4 Defining the policy

This chapter provides guidance on clearly defining the policy. To assess the impacts of a policy, users first need to understand and describe the policy that will be assessed, decide whether to assess an individual policy or a package of related policies, and choose whether to carry out an ex-ante or ex-post assessment.

Checklist of key recommendations

- Clearly describe the policy (or package of policies) that is being assessed

4.1 Describe the policy to be assessed

To effectively carry out an impact assessment (in subsequent chapters), a detailed understanding and description of the policy being assessed are needed. It is a *key recommendation* to clearly describe the policy (or package of policies) that is being assessed. Table 4.1 provides a checklist of recommended information that should be provided to enable an effective assessment. Table 4.2 outlines additional information that may be relevant, depending on the context.

Users assessing a package of policies can apply Table 4.1 either to the package as a whole or separately to each policy in the package. Users who assess a modification of an existing policy, rather than a new policy, may define the policy to be assessed as either the modification of the policy or the policy as a whole, depending on the objectives.

Users who are assessing the GHG impacts and/or transformational impacts of the policy should describe the policy in the same way to ensure a consistent and integrated assessment.

Table 4.1 introduces an illustrative example of a solar PV incentive policy, which is used as a running example throughout the methodology.
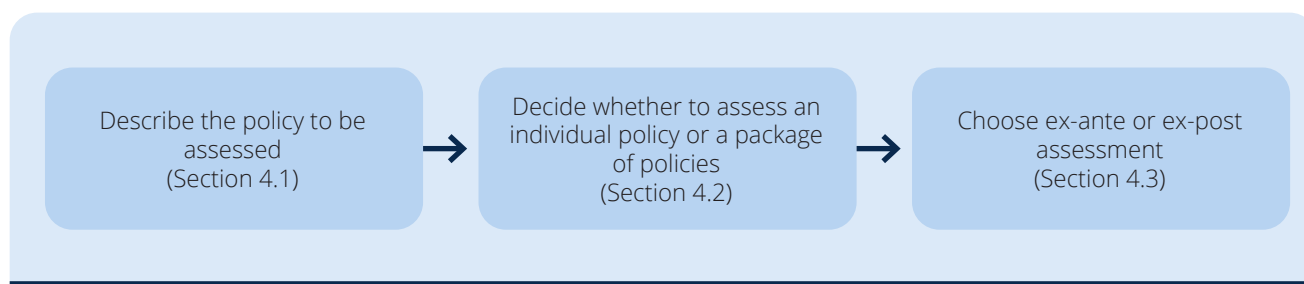
FIGURE **4.1**

Overview of steps in the chapter

| Describe the policy to be assessed (Section 4.1) | → | Decide whether to assess an individual policy or a package of policies (Section 4.2) | → | Choose ex-ante or ex-post assessment (Section 4.3) |

TABLE **4.1**

Checklist of recommended information to describe the policy being assessed

Information	Description	Example
Title of the policy	Policy name	• Grid-Connected Solar Rooftop Programme. Throughout this methodology, it is referred to as the solar PV incentive policy.
Type of policy	The type of policy, such as those presented in Table 1.1, or other categories of policies that may be more relevant	• Financial incentive policy

Description of specific interventions	The specific intervention(s) carried out as part of the policy, such as the technologies, processes or practices implemented to achieve the policy	• Financial incentives: The policy provides a financial subsidy of up to 30% of project/benchmark cost for rooftop solar projects. It also provides concessional loans to solar rooftop project developers.
		• Eligible technology: Grid-connected rooftop and small solar power plants with installed capacity of 1–500 kW
		• Eligible sectors: Residential (all types of residential buildings), institutional (schools, health institutions), social sectors (community centres, welfare homes, old age homes, orphanages, common service centres), commercial and industrial facilities
		• Contract and payment duration: Up to 30% of the eligible financial assistance and services charges at the time the proposal is sanctioned; the remaining 70% after successful commissioning of projects after sample verification on submission of requisite claims
		• National budget allocated to the policy: Approximately $750 million
		• Other enabling actions under the policy:
		  » Training and capacity-building of stakeholders involved in the programme, such as government staff, utilities, regulatory commissions, banks and workers
		  » Development of online portal for rooftop solar systems development programme, and registration of partners, approvals and project monitoring

Status of the policy	Whether the policy is planned, adopted or implemented	• The policy has been implemented (currently in effect).
Date of implementation	The date the policy comes into effect (not the date that any supporting legislation is enacted)	• 1 January 2016
Date of completion (if relevant)	If relevant, the date the policy ceases, such as the date a tax is no longer levied or the end date of an incentive scheme with a limited duration (not the date that the policy no longer has an impact)	• Provision of financial incentives ends on 31 December 2022.

TABLE 4.1, continued

Checklist of recommended information to describe the policy being assessed

Information	Description	Example
Implementing entity or entities	The entity or entities that implement(s) the policy, including the role of various local, subnational, national, international or any other entities	India's Ministry of New and Renewable Energy implements the policy. Government funds are disbursed by the ministry to state agencies, financial institutions, implementing agencies and other government-approved channel partners – these include renewable energy service providers, system integrators, manufacturers, vendors and NGOs.
Objectives and intended impacts or benefits of the policy	The intended impact(s) or benefit(s) of the policy (e.g. the purpose stated in the legislation or regulation)	The policy is intended to increase deployment of solar energy; increase access to clean energy; increase energy independence; create jobs; reduce GHG emissions; and create an enabling environment for investment, installation, capacity-building, and research and development in the solar energy sector.
Level of the policy	The level of implementation, such as national level, subnational level, city level, sector level or project level	National
Geographic coverage	The jurisdiction or geographic area where the policy is implemented or enforced, which may be more limited than all the jurisdictions where the policy has an impact	India
Sectors targeted	The sectors or subsectors that are targeted	Energy supply (grid-connected solar PV)
Other related policies	Other policies that may interact with the policy being assessed	The Government of India targets installation of 100,000 MW of solar power by 2022, of which 40,000 MW is to be achieved through rooftop solar power plants through the solar PV incentive policy.

Source: Adapted from WRI (2014). Example adapted from India's Ministry of New and Renewable Energy.

TABLE 4.2

Checklist of additional information that may be relevant to describe the policy being assessed

Information	Description	Example
Relevant SDGs	SDGs the policy focuses on or contributes to	The policy is focused primarily on SDG 3 (Good health and well-being), SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure), SDG 11 (Sustainable cities and communities), SDG 12 (Responsible consumption and production) and SDG 13 (Climate action), while also contributing to other SDGs.

TABLE 4.2, continued

Checklist of additional information that may be relevant to describe the policy being assessed

Information	Description	Example
Specific intended targets, such as intended level of indicators	Target level of key indicators, if applicable	The policy aims to install 40,000 MW of rooftop solar PV by 2022. The policy will lead to increased solar power generation in the country, contributing to greater energy independence, and increased jobs in the solar PV installation and maintenance sectors. Solar energy will also provide quick alternative power during any severe climate changes.
Title of establishing legislation, regulations or other founding documents	The name(s) of legislation or regulations authorizing or establishing the policy (or other founding documents, if there is no legislative basis)	National renewable energy law
Monitoring, reporting and verification procedures	References to any monitoring, reporting and verification procedures associated with implementing the policy	Monitoring and evaluation studies of the policy will be carried out during the implementation period, as follows: • At the primary level of monitoring, channel partners are responsible for monitoring parameters such as end-use verification and compliance. They are also responsible for compiling statistical information, such as number of companies involved in the installation. • National monitors would be involved, for data on number of companies and employees active within the sector. • National monitors, consultants, institutions, civil society groups, corporations with relevant experience, and other government organizations would be involved, for ground verification/performance evaluation on a random sample basis. • Electricity generation data should be available at the beneficiary level. However, for projects above 5 kW, the system providers would also make generation data available to the government at specified intervals. • For projects 50 kWp and above, 100% field inspection is required.
Enforcement mechanisms	Any enforcement or compliance procedures, such as penalties for non-compliance	If evidence is presented that the applicant's information is incorrect, distributed funds will be paid back.
Reference to relevant documents	Information to allow practitioners and other interested parties to access any guidance documents related to the policy (e.g. through websites)	For more information, see: http://mnre.gov.in/solar/schemes/

TABLE 4.2, continued

Checklist of additional information that may be relevant to describe the policy being assessed

Information	Description	Example
Broader context or significance of the policy	Broader context for understanding the policy	The current energy mix mainly consists of imported fossil fuels. Coal remains a dominant source of power generation in India. BMI Research forecasted in 2017 that coal will contribute 66% to India's power generation mix in 2025, and electricity generation from coal will increase by 5.8% between 2016 and 2025. In 2000, 67% of emissions in India were from energy generation and use. India plans a rapid increase in the renewable energy share in the national electricity generation mix, including plans to install 175 GW of renewable generation capacity by 2022. Solar is projected to contribute 100 GW of installed capacity by 2022, from the current 4 GW. Recent auctions have resulted in record low tariffs of Rs 3 (US$ 0.0446) per kWh. Rooftop solar has significant potential to contribute to national energy supply. Rooftop solar installed capacity reached 525 MW in 2015. This accounts for less than 10% of the installed utility-scale solar capacity and a very small portion of the total power consumption in the country. The government's target of 40 GW of solar rooftop capacity by 2022 has injected increased ambition into the sector.
Key stakeholders	Key stakeholder groups affected by the policy	Households, institutions (schools, health institutions), businesses, project developers, workers, utilities, banks, energy access programmes, women's organizations and cooperatives, micro-credit institutions, and others
Other relevant information	Any other relevant information	Various implementation models are possible under the policy: • solar installations owned and operated by consumers • solar rooftop facility owned by consumers but operated and maintained by a third party • solar installations owned, operated and maintained by a third party • solar lease model, with sale of electricity to the grid • solar installations owned by the utility or distribution company.

Source: Adapted from WRI (2014). Example adapted from India's Ministry of New and Renewable Energy.
Abbreviations: kWh, kilowatt-hour; kWp, kilowatt peak

4.2 Decide whether to assess an individual policy or a package of policies

If multiple policies are being developed or implemented in the same time frame, users can assess the policies either individually or as a package. When making this decision, users should consider the assessment objectives, the feasibility of assessing impacts individually or as a package, and the degree of interaction between the policies.

In subsequent chapters, users follow the same general steps and requirements, whether they choose to assess an individual policy or a package of related policies. Depending on the choice, the impacts estimated in later chapters will either apply to the individual policy assessed or to the package of policies assessed.

Users who are assessing the GHG impacts and/or transformational impacts of a policy, following other ICAT methodologies, should define the policy

or policy package in the same way to ensure a consistent and integrated assessment, or explain why there are differences in how the policy package is defined across the assessments.

4.2.1 Overview of policy interactions

Policies can either be independent of each other or interact with each other. Policies interact if they produce total impacts, when implemented together, that differ from the sum of the individual impacts had they been implemented separately. Table 4.3 and Figure 4.2 provide an overview of four possible relationships between policies.

Given the interrelated nature of the SDGs, multiple policies are likely to be interrelated in their impacts on sustainable development impact categories, and to have potential synergies and trade-offs. Some policies may be in conflict with one another, while others may work together to achieve sustainable development outcomes. Users should consider possible synergies and trade-offs between policies when deciding whether to assess a single policy or

a package of related policies. Assessing a broader package of policies may help to avoid possible negative or unintended impacts beyond the scope of a single policy. At the end of the assessment, users should also consider potential trade-offs between impact categories, in Chapter 14.

The relationship between policies will likely differ by sustainable development impact category, such as air quality, health, jobs or poverty reduction (further described in Chapter 5). Users should consider a range of relevant impact categories when deciding whether to assess an individual policy or a package of policies. Users should consider the primary objectives of the policy when determining which impact categories to include in the analysis of policy interactions. For example, if the primary objective of the policy is GHG mitigation, the user should consider analysing policy interactions from the perspective of GHG emissions, rather than considering all other sustainable development impact categories. However, in this case, other relevant sustainable development impact categories should still be included in the assessment in later chapters.
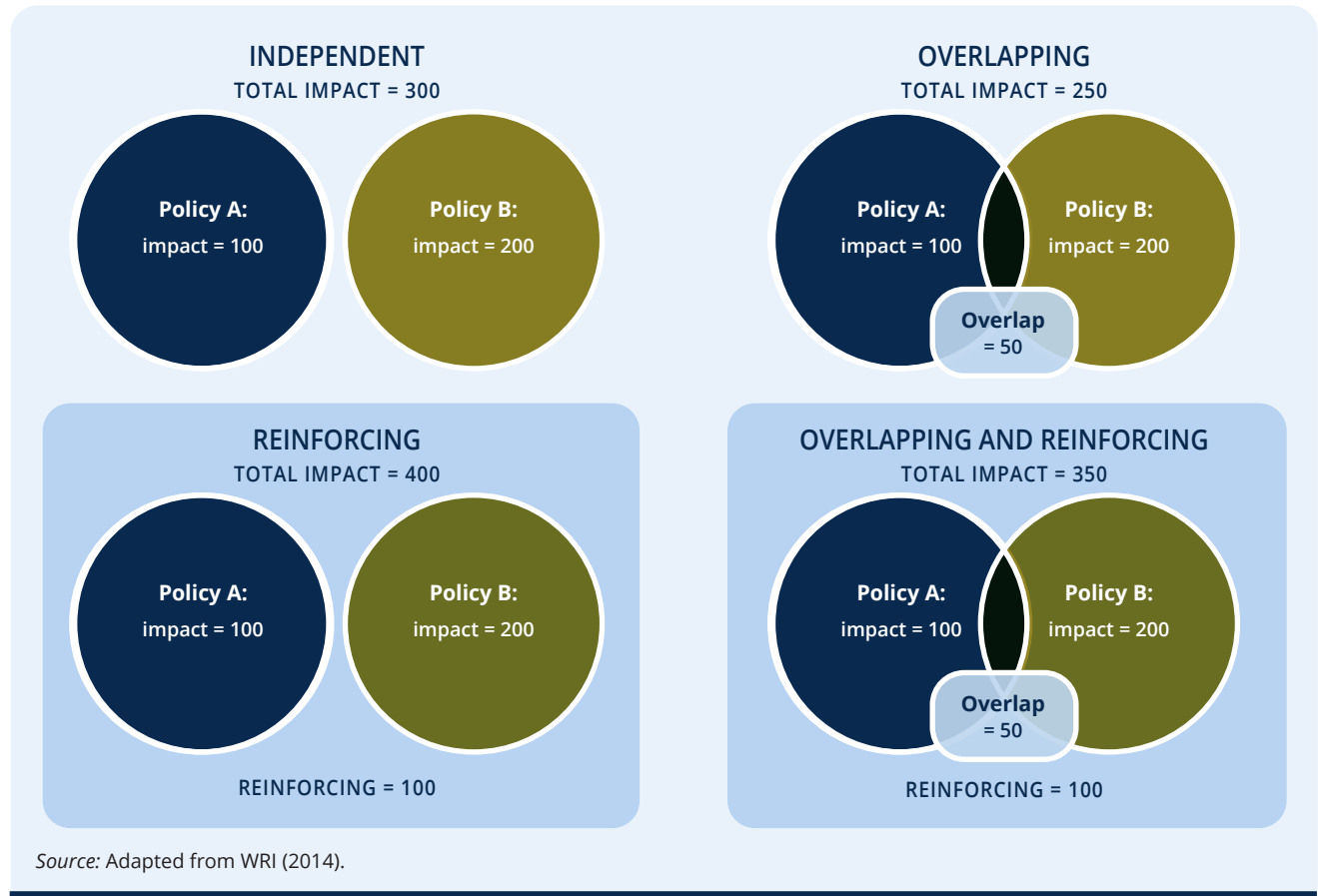
TABLE **4.3**

Types of relationships between policies

Type	Description
Independent	Multiple policies do not interact with each other. The combined effect of implementing the policies together is equal to the sum of the individual effects of implementing them separately.
Overlapping	Multiple policies interact, and their combined effect is less than the sum of the individual effects if implemented separately. This category includes policies that have the same or complementary goals (such as national and subnational energy efficiency standards), as well as counteracting policies that have different or opposing goals (such as a fuel tax and a fuel subsidy).
Reinforcing	Multiple policies interact, and their combined effect is greater than the sum of their individual effects if implemented separately.
Overlapping and reinforcing	Multiple policies interact, and have both overlapping and reinforcing interactions. The combined effect may be greater or less than the sum of their individual effects if implemented separately.

Source: WRI (2014), adapted from Boonekamp (2006).

FIGURE **4.2**

Types of relationships between policies

INDEPENDENT
TOTAL IMPACT = 300

Policy A:
impact = 100

Policy B:
impact = 200

OVERLAPPING
TOTAL IMPACT = 250

Policy A:
impact = 100

Policy B:
impact = 200

Overlap
= 50

REINFORCING
TOTAL IMPACT = 400

Policy A:
impact = 100

Policy B:
impact = 200

REINFORCING = 100

OVERLAPPING AND REINFORCING
TOTAL IMPACT = 350

Policy A:
impact = 100

Policy B:
impact = 200

Overlap
= 50

REINFORCING = 100

Source: Adapted from WRI (2014).

4.2.2 Choosing whether to assess an individual policy or package of policies

This section outlines a qualitative process to understand the expected relationship between policies under consideration, when deciding whether to assess an individual policy or a package of policies. The most robust approach is to qualitatively assess the extent of policy interactions at this stage, but this is not necessary if it is not feasible.

To assess the extent of policy interactions when deciding whether to assess an individual policy or a package of policies, users should follow these steps:

- step 1 – characterize the type and degree of interaction between the policies under consideration

- step 2 – apply criteria to determine whether to assess an individual policy or a package of policies.

Step 1: Characterize the type and degree of interaction between the policies under consideration

Potentially interacting policies can be identified by identifying activities targeted by the policy, then identifying other policies that target the same activities. Once these are identified, users should assess the relationship between the policies (independent, overlapping or reinforcing) and the degree of interaction (major, moderate or minor). Relationships between the same policies may be overlapping for some impact categories and reinforcing or independent for other impact categories. The assessment of interaction should be based on expert judgment, published studies of similar combinations of policies or consultations

with relevant experts. The assessment should be limited to a preliminary qualitative assessment at this stage, rather than a more detailed qualitative or quantitative assessment, as described in later chapters.

Step 2: Apply criteria to determine whether to assess an individual policy or a package of policies

Where policies interact, there can be advantages and disadvantages to assessing the interacting policies individually or as a package (see Table 4.4). To help decide, users should apply the criteria in Table 4.5. In some cases, certain criteria may suggest assessing an individual policy, while other criteria suggest assessing a package. Users should exercise judgment, based on the specific circumstances of the assessment. For example, related policies may have significant interactions (suggesting a package), but it may not be feasible to model the whole package (suggesting an individual assessment). In this case, a user can assess an individual policy (since a package is not feasible) but acknowledge in a disclaimer that any subsequent aggregation of the results from individual assessments would be inaccurate given the interactions between the policies.

Users can also assess both individual policies and packages of policies. Doing so will yield more information than choosing only one option. Undertaking both individual assessments and assessments for combinations of policies should be considered where the end user requires information on both, resources are available to undertake multiple analyses and undertaking both is feasible.

If users choose to assess both an individual policy and a package of policies that includes the individual policy assessed, users should define each assessment separately and treat each as a discrete application of this methodology, to avoid confusion of the results.

TABLE **4.4**

Advantages and disadvantages of assessing policies individually or as a package

Approach	Advantages	Disadvantages
Assessing policies individually	• Shows the effectiveness of individual policies, which decision makers may require to make decisions about which individual policies to support. • May be simpler than assessing a package in some cases, since the causal chain and range of impacts for a package may be significantly more complex.	• The estimated impacts from assessments of individual policies cannot be straightforwardly summed to determine total impacts, if interactions are not accounted for.
Assessing policies as a package	• Captures the interactions between policies in the package and better reflects the total impacts of the package. • May be simpler than undertaking individual assessments in some cases, since it avoids the need to disaggregate the effects of individual policies.	• Does not show the effectiveness of individual policies. • May be difficult to quantify.

Source: Adapted from WRI (2014).

TABLE **4.5**

Criteria for determining whether to assess policies individually or as a package

Criteria	Questions	Recommendation
Objectives and use of results	Do the end users of the assessment results want to know the impact of individual policies?	If "Yes", undertake an individual assessment.
Significant interactions	Are there significant (major or moderate) interactions between the identified policies, either overlapping or reinforcing, that will be difficult to estimate if policies are assessed individually?	If "Yes", consider assessing a package of policies.
Feasibility	Is it possible (e.g. are data available) to assess a package of policies?	If "No", undertake an individual assessment.
	For ex-post assessments, is it possible to disaggregate the observed impacts of interacting policies?	If "No", consider assessing a package of policies.

Source: Adapted from WRI (2014).

4.3 Choose ex-ante or ex-post assessment

Users can carry out an ex-ante (forward-looking) assessment, an ex-post (backward-looking) assessment, or a combined ex-ante and ex-post assessment. Choosing between ex-ante and ex-post assessment depends on the status of the policy. Where the policy is planned or adopted, but not yet implemented, the assessment will be ex-ante by definition. Alternatively, where the policy has been implemented, the assessment can be ex-ante, ex-post, or a combination of ex-ante and ex-post. In this case, users should carry out an ex-post assessment if the objective is to estimate the impacts of the policy to date, an ex-ante assessment if the objective is to estimate the expected impacts in the future,[13] and a combined ex-ante and ex-post assessment to estimate both the past and future impacts.

Figure 4.3 illustrates the relationship between ex-ante and ex-post assessment. In the figure, a policy comes into effect in 2020. The user carries out an ex-ante assessment in 2020 to estimate the expected future impacts of the policy on a given indicator through to 2030, by defining an ex-ante baseline scenario and an ex-ante policy scenario. The difference between the ex-ante policy scenario and the ex-ante baseline scenario is the estimated impact

of the policy on that indicator (ex-ante). In 2025, the user carries out an ex-post assessment of the same policy to assess the historical impacts of the policy to date, by observing actual conditions over the policy implementation period – that is, the ex-post policy scenario – and defining a revised ex-post baseline scenario. The difference between the ex-post policy scenario and the ex-post baseline scenario is the estimated impact of the policy (ex-post).

If conditions unrelated to the policy unexpectedly change between 2020 and 2025, the ex-post baseline scenario will differ from the ex-ante baseline scenario. For example, the ex-post and ex-ante baseline scenarios will differ if external factors such as economic conditions differ from ex-ante forecasts made in 2020, or if significant new policies are introduced. The ex-post policy scenario may differ from the ex-ante policy scenario for the same reasons, or if the policy is less (or more) effective in practice than it was expected to be. In such cases, the ex-ante and ex-post estimates of the policy's impact will differ.

In an ex-ante assessment, the baseline scenario and policy scenario are both hypothetical or forecasted, rather than observed. In an ex-post assessment, only the baseline scenario is hypothetical, since the ex-post policy scenario can be observed.

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13 An ex-ante assessment may include historical data if the policy is already implemented, but it is still an ex-ante rather than an ex-post assessment if the objective is to estimate future effects of the policy.

FIGURE **4.3**

Ex-ante and ex-post assessment

Source: Adapted from WRI (2014).