcement

Effective compliance and enforcement are critical dimensions of policy implementation. Compliance activities are not limited to enforcement – for example, they can include collecting information from regulated entities.
To develop compliance and enforcement indicators, users should consider the following questions:

- Is there a clear definition of compliance and/or noncompliance?
- What are the consequences, if any, for failing to comply with the policy?

Table 12 | **Example Activity Indicator: Information Collection and Tracking for a Fuel Economy Standard**

INFORMATION COLLECTION AND MONITORING FUNCTION	RESPONSIBLE INSTITUTION	INDICATOR	DATA SOURCE(S)
Collect specified information (on model-year vehicle sales, emission levels, fuel economy, vehicle technology, emission test procedure reports etc.) from automakers on an annual basis	Department/Ministry of Transport and/or Government verification agency	Number of automakers supplying information/total number of automakers regulated by the standard	Appropriate government web site; conversations with relevant staff in agency/agencies; existing government monitoring systems (if applicable)

- Which authorities are responsible for taking actions to ensure compliance?
- What action is the responsible authority required or authorized to take to ensure compliance (for example, collecting information from regulated entities, carrying out enforcement activities)?
- What information would indicate that compliance officers are using their authority to take actions to ensure compliance? For example:
  - Number of information requests issued and complied with
  - Number of visits made to site (for example, forest, power plant, etc.)
  - Number of incidents of enforcement (arrests made, penalties levied, etc.)

Based on the answers to these questions, users should identify relevant indicators associated with compliance and enforcement (see Table 13).

Table 13 | **Example Activity Indicator: Compliance And Enforcement for a Fuel Economy Standard**

COMPLIANCE/ ENFORCEMENT FUNCTION	RESPONSIBLE INSTITUTION	INDICATOR	DATA SOURCE(S)
Issue certificates to automakers who manufacture fleets that comply with fuel efficiency standards	Department/ Ministry of Transport and/ or Government verification agency	Number of certificates issued/ total number of automakers	Appropriate government web site; conversations with relevant staff in agency/ agencies; existing government monitoring systems (if applicable)

Table 14 presents in-depth questions on the effectiveness of compliance and enforcement. These questions can be used for ex-post evaluation and/or to develop further activity indicators of relevance to a particular policy.

Table 14 | **In-Depth Questions to Evaluate Policy Effectiveness of Compliance and Enforcement**

IN-DEPTH QUESTIONS: COMPLIANCE AND ENFORCEMENT		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Role and Responsibility		■ What is the response time of compliance officers with respect to investigating noncompliance, taking action against noncompliance, and applying a penalty? ■ What are the trends in compliance rates over time? ■ What do trends in compliance indicate regarding whether penalties are sufficient to ensure compliance?
Institutional Capacity	Do the institutions responsible for ensuring compliance with the policy have appropriate human resources and access to technology? ■ Provisions for enforcers to be trained to recognize noncompliance ■ Knowledge of environmental laws and issues by prosecutors and judges ■ Have the responsible institutions planned for the appropriate number of staff members to carry out enforcement of the policy? ■ Are there technological support systems to enforce the policy (for example, GIS, emissions monitoring systems, energy efficiency testing facilities)? Are there resources to maintain this technology?	Has institutional capacity been built and/or maintained? ■ Training undertaken ■ Materials provided ■ People hired ■ To what extent are technological resources being used?
Coordination	■ If there are multiple agencies responsible for actions in the monitoring and reporting, and compliance and enforcement modules, is there a defined process for coordination among these agencies, including information sharing? ■ If a specialized enforcement agency is responsible for ensuring compliance, specify and describe how this agency links to the national judicial processes. ■ What interaction between the institutions identified above are needed to enforce this policy? Have mechanisms been designed or designated to facilitate this action?	■ What evidence is there that designated coordination has influenced the effectiveness of enforcement and compliance? ■ Which mechanisms were implemented to facilitate enforcement procedures?

Table 14 | **In-Depth Questions to Evaluate Policy Effectiveness of Compliance and Enforcement (Continued)**

IN-DEPTH QUESTIONS: COMPLIANCE AND ENFORCEMENT		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Transparency	■ What laws govern disclosure of compliance policy? ■ What systems are in place for disclosure of compliance and enforcement policies and mandate? ■ What systems are in place to disclose compliance and enforcement actions taken?	Routine reporting: ■ What information is routinely made available regarding compliance and enforcement of the policy? With what frequency is this information disclosed? Formal Requests: ■ What requests have been made for information on compliance and enforcement of the policy? ■ Has the information been disclosed within the required timeframe?
Stakeholder Engagement	■ Are there provisions to engage stakeholders in compliance measures? ■ Engagement in designing compliance policy ■ Training on how to comply with policy ■ Whistleblowing provisions ■ Process for appealing licensing, permitting, or procurement decisions in order to ensure compliance with the law ■ Processes for letting stakeholders know about the above engagement processes	■ To what extent have the provisions identified at left been carried out in practice? ■ Is there stakeholder support and/or significant opposition to one or more factors relating to compliance with the policy? ■ To what extent have stakeholders used defined processes for appealing permitting and/or enforcement decisions? ■ To what extent have stakeholders used whistleblowing provisions? ■ To what extent are citizens' roles in compliance made public through different media outlets?
Synthesis Questions on Compliance and	■ Overall, how robust is the policy as written in its treatment of compliance and enforcement when viewed through the lens of the five governance principles? ■ Overall, have compliance and enforcement in practice adhered to the intent of the policy as written? If the policy as written has not addressed all governance principles regarding compliance and enforcement, does this appear to have posed barriers to implementation in practice, or have these factors seemed not to be important in implementation? ■ Have compliance and enforcement in practice revealed other barriers related to these functions that are not outlined in the framework? What are these? ■ What options does this section of the assessment suggest for strengthening compliance and enforcement?	

Other activity indicators

The categories listed above — licensing, permitting, and procurement; information tracking; and compliance and enforcement — are designed to cover the most common types of activity indicators, but they are not comprehensive. Users should also identify other indicators associated with implementation functions carried out by government authorities in support of policy implementation.

Finalizing activity indicators

Selection of appropriate indicators requires expert judgment. Prior to finalizing the implementation indicators for a given policy instrument, users should review them with a view to determining whether they will provide an adequate and relevant basis for tracking the extent to which the policy has been implemented. Some indicators developed in the previous sections may be excluded – or others developed – if users and other experts they consult consider this to be necessary. The final set of indicators can be recorded in Annex IV under "Worksheets for developing and tracking implementation indicators – Activity indicators."

Often, various implementation functions will be interlinked. For example, an activity indicator such as the issuance of a procurement order might also link to an input indicator such as the availability of finance to fulfill the procurement order. During the course of finalizing the indicators, users should take care to ensure that each indicator is distinct, even if the implementation functions they measure are related.

Table 15 presents example activity indicators for a Mexican fuel economy standard, focusing on information and compliance functions.

Table 15 | **Example of Compiled Activity Indicators: Implementation Functions for a Light-Duty Vehicle Fuel Economy Standard in Mexico**

IMPLEMENTATION FUNCTION	EXPECTED DATE OF ATTAINMENT	INDICATOR	RESPONSIBLE AUTHORITY	DATA SOURCE	MONITORING FREQUENCY
Collect information specified in NOM 163 for 2012-model vehicles sold (voluntary for 2012)	October 30, 2013	Number of automakers who submit information/total number of automakers regulated by standard	PROFEPA	Interviews with PROFEPA officials	Annual
Collect information specified in NOM 163 for 2013-model vehicles sold (voluntary for 2013)	April 30, 2014	Number of automakers who submit information/total number of automakers regulated by standard	PROFEPA	Interviews with PROFEPA officials	Annual
Collect information specified in NOM 163 for 2014-model vehicles sold	April 30, 2015	Number of automakers who submit information/total number of automakers regulated by standard	PROFEPA	Interviews with PROFEPA officials	Annual
Collect information specified in NOM 163 for 2015-model vehicles sold	April 30, 2016	Number of automakers who submit information/total number of automakers regulated by standard	PROFEPA	Interviews with PROFEPA officials	Annual
Collect information specified in NOM 163 for 2016-model vehicles sold	April 30, 2017	Number of automakers who submit information/total number of automakers regulated by standard	PROFEPA	Interviews with PROFEPA officials	Annual
On-site emission testing to ensure compliance	On-going (2013–2016)	Number of tests conducted on an annual basis	PROFEPA	Interviews with PROFEPA officials	Quarterly
Apply penalties to automakers who fail standards	On-going (2013–2016)	Number of penalties assigned/ number of failed compliance tests	SEMARNAT/ PROFEPA	Interviews with PROFEPA officials	Quarterly
Issue emissions certificates to automakers who comply with standards	2017	Number of emissions certificates issued	PROFEPA/ verification agencies	Interviews with PROFEPA officials	2017

Note: the functions and indicators in this table are not comprehensive; they are for illustrative purposes only.

Table 16 | **Intermediate Effects for Common Policy Types**

EXAMPLES OF POLICIES	EXAMPLES OF INTERMEDIATE EFFECTS USED AS KEY PERFORMANCE INDICATORS
Renewable portfolio standard	Total electricity generation by source (such as wind, solar, coal, natural gas)
Public transit policies	Vehicle-kilometers traveled by mode (such as subway, bus, train, private car, taxi, bicycle)
Waste management regulation	Tonnes of waste sent to landfills; tonnes of waste sent to recycling facilities; tonnes of waste sent to incineration facilities
Landfill gas management incentive	Tonnes of methane captured and flared or used
Sustainable agriculture policies	Soil carbon content; tonnes of synthetic fertilizers applied; crop yields
Afforestation/reforestation policies	Area of forest by type
Grants for replacing kerosene lamps with renewable lamps	Number of renewable lamps sold; market share of renewable lamps; volume of kerosense used for domestic lighting
Subsidy for building retrofits	Number of buildings retrofitted; energy use per building
Information campaign to encourage home energy conservation	Household energy use (sample of households or average use)

Source: GHG Protocol *Policy and Action Standard* (2014)

3. Use the GHG Protocol to develop intermediate effect indicators

Once preliminary policy implementation indicators related to inputs and activities are generated, users can develop indicators for tracking the policy's intermediate effects. Intermediate effects are changes in behavior, technology, processes, or practices that result from implementation of a policy instrument. Monitoring intermediate effects alongside inputs and activities can help to provide assurance that a policy instrument is delivering the intended impact. Table 16 presents examples of intermediate effects for common policy types.

Users should identify one or more intermediate effect indicators and relevant data sources for each policy instrument. These can be recorded in Annex IV under "Worksheets for developing and tracking implementation indicators – Intermediate effect indicators." Intermediate effects might also be found in the monitoring and evaluation plans of the responsible government departments. The in-depth questions in Table 17 could be used to:

- Identify relevant intermediate effect indicators
- Explore the extent to which implementing agencies have monitoring systems in place
- Explore the extent to which these monitoring systems (or lack thereof) are increasing the effectiveness of policy implementation
- Discover opportunities for researchers to feed their findings into existing monitoring processes

Table 17 | **In-Depth Questions to Evaluate Policy Effectiveness of Monitoring and Evaluation**

IN-DEPTH QUESTIONS ON MONITORING AND EVALUATION		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Role and Responsibility	■ Is there a system in place to monitor the intermediate effects of the policy? ■ What aspects of implementation and impacts of the policy (for example, policy targets, climate targets, co-benefits) are to be monitored)? For example, if the policy includes a renewable portfolio standard, will the share of portfolio being met by renewable energy be monitored? ■ If applicable, are technology performance and market assessments conducted? ■ Which institution/team is responsible for monitoring the impacts of the policy? ■ Is there is any external agency monitoring the results of the department, or is reporting solely internal? ■ Does the monitoring system include a schedule for regular reporting of results? ■ To which institution/team are the results reported? ■ Does the law require a policy review and course correction process? ■	■ Is there evidence that results are being monitored? Is there evidence that impacts are being reported? ■ Are policy reviews conducted on a regular basis? ■ Has the policy review process resulted in revisions to the policy? ■ Please document any impediments to flexibility/ provisions for course correction, whether legal or practical.
Institutional Capacity	■ What skills, resources, and technology are necessary to implement the monitoring, reporting, and review functions identified above? ■ In what way, if at all, does the policy provide for these resources?	What evidence is there that the institutions in question have the skills, resources, and technology identified at left? *Points to consider:* ■ Have monitoring personnel been hired? ■ Are data collection systems in place? ■ Does the team have the necessary expertise to monitor the social and environmental impacts?
Coordination	■ Is there a defined line of communication between monitoring and evaluation functions for different policy objectives? ■ Are there protocols for sharing information? ■ Are there provisions for factoring results of monitoring and evaluation into relevant climate (or other benefit) planning processes?	■ Has required information been shared in a timely manner? ■ Were procedures and financial provisions well coordinated among the agencies? Were gaps/ duplications of efforts identified and if so, is there evidence that they have been reduced? ■ How has the designated line of communication influenced the effectiveness for monitoring and evaluating the policy? ■ Are the reported results taken into consideration in the policy review process? ■ Are findings regarding policy impact factored into any relevant plans for achieving climate related (or other co-benefit) targets?
Transparency	■ Does the law require public disclosure of: □ The monitoring and evaluation system? □ The findings of the monitoring and evaluation system, including policy results and impacts? □ The policy review and course correction process? ■ Are triggers and criteria for course correction defined and transparent?	Routine reporting: ■ What information is routinely made available regarding monitoring of the policy? With what frequency is this information disclosed? ■ Does this fulfill the requirements of the policy? Formal Requests: ■ What requests have been made for information on monitoring the policy? ■ Has the information been disclosed within the required timeframe?

Table 17 | **In-Depth Questions to Evaluate Policy Effectiveness of Monitoring and Evaluation (Continued)**

IN-DEPTH QUESTIONS ON MONITORING AND EVALUATION		
AREA	**POLICY AS WRITTEN**	**POLICY IN PRACTICE**
Stakeholder Engagement	■ What provisions does the law include for stakeholder input into monitoring, review, and course correction?	■ Have stakeholder consultations occurred? ■ To what extent have stakeholders participated in the consultation process? ■ What evidence is there that stakeholder feedback on monitoring issues has been considered by relevant agencies responsible for policy review and implementation?
Synthesis Questions on Monitoring, Reporting, and Revision	■ Overall, how robust is the policy as written in its treatment of monitoring and evaluation when viewed through the lens of the five governance principles? ■ Overall, have monitoring and evaluation in practice adhered to the intent of the policy as written? If the policy as written has not addressed all governance principles regarding monitoring and evaluation, does this appear to have posed barriers to implementation in practice, or have these factors seemed not to be important in implementation? ■ Have monitoring and evaluation in practice revealed other barriers related to these functions that are not outlined in the framework? What are they? ■ What options does this section of the assessment suggest for strengthening monitoring and evaluation?	

IV. CREATING A TRACKING PLAN

After milestones/indicators for inputs, activities and intermediate effects (if applicable) have been identified, it is necessary to compile and track these relevant milestones and indicators through a tracking plan. Figure 7 outlines the key steps in the process.[7]

1. Design the tracking plan

A tracking plan helps to ensure that the necessary data are collected and analyzed. For each milestone and indicator, users should consider the following elements:

- Data collection methods and procedures
- Sources of data (either existing data sources or additional data collected specifically to monitor the indicators)
- Monitoring frequency
- Units of measure
- Whether the data are measured, calculated or estimated; if a measure is calculated or estimated, how uncertainty will be accounted for
- Methods for generating, storing, collating, and reporting data on monitored parameters (this would include who is responsible and could range from generating a simple table to uploading information to a real-time web platform)

Figure 7 | **Steps Involved in Creating a Tracking Plan**

- Procedures for internal auditing, quality assurance, and quality control (QA/QC)
- Any other relevant information

These elements can be recorded in Annex IV under the relevant sections of the "Worksheets for developing and tracking implementation indicators," which include "Data source," "Tracking frequency," and "Notes on tracking methods."

2. Define the overall tracking period and tracking frequency

The policy tracking period is the time period over which the policy will be tracked. This should include the policy implementation period for policies that have already been adopted, as well as pre-policy adoption tracking for policies that are in the process of being adopted. The tracking period could vary from a few months to several years, depending on the policy in question. It is also possible to apply the tracking framework for a shorter period of a few weeks to get a snapshot of the current status of a particular policy but, in general, the longer the time series of data collected, the more robust the evaluation will be.

Users may track milestones and indicators at various frequencies, such as weekly, monthly, quarterly, or annually. In general, users should collect data with as high a frequency as is feasible and appropriate in the context of tracking objectives. The appropriate frequency of tracking should be determined based on the needs of decision-makers and stakeholders, and may depend on the type of indicators being tracked and on data availability.

3. Define the data collection process

During the data-collection process, users will determine the status of milestones, inputs, activities, and effects. For policy instruments that have not yet been adopted, users will monitor progress against pre-identified milestones. For policy instruments that have been adopted, users will track implementation progress via input and activity indicators that have been selected. Milestones and indicators are most powerful as tools for tracking when they are specific, measurable, and time-bound. Particularly helpful are milestones or indicators for which users can identify whether they have taken place through a binary "yes" or "no" function, or can quantify the extent to which they have been attained (for example, five hearings held, 70 permits issued). In addition to collecting information on the milestones and indicators themselves, information should be compiled on the data-collection process, including relevant data sources, tracking frequency, and the status and date at which the key performance indicators were last recorded. Calculation assumptions (if any) should also be reported during this phase so users can track the quality of the data collected.

4. Describe quality control process

A quality control process should outline procedures for quality assurance and quality control (QA/QC) in order to ensure consistent record keeping practices.

V. TRACKING THE POLICY OVER TIME

Implementing the tracking plan

Users can track each of the parameters over time in accordance with the tracking plan. Users can collect information on policies in detailed tables, such as under the "Status" and "Date of last monitoring" sections of the "Worksheets for developing and tracking implementation indicators" in Annex IV, which compile information about the policy along with adoption milestones, implementation indicators, data sources, and tracking frequency.

Reporting on policy progress

Although it is important to collect detailed information on the broad policy or plan and/or specific policy instruments, the level of detail of information reported, and the frequency of reporting, should be tailored to the relevant audience.

The information collected could be communicated in a number of different forms, including detailed tables, a simplified flow chart with key dates and functions at each step, or a timeline with key milestones identified. The information itself could be organized in different ways, for example, chronologically, or by responsible institution (using a separate timeline for each responsible institution involved in the policy), depending on the audience and objectives of the analysis. Users may also choose to represent portions of the information collected through a flow chart or timeline, while adding narrative sections to characterize the policy and highlight key risks and other relevant information that conveys the progress of adoption and/or implementation.

Figures 8 and 9 present illustrative examples for communicating the results from policy tracking.

Figure 8 | **Communicating Policy Adoption Tracking Results: Illustrative Example for U.S. Carbon Pollution Standards for Power Plants**

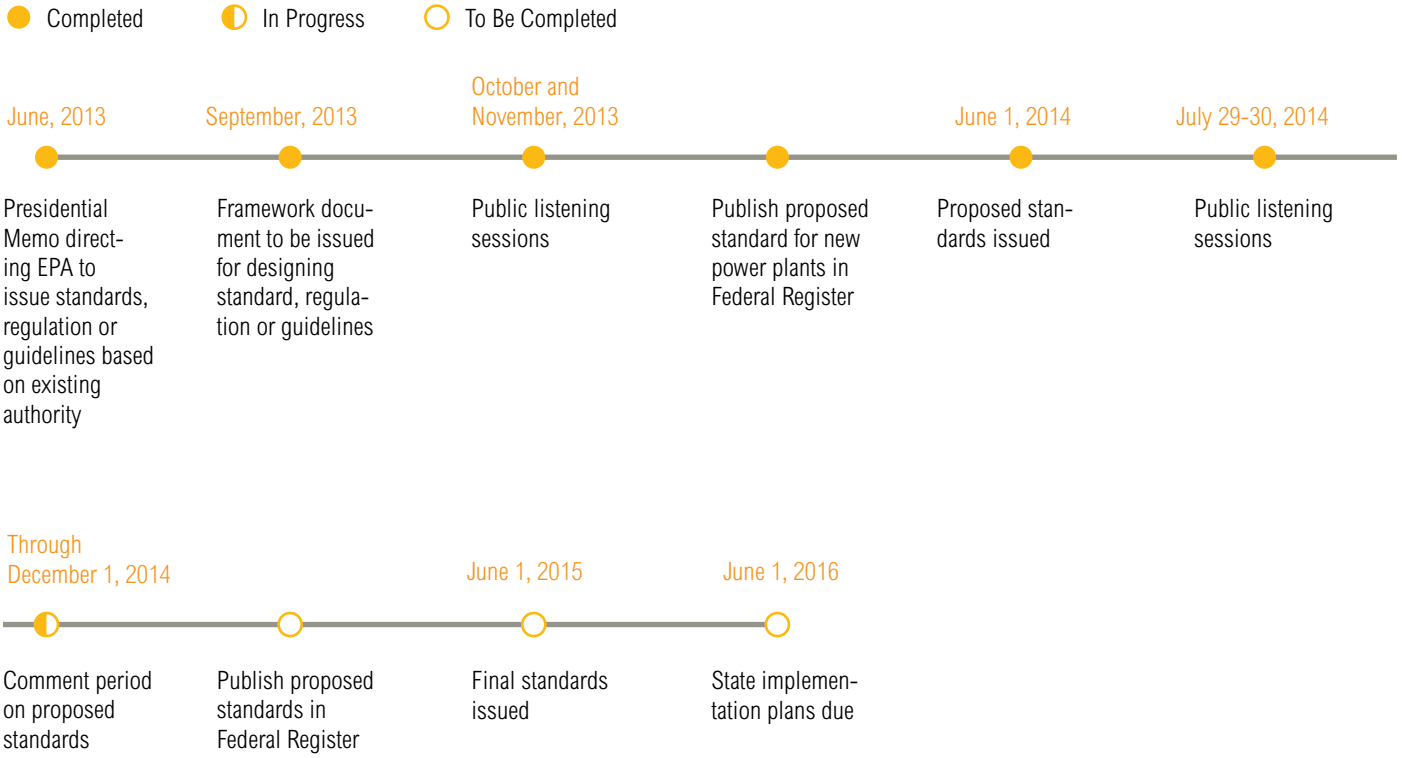


Figure 9 | **Communicating Policy Implementation Tracking Results: Illustrative Example for a Hypothetical Fuel Economy Standard**

STATUS – 2013	STATUS – 2014
Budget of Federal Attorney's Office – Monitoring Division increased by $US1.5 million to support information monitoring and testing activities	Budget of Federal Attorney's Office maintained at 2013 levels to support information monitoring and testing activities
Environment Ministry – Enforcement Division budget increased to $US3 million to support enforcement and compliance activities	Environment Ministry – Enforcement Division budget maintained at 2013 levels to support enforcement and compliance activities
Federal Attorney's Office collected fuel economy information from 13 of 16 target automakers	Federal Attorney's Office collected fuel economy information from 16 of 16 target automakers
Federal Attorney's Office conducted on-site compliance testing at 33 of 45 sites	Federal Attorney's Office conducted on-site compliance testing at 45 of 45 sites
Environment Ministry and Federal Attorney's Office applied penalties to zero non-compliant automakers	Environment Ministry and Federal Attorney's Office applied penalties to two non-compliant automakers
Average fuel economy of light-duty vehicles at 13 km/l (target level 15 km/l)	Average fuel economy of light-duty vehicles at 14 km/l (target level 15 km/l.)

LEGEND: Full implementation based on indicator | Partial implementation based on indicator | No implementation based on indicator

Conducting in-depth evaluation

Users can build on the synthesized findings for each set of in-depth questions to present the key findings of their policy tracking exercise. Users should consider the extent to which adherence to the governance principles enhanced implementation of the policy or, conversely, lack of adherence created obstacles to smooth implementation. If the latter, how might this be corrected? The following questions are intended to be illustrative rather than prescriptive or exhaustive.

In evaluating the success or failure of the policy, what was the contribution of:

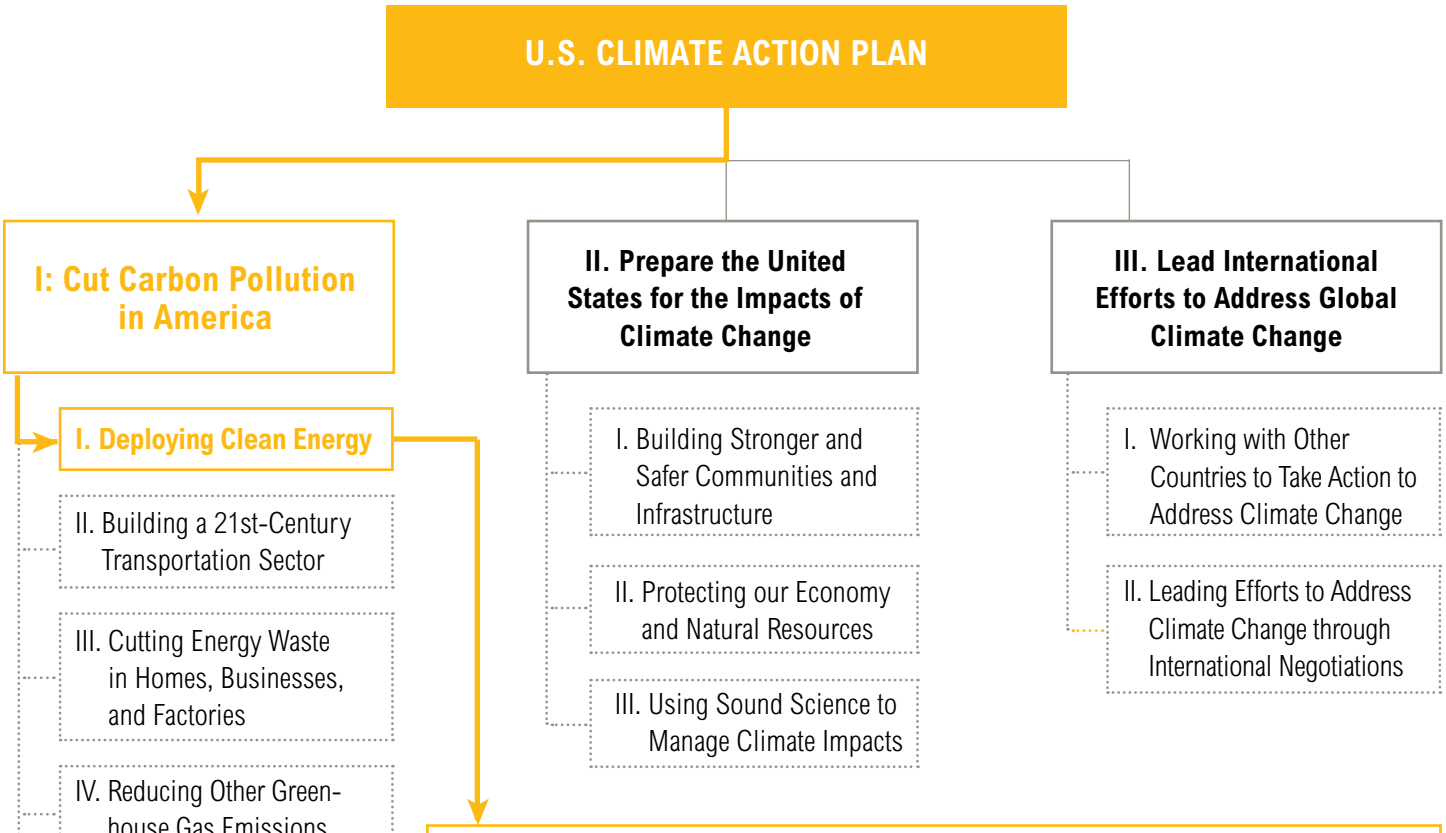
- Transparent decision-making?
- Financial accountability?
- Quality of stakeholder engagement?
- Intergovernmental coordination?
- Effective tracking?
- Enforcement of compliance measures?

In addition:

- How could lessons learned from this assessment be applied to other policies to improve implementation?
- What do the findings suggest for strengthening the functioning of the executive departments or agencies that have been studied?
- Should the policy be reviewed?
- What key lessons should be integrated into the policy implementation to improve the quality of outcomes?

Annex 1 | Moving From a Broad Policy to Policy Instruments

The figure below provides an illustrative example of how a user may move from a broad policy/plan to specific policy instruments. This example is based on the U.S. Climate Action Plan, but a similar process could be applied to plans in other contexts as well.



Note: It is important to ensure that the unit of analysis that is used for tracking implementation is at the policy instrument level. This may require further narrowing down for some areas/actions, but not others, and may require a different level of specificity in determining appropriate milestones.

SPECIFIC POLICY INSTRUMENTS

- Carbon pollution standards for new power plants
- Carbon pollution standards for existing power plants
- Issue permits for 10 GW of renewable energy by 2020
- Increase funding for clean technology across all federal agencies by 30%
- Make up to $8 billion loan guarantee available for advanced fossil energy projects
- Quadrennial Energy Review
- Post-2018 fuel economy standards for heavy duty vehicles
- Research and development for next generation biofuels
- Efficiency standards for appliances
- Efficiency standards for federal buildings
- Energy Efficiency and Conservation Loan Program to provide up to $250 million for rural utilities to finance efficiency investments
- $23 million Multifamily Energy Innovation Fund
- Expand Better Buildings Challenge to multifamily housing
- Launch Better Buildings Accelerators
- Develop Interagency Methane strategy
- Use Significant New Alternatives Policy (SNAP) Program to identify and approve climate-friendly chemicals while prohibiting certain uses of the most harmful chemical alternatives to HFCs
- Administration to purchase cleaner alternatives to HFCs when feasible and transition to equipment that uses such alternatives over time
- Partnership with private sector for standardized contract to finance federal investments in energy efficiency
- Synchronize building codes across federal agencies
- Use “Green Button” standard in federal facilities

Annex 2 | Identifying and Characterizing a Policy for Use with the GHG Protocol

INFORMATION	EXPLANATION	EXAMPLE
	REQUIRED INFORMATION	
The title of the policy or action	Policy or action name	Federal subsidy for home insulation
Type of policy or action	The type of policy or action, such as those presented in Table 5.1, or other categories of policies or actions that may be more relevant	Subsidy
Description of specific interventions	The specific intervention(s) carried out as part of the policy or action	Subsidy of $200 per household
The status of the policy or action	Whether the policy or action is planned, adopted, or implemented	Implemented
Date of implementation	The date the policy or action comes into effect (not the date that any supporting legislation is enacted)	2010
Date of completion (if applicable)	If applicable, the date when the policy or action ceases, such as the date when a tax is no longer levied or the end date of an incentive scheme with a limited duration (not the date when the policy/action no longer has an impact on GHG emissions)	2020
Implementing entity or entities	Which entity or entities implement(s) the policy or action, including the role of various local, subnational, national, international, or any other entities	Department of Energy of City X
Objective(s) of the policy or action	The intended effects(s) or benefit(s) the policy or action intends to achieve (for example, the purpose stated in the legislation or regulation)	Reduction in residential energy use
Geographic coverage	The jurisdiction or geographic area where the policy or action is implemented or enforced, which may be more limited than the jurisdictions where the policy or action has an impact	City X
Primary sectors, subsectors, and emission source/sink categories targeted	Which sectors, subsectors, and source/sink categories are targeted, using sectors and subsectors from the most recent IPCC Guidelines for National Greenhouse Gas Inventories or other sector classifications	Residential energy use (energy sector, IPCC category 1A4b, residential), grid-connected electricity generation (energy sector, IPCC category 1A1ai, electricity generation)
Greenhouse gases targeted (if applicable)	If applicable, which greenhouse gases the policy or action aims to control, which may be more limited than the set of greenhouse gases that the policy or action affects	CO_2, CH_4, N_2O
Other related policies or actions	Other policies or actions that may interact with the policy or action assessed	Natural gas tax, information campaign to educate residents on the financial benefits of installing insulation

Annex 2 | Identifying and Characterizing a Policy for Use with the GHG Protocol (Continued)

INFORMATION	EXPLANATION	EXAMPLE
	OPTIONAL INFORMATION	
Intended level of mitigation to be achieved and/or target level of other indicators (if applicable)	If relevant and available, the total emissions and removals from the sources and sinks targeted; the target amount of emissions to be reduced or removals to be enhanced as a result of the policy or action, both annually and cumulatively over the life of the policy or action (or by a stated date); and/or the target level of key indicators (such as the number of homes to be insulated)	The residential energy use sector currently emits 1,000,000 t CO_2e annually. The subsidy aims to reduce emissions by 20 percent to result in annual emissions of 800,000 t CO_2e by 2020.
Title of establishing legislation, regulations, or other founding documents	The name(s) of legislation or regulations authorizing or establishing the policy or action (or other founding documents if there is no legislative basis)	Energy Policy Act (2005)
Monitoring, reporting, and verification procedures	References to any monitoring, reporting, and verification procedures associated with implementing the policy or action	Data are collected monthly on number of energy audits carried out, total subsidies provided, and amount of insulation installed; for more information, see website.
Enforcement mechanisms	Any enforcement or compliance procedures, such as penalties for noncompliance	Audits to ensure installation is completed; for more information, see website
Reference to relevant guidance documents	Information to allow practitioners and other interested parties to access any guidance documents related to the policy or action (for example, through websites)	N/A
The broader context/significance of the policy or action	Broader context for understanding the policy or action, such as other policies or actions that the policy/action replaces, or the political context of the policy/action	See website for a full list of Department of Energy programs and targets to reduce energy use.
Outline of non-GHG effects or co-benefits of the policy or action	Any anticipated benefits other than GHG mitigation, such as energy security, improved air quality, health benefits, increased employment, and any relevant target indicators	Increase in household disposable income resulting from energy savings
Other relevant information	Any other relevant information	N/A

Source: GHG Protocol *Policy and Action Standard* (2014)

Annex 3 | Five Principles of Good Governance

The in-depth questions in the framework are intended to guide analysis of administrative attributes that enhance or hinder policy implementation as well as institutional effectiveness. In this section, we provide general descriptions of each governance principle. Further guidance on how to apply the principles to each stage of policy implementation is provided in the framework itself. The five major governance principles are as follows:

Clarity of Role and Responsibility: determines which institutions are responsible for the inputs, activities, and monitoring dimensions of policy implementation, whether specific roles and responsibilities are clearly defined, and whether there are specific rules that govern how these roles should be performed.

Institutional Capacity: assesses the extent to which executive institutions have the skill and capacity to manage resources, address technical issues, and ensure compliance with a policy. Aspects of institutional capacity include:

- Human and financial resources, as well as access to appropriate technology. (However, since financial resources are treated separately, this section focuses on human and technological resources)
- Adequate skills and training regarding relevant subject matter
- Adequate political and bureaucratic leadership of policy-relevant institutions

Policy Coordination: examines the extent to which the goals of relevant government agencies tasked with carrying out a policy are in alignment, and the extent to which there are clear lines of communication between agencies carrying out a policy.[8] Policy implementation often requires actions by multiple agencies and groups, and coordination among different groups in the form of "information sharing, resource sharing, and joint action."[9]

Transparency: determines the extent to which actions and information are disclosed to stakeholders. Facilitating access to information is essential to engage investors and public constituencies, maintain political support, and to ensure that government is held accountable for achieving the goals of the policy.[10]

Aspects of transparency include:

- Ease of access to information
- Comprehensiveness (sufficient level of detail)
- Timeliness
- Comprehensibility
- Level of effort made to reach affected and vulnerable groups, as appropriate[11]

Stakeholder Engagement: identifies stages in the policy implementation process where engagement might be needed to improve acceptance. Attributes of strong stakeholder engagement processes include:

- Formal opportunity for stakeholder engagement in various forums
- Appropriate and sufficient mechanisms to invite stakeholder participation (including public participation), allowing also for adequate comment periods
- Inclusive and open engagement processes, representative of a broad range of perspectives
- Accountable consideration of stakeholder inputs

Effective stakeholder engagement might overlap with transparency provisions; stakeholders need access to background documents and analyses in order to make meaningful inputs.[12]

This annex provides a series of worksheets that can be filled in by users as they develop their own policy-tracking framework. The worksheets correspond to the completed tables that were provided earlier in this report.

Worksheet for Characterizing a Broad Policy or Plan

INFORMATION	
Title Name of broad policy or plan	
Responsible authority List the government entity or entities charged with carrying out the broad policy/plan	
IF POLICY INSTRUMENT(S) NOT IDENTIFIED	
Process Any information about the process by which policy instruments might be identified or developed	
Timeline Any information about the timeline on which policy instruments might be identified or developed	
Other specifications Any other specifications relevant to the identification or development of specific policy instruments under the policy or plan	

IF POLICY INSTRUMENT(S) IDENTIFIED

	INSTRUMENT	WILL IT BE TRACKED? JUSTIFY.
Policy instruments List each policy instrument identified in the broad policy or plan. Stipulate and justify whether it will be tracked.		

Worksheet for Characterizing a Policy Instrument

INFORMATION	
Title Title of policy instrument	
Type Type of policy instrument (per Table 2)	
Policy status Whether the policy instrument has been adopted	
Key milestone dates Any information about the timeline on which policy instruments may be adopted or may begin to be implemented	
Implementing entity/entities Which entity or entities implement(s) the policy	
The broader context/significance of the policy instrument Broader context for understanding the policy, such as other policies that are being replaced, or the political context of the policy	

Worksheet for Developing and Tracking Policy Adoption Milestones

MILESTONE	RESPONSIBLE AUTHORITY	EXPECTED DATE OF ATTAINMENT	DATA SOURCE(S)	STATUS
DATE OF LAST MONITORING				

Worksheet for Developing and Tracking Implementation Indicators

Input indicators

INPUT FUNCTION	EXPECTED DATE OF ATTAINMENT	INDICATOR (UNITS)	RESPONSIBLE AUTHORITY	DATA SOURCE	TRACKING FREQUENCY	NOTES ON TRACKING METHODS	STATUS
FINANCE							
OTHER INPUTS							
DATE OF LAST MONITORING							

Activity indicators

INPUT FUNCTION	EXPECTED DATE OF ATTAINMENT	INDICATOR (UNITS)	RESPONSIBLE AUTHORITY	DATA SOURCE	TRACKING FREQUENCY	NOTES ON TRACKING METHODS	STATUS
LICENSING, PERMITTING, AND PROCUREMENT							
INFORMATION COLLECTION AND TRACKING							
COMPLIANCE AND ENFORCEMENT							
OTHER POLICY ADMINISTRATION ACTIVITIES							
DATE OF LAST MONITORING							

Intermediate effect indicators

INTERMEDIATE EFFECT	EXPECTED DATE OF ATTAINMENT	INDICATOR (UNITS)	DATA SOURCE	TRACKING FREQUENCY	NOTES ON TRACKING METHODS	STATUS
DATE OF LAST MONITORING						

ACRONYMS

AFOLU	agriculture, forestry, and other land-use
EPA	Environmental Protection Agency
ETS	emissions trading system
GHG	greenhouse gas
IRP	integrated resource plan
NGO	non-governmental organization
QA/QC	quality assurance and quality control
RECs	renewable energy certificates
SNAP	Significant New Alternatives Policy

REFERENCES

Bianco, N.M., F.T. Litz, K.I. Meek, and R. Gasper. 2013. *Can the U.S. Get There from Here? Using Existing Federal Laws and State Action to Reduce Greenhouse Gas Emissions*. WRI Report. World Resources Institute, Washington, DC. Available online at http://www.wri.org/publication/can-us-get-there-here.

Fransen, T. with C. Cronin. 2013. "A Critical Decade for Climate Policy: Tools and Initiatives to Track Our Progress." Working Paper. World Resources Institute, Washington, DC. Available online at www.wri.org/publication/critical-decade-climate-policy.

Gupta, S., D. A. Tirpak, N. Burger, J. Gupta, N. Höhne, A. I. Boncheva, G. M. Kanoan, C. Kolstad, J. A. Kruger, A. Michaelowa, S. Murase, J. Pershing, T. Saijo, A. Sari, 2007: Policies, Instruments and Co-operative Arrangements. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter13.pdf

IPCC (Intergovernmental Panel on Climate Change). 2014. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, edited by P. Aggarwal and K. Hakala. Stanford, California: IPCC.

Levin, K. and C. F. Tompkins. 2014. "Visualizing the Global Carbon Budget." Accessible at: <www.wri.org/blog/2014/03/visualizing-global-carbon-budget>. Retrieved October 20, 2014.

World Resources Institute (WRI). 2014. GHG Protocol *Policy and Action Standard*. http://www.ghgprotocol.org/policy-and-action-standard.

ENDNOTES

1. Note that, in this instance, users are to consider merely whether the policy instrument in question has been adopted, independently of whether any broad policy or plan of which the instrument is a part has been passed. In some cases, legislation or other overarching instruments may be adopted without even defining a policy instrument, much less ensuring its adoption.

2. Since this framework can be applied at the broad policy or plan level, whereas the GHG Protocol Policy and Action Standard is primarily designed to assess the effects of policy instruments (either their introduction, elimination, or modification) or the implementation of technologies, processes, or practices, rather than broad policies or plans, the characterization process does not align completely with the GHG Protocol Standard.

3. These same institutions, by contrast, do have the authority to implement other types of policy instruments, such as energy efficiency standards, without legislative intervention.

4. Inputs refer to resources that support implementation of a policy instrument. Activities are defined as actions undertaken by the responsible authority or entity to support implementation of the policy instrument.

5. Intermediate effects refer to changes in behavior, technology, processes, or practices that result from implementation of a policy instrument. GHG effects are defined as changes in greenhouse gas emissions by sources, or removals by sinks, that result from the intermediate effects of the policy instrument. Non-GHG effects are changes in relevant environmental, social, or economic conditions other than GHG emissions or climate change mitigation that result from the policy instrument.

6. GHG effects cannot be monitored directly, but they can be quantified; for guidance on this, see the GHG Protocol Policy Standard. This section maps to Chapter 10 of the GHG Protocol Policy Standard, which also provides guidance on monitoring policy.

7. This process is adapted from the GHG *Protocol Policiy and Action Standard* (2014).

8. Davis, Daviet, and Nakhooda, 2009. "Governance of Forests Initiative Indicator Framework (version 1)." (GFI) Washington DC: World Resources Institute.

9. Policy Implementation: What USAID Has Learned. USAID Center for Democracy and Governance. January 2001.

10. Davis, Daviet, and Nakhooda, 2009. "Governance of Forests Initiative Indicator Framework (version 1)." (GFI) Washington DC: World Resources Institute.

11. More details about attributes of transparency for policy implementation may be found in the EGI indicators (http://electricitygovernance.wri.org/publications/electricity-governance-toolkit), especially PP24-28.

12. More details on attributes of public participation in the regulatory process can be found in the EGI indicators, especially RP20 and RP22.

ACKNOWLEDGMENTS

The authors would like to thank the following people for their peer review and valuable feedback: Casey Cronin of the ClimateWorks Foundation; Jeff Deason of the Climate Policy Initiative; Adrian Gault of the Committee on Climate Change; Narasimha Reddy of the Chetana Society; Marion Vieweg of Current Future; and James Bradbury, Crystal Davis, Gaia Larsen, David Rich, Viviane Romeiro, Letha Tawney, and Jingjing Zhu of the World Resources Institute.

In addition, the authors also would like to thank Florence Daviet, Erin Francke, Maria Fernanda Gebara, Jennifer Hatch, Ulises Hernández, Bharath Jairaj, Liz McDaid, Michael Obeiter, Leticia Pineda, Patricia Pinheiro, Thimma Reddy, Alice Thuault, and Carlos Tornel for their efforts in developing or piloting earlier versions of this work.

At WRI, Pankaj Bhatia, Jenna Blumenthal, Johannes Friedrich, Kelly Levin, and Laura Malaguzzi Valeri provided feedback and contributions that greatly improved the quality of this paper. Thanks also go to Hyacinth Billings, Carni Klirs, and Emily Matthews for their editing and publication design work.

This paper was made possible by financial support from the ClimateWorks Foundation and BMUB, which supports this initiative under the International Climate Initiative (IKI, www.international-climate-initiative.com) on the basis of a decision adopted by the German Bundestag.

ABOUT THE AUTHORS

Priya Barua is an Associate with the Global Energy Program at WRI.

Contact: pbarua@wri.org

Taryn Fransen is a Senior Associate with the Climate Program at WRI, and the Director of the Open Climate Network.

Contact: tfransen@wri.org

Davida Wood is a Senior Associate with the Electricity Governance Initiative at WRI.

Contact: davida.wood@wri.org

ABOUT WRI

WRI is a global research organization that works closely with leaders to turn big ideas into action to sustain a healthy environment—the foundation of economic opportunity and human well-being.

ABOUT THE OPEN CLIMATE NETWORK

The Open Climate Network brings together independent research institutes and stakeholder groups to monitor countries' progress on climate change. We seek to accelerate the transition to a low-emission, climate-resilient future by providing consistent, credible information that enhances accountability both between and within countries. http://www.openclimatenetwork.org

PRODUCED IN PARTNERSHIP WITH

Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

based on a decision of the German Bundestag

ClimateWorks FOUNDATION