

# 11 Monitoring performance over time

*Monitoring serves two objectives: evaluation of the policy's performance (monitor trends in performance parameters to understand whether the policy is on track and being implemented as planned) and estimation of the policy's GHG impacts. This chapter provides guidance on how to develop a monitoring plan, and identifies data and parameters to monitor over time. Users who are estimating ex-ante GHG impacts without monitoring performance can skip this chapter.*

## Checklist of key recommendations

- Identify the key performance indicators that will be used to track performance of the policy over time and define the parameters necessary to estimate GHG emissions ex-post
- Create a plan for monitoring key performance indicators and parameters
- Monitor each of the indicators and parameters over time, in accordance with the monitoring plan

## 11.1 Identify key performance indicators and parameters

To estimate ex-post GHG impacts, users collect data on a broad range of indicators and parameters to be monitored during the implementation period. A key performance indicator is a metric that indicates the performance of a policy (such as tracking changes in targeted outcomes). A parameter is a variable such

as activity data or an emission factor that is needed to estimate emissions.

It is a *key recommendation* to identify the key performance indicators that will be used to track performance of the policy over time and define the parameters necessary to estimate GHG emissions ex-post. These should be directly linked to the ex-ante assessment where they are used to monitor progress against such an assessment. The selection of indicators and parameters should be tailored to the policy, the needs of stakeholders, the availability of existing data, and the cost of collecting data. [Table 11.1](#) provides examples of key performance indicators for pricing policies covered by this methodology, and [Tables 11.2, 11.3](#) and [11.4](#) provide a summary of the relevant parameters for each approach presented in [Chapters 7](#) and [8](#).

Some of the indicators and parameters listed in the tables also serve as inputs to monitor progress towards achieving national GHG reduction targets, such as NDCs, and meeting the reporting requirements of the transparency framework.

[Tables 11.2, 11.3](#) and [11.4](#) summarize the specific parameters for approaches A, B and C used in [Chapters 7](#) and [8](#). The parameter type refers to the data that are needed to monitor these parameters, which may be measured, estimated, modelled or calculated. The uncertainty can be determined by the user. It is specific to the context of the policy and differs for each parameter.

FIGURE 11.1

## Overview of steps in the chapter



TABLE 11.1

## Key performance indicators for pricing policies

Key performance indicator	Definition	Examples
Inputs	Resources that go into implementing a policy	<ul style="list-style-type: none"> <li>• Tax or subsidy removal</li> </ul>
Activities	Administrative activities involved in implementing the policy	<ul style="list-style-type: none"> <li>• Vehicle fleet composition: share of road transport (LDV/HDV) vs rail transport</li> <li>• Number of trips per mode</li> <li>• Changes in VKT</li> <li>• Passengers per m<sup>2</sup></li> <li>• Tax revenue generated</li> </ul>
Intermediate effects	Changes in behaviour, technology, processes or practices	<ul style="list-style-type: none"> <li>• (Intermediate) supply and demand changes of shares of different vehicle types and sizes</li> <li>• Technological progress</li> </ul>
Sustainable development impacts	Changes in relevant environmental, social or economic conditions that result from the policy	<ul style="list-style-type: none"> <li>• Environmental: emissions of air pollutants; air pollutant concentration</li> <li>• Social: available income to (low-income) households after transport costs</li> <li>• Economic: amount of investment in public transport infrastructure</li> </ul>

Source: Adapted from WRI (2014).

Abbreviation: VKT, vehicle kilometres travelled

TABLE 11.2

## Approach A – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Potential sources of data	Parameter type	Suggested monitoring frequency
Total fuel used for ground transport in year $y$ (all fuel types) $F_y$ [TJ]	In order of preference: <ul style="list-style-type: none"> <li>• national energy balance or similar national energy statistics</li> <li>• data-collection process</li> <li>• international sources, such as IEA and IRENA</li> </ul>	Measured/estimated	Annual
Share of fuel type $i$ in ground transport combustion, on an energy basis (i.e. expressed in units of energy – TJ) $S_i$ [%]	In order of preference: <ul style="list-style-type: none"> <li>• national statistics</li> <li>• indicative national reports or studies; expert estimate</li> <li>• assumption of a share of 50% diesel and 50% gasoline, in the absence of any suitable national information</li> </ul>	Measured/estimated	Annual

TABLE 11.2, continued

## Approach A – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Potential sources of data	Parameter type	Suggested monitoring frequency
Emission factor for fuel type <i>i</i> <b><math>EF_i</math> [tCO<sub>2</sub>/TJ]</b>	In order of preference: <ul style="list-style-type: none"> <li>national energy or environmental statistics</li> <li>national fuel providers, such as refineries or fuel importers, based on their measurements</li> <li>default values – diesel: 74.1 tCO<sub>2</sub>/TJ; gasoline: 69.3 tCO<sub>2</sub>/TJ<sup>a</sup></li> </ul>	Measured	Every 5 years
Fuel mix price elasticity <b><math>\epsilon_{fuel\ mix}</math> [-]</b>	In order of preference: <ul style="list-style-type: none"> <li>country-specific data from empirical study or from literature</li> <li>default values provided in methodology</li> </ul>	Measured/estimated	Once
Average fuel price, including price increase through policy <b>Fuel price [US\$]</b>	National statistics	Measured	Annual
Total GHG emissions within assessment boundaries of the approach <b>Total emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual

<sup>a</sup> Both values are from IPCC (2006), vol. 2, Chapter 3, Table 3.2.1.

TABLE 11.3

## Approach B – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Potential sources of data	Parameter type	Suggested monitoring frequency
Total gasoline fuel used for ground transport in year <i>y</i> <b><math>F_{G,y}</math> [TJ]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy balance or similar national energy statistics</li> <li>data-collection process</li> </ul>	Measured/estimated	Annual
Total diesel fuel used for ground transport in year <i>y</i> <b><math>F_{D,y}</math> [TJ]</b>	international sources, such as IEA	Measured/estimated	Annual
Density of fuel type <i>i</i> <b><math>\rho_i</math> [kg/m<sup>3</sup>]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy statistics</li> <li>reliable international sources</li> <li>default values – diesel: 835 kg/m<sup>3</sup> at 15°C;<sup>a</sup> gasoline: 720 kg/m<sup>3</sup> at 15°C<sup>b</sup></li> </ul>	Measured	Once

TABLE 11.3, continued

## Approach B – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Potential sources of data	Parameter type	Suggested monitoring frequency
NCV of fuel type <i>i</i> <b>NCV<sub><i>i</i></sub> [TJ/Gg]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy statistics</li> <li>reliable international sources</li> <li>default values – diesel: 43.0 TJ/Gg; gasoline: 44.3 TJ/Gg<sup>c</sup></li> </ul>	Measured	Once
Emission factor for gasoline fuel <b>EF<sub>g</sub> [tCO<sub>2</sub>/TJ]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy or environmental statistics</li> <li>national fuel providers, such as refineries or fuel importers, based on their measurements</li> </ul>	Measured	Once
Emission factor for diesel fuel <b>EF<sub>d</sub> [tCO<sub>2</sub>/TJ]</b>	<ul style="list-style-type: none"> <li>default values – gasoline: 69.3 tCO<sub>2</sub>/TJ; diesel: 74.1 tCO<sub>2</sub>/TJ<sup>d</sup></li> </ul>	Measured	Once
Gasoline price elasticity <b>ε<sub>gasoline</sub> [-]</b>	In order of preference: <ul style="list-style-type: none"> <li>country-specific data from empirical study or from literature</li> <li>default values provided in methodology</li> </ul>	Measured/ estimated Uncertainty high	Once
Diesel price elasticity <b>ε<sub>diesel</sub> [-]</b>	<ul style="list-style-type: none"> <li>default values provided in methodology</li> </ul>	Measured/ estimated Uncertainty high	Once
Gasoline price, including price increase through price-based policy <b>Gasoline price [US\$]</b>	National statistics	Measured	Annual
Gasoline price, including price increase through policy <b>Diesel price [US\$]</b>	National statistics	Calculated	Annual
Total emissions from the combustion of gasoline within assessment boundaries of the approach <b>Gasoline emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual
Total GHG emissions from the combustion of diesel within assessment boundary of the approach <b>Diesel emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual

<sup>a</sup> Directive 1998/69/EC ([www.dieselnet.com/standards/eu/fuel\\_reference.php](http://www.dieselnet.com/standards/eu/fuel_reference.php)).

<sup>b</sup> NOAA (no date).

<sup>c</sup> Both values are from IPCC (2006), vol. 2, Chapter 1, Table 1.2.

<sup>d</sup> Both values are from IPCC (2006), vol. 2, Chapter 3, Table 3.2.1.

TABLE 11.4

## Approach C – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Source of data	Parameter type	Suggested monitoring frequency
<p>Vehicle kilometres travelled (with fuel type <math>i</math>, mode <math>j</math>, in year <math>y</math>)</p> <p><math>d_{i,j,y}</math> [VKT]</p>	<p><math>d_{gasoline,car,y}</math>: gasoline-powered passenger cars</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys (traffic counting, odometer reading, appropriate vehicle stock data)</li> </ul> <p><math>d_{diesel,bus,y}</math>: diesel-powered passenger buses</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national surveys (traffic counting, odometer reading, appropriate vehicle stock data)</li> </ul>	Measured/estimated	Annual
<p>Average (per VKT) number of persons travelling in same vehicle (with mode <math>j</math> in year <math>y</math>)</p> <p><math>l_{j,y}</math> [persons per vehicle]</p>	<p><math>l_{car,y}</math>: passenger cars</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys</li> <li>• Supra-regional default value (e.g. for continent); otherwise, global default value of 2 persons, including the driver<sup>a</sup></li> </ul> <p><math>l_{bus,y}</math>: passenger buses</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national surveys</li> <li>• Supra-regional default value (e.g. for continent); otherwise global default value of 40% of total capacity<sup>a,b</sup></li> </ul>	Measured/estimated/modelled	Every 5 years

TABLE 11.4, continued

## Approach C – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Source of data	Parameter type	Suggested monitoring frequency
<p>Specific fuel consumption. Average consumption per VKT in municipal, regional or national fleet (with fuel type <math>i</math>, mode <math>j</math>, in year <math>y</math>)</p> <p><b><math>sfc_{i,j,y}</math> [litre per VKT]</b></p>	<p><b><math>sfc_{gasoline,car,y}</math></b>: gasoline-powered passenger cars</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys (e.g. from manufacturers)</li> <li>• Supra-regional default values (e.g. for continent); otherwise, global default value for gasoline consumption of gasoline cars of 10 L per 100 km (assumption by the authors of this methodology, based on HBEFA<sup>3</sup>)</li> </ul> <p><b><math>sfc_{diesel,bus,y}</math></b>: diesel-powered passenger buses</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys (e.g. from manufacturers)</li> <li>• Supra-regional default values (e.g. for continent); otherwise, global default value for diesel consumption of diesel buses of 50 L per 100 km (assumption by the authors of this methodology, based on HBEFA<sup>3</sup>)</li> </ul>	Measured/estimated/modelled	Every 5 years
<p>Total fuel and electricity use for rail passenger transport (with fuel type <math>i</math> in respective year <math>y</math>)</p> <p><b><math>FC_{i,rail,y}</math> [litres of diesel; MWh of electricity]</b></p>	<p><b><math>FC_{diesel,rail,y}</math></b>: diesel-powered passenger rail</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys (e.g. from transit companies)</li> </ul> <p><b><math>FC_{electricity,rail,y}</math></b>: electricity-powered passenger rail</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national surveys (e.g. from transit companies)</li> </ul>	Measured/estimated/modelled	Annual
<p>Distance travelled. Ideally, PKM are available separately for diesel and electricity travel. Otherwise, estimate total PKM travelled in rail passenger transport (in respective year <math>y</math>)</p> <p><b><math>PKM_{rail,y}</math> [PKM]</b></p>	<p><b><math>PKM_{rail,y}</math></b>: PKM rail</p> <ul style="list-style-type: none"> <li>• Municipal, regional or national statistics or studies (from transit authorities)</li> <li>• Municipal, regional or national data-collection process or surveys (e.g. from transit companies)</li> </ul>	Measured/estimated/modelled	Annual
<p>Density of fuel type /</p> <p><b><math>\rho_i</math> [kg/m<sup>3</sup>]</b></p>	<p>In order of priority:</p> <ul style="list-style-type: none"> <li>• national energy statistics</li> <li>• reliable international sources</li> <li>• default values – diesel: 835 kg/m<sup>3</sup> at 15°C;<sup>d</sup> gasoline: 720 kg/m<sup>3</sup> at 15°C<sup>e</sup></li> </ul>	Measured	Every 5 years

TABLE 11.4, continued

## Approach C – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Source of data	Parameter type	Suggested monitoring frequency
NCV of fuel type <i>i</i> <b><math>NCV_i</math> [TJ/Gg]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy statistics</li> <li>reliable international sources</li> <li>default values – diesel: 43.0 TJ/Gg; gasoline: 44.3 TJ/Gg<sup>f</sup></li> </ul>	Measured	Every 5 years
Emission factor for gasoline fuel <b><math>EFG</math> [tCO<sub>2</sub>/TJ]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy or environmental statistics</li> <li>national fuel providers, such as refineries or fuel importers, based on their measurements</li> </ul>	Measured	Every 5 years
Emission factor for diesel fuel <b><math>efd</math> [tCO<sub>2</sub>/TJ]</b>	<ul style="list-style-type: none"> <li>default values – gasoline: 69.3 tCO<sub>2</sub>/TJ; diesel: 74.1 tCO<sub>2</sub>/TJ<sup>g</sup></li> </ul>	Measured	Every 5 years
Emission factor for electricity <b><math>EF_{electricity}</math> [tCO<sub>2</sub>/TJ]</b>	In order of priority: <ul style="list-style-type: none"> <li>national energy or environmental statistics (electricity mix)</li> <li>national fuel providers, such as refineries or fuel importers, based on their measurements</li> <li>supra-regional default value (e.g. for continent); otherwise, global default value – mainly conventional/fossil fuel electricity production: 110,000 kgCO<sub>2</sub>/TJ; at least 50% renewable share: 220,000 kgCO<sub>2</sub>/TJ<sup>h</sup></li> </ul>	Measured	Every 5 years
Gasoline price elasticity <b><math>\epsilon_{gasoline}</math> [-]</b>	In order of preference: <ul style="list-style-type: none"> <li>country-specific data from empirical study or from literature</li> <li>default values provided in methodology</li> </ul>	Measured/ estimated Uncertainty high	Once
Bus cross-price elasticity <b><math>\epsilon_{cross,bus}</math> [-]</b>		Measured/ estimated Uncertainty high	Once
Rail cross-price elasticity <b><math>\epsilon_{cross,rail}</math> [-]</b>		Measured/ estimated Uncertainty high	Once
Gasoline price, including price increase through policy <b>Gasoline price [US\$]</b>	National statistics	Measured	Annual

TABLE 11.4, continued

## Approach C – summary of relevant parameters from Chapters 7 and 8

Parameter and unit	Source of data	Parameter type	Suggested monitoring frequency
Total passenger kilometres with passenger cars in road transport within assessment boundaries of the approach <b>Passenger kilometres with gasoline-powered passenger cars [PKM]</b>	Calculated using methodology	Calculated	Annual
Total passenger kilometres with passenger buses using diesel in road transport within assessment boundaries of the approach <b>Passenger kilometres with diesel-powered passenger buses [PKM]</b>	Calculated using methodology	Calculated	Annual
Total passenger kilometres with passenger trains using diesel in rail transport within assessment boundaries of the approach <b>Passenger kilometres with diesel-powered passenger trains [PKM]</b>	Calculated using methodology	Calculated	Annual
Total passenger kilometres with passenger trains using electricity in rail transport within assessment boundaries of the approach <b>Passenger kilometres with electricity-powered passenger trains [PKM]</b>	Calculated using methodology	Calculated	Annual
Total GHG emissions from the combustion of gasoline in passenger car road transport within assessment boundaries of the approach <b>Passenger car emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual

TABLE 11.4, continued

**Approach C – summary of relevant parameters from Chapters 7 and 8**

Parameter and unit	Source of data	Parameter type	Suggested monitoring frequency
Total GHG emissions from the combustion of diesel in diesel bus road transport within assessment boundaries of the approach <b>Passenger bus emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual
Total GHG emissions from the combustion of diesel in passenger rail transport within assessment boundaries of the approach <b>Diesel-powered passenger rail emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual
Total GHG emissions from the use of electricity in passenger rail transport within assessment boundaries of the approach <b>Electricity-powered passenger rail emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual
Total GHG emissions from road and rail passenger transport within assessment boundaries of the approach <b>Total passenger transport emissions [tCO<sub>2</sub>]</b>	Calculated using methodology	Calculated	Annual

Abbreviation: VKT, vehicle kilometres travelled

<sup>a</sup> UNFCCC (2014).

<sup>b</sup> To estimate total capacity of bus transport, estimate fleet composition (i.e. categories of buses with specific capacity), multiply number of buses (category) by specific capacity (category), and sum the results of these calculations for all the categories within the fleet.

<sup>c</sup> HBEFA (2014).

<sup>d</sup> Directive 1998/69/EC ([www.dieselnet.com/standards/eu/fuel\\_reference.php](http://www.dieselnet.com/standards/eu/fuel_reference.php)).

<sup>e</sup> NOAA (no date).

<sup>f</sup> Both values are from IPCC (2006), vol. 2, Chapter 1, Table 1.2.

<sup>g</sup> Both values are from IPCC (2006), vol. 2, Chapter 3, Table 3.2.1.

<sup>h</sup> Assumption by the authors of this methodology, based on UNFCCC (2014).

## 11.2 Create a monitoring plan

Monitoring during the policy implementation period serves two objectives:

- **to evaluate the performance of the policy** – monitor trends in performance parameters to understand whether the policy is on track and being implemented as planned
- **to estimate GHG impacts** – collect the data needed for ex-post assessment of GHG impacts.

To monitor progress and estimate GHG effects ex-post, users need to collect data on parameters during and/or after the policy implementation period. A monitoring plan is important to ensure that the necessary data are collected and analysed. It is a *key recommendation* to create a plan for monitoring key performance indicators and parameters. A monitoring plan is the system for obtaining, recording, compiling and analysing data and information important for tracking performance and estimating GHG impacts. Where feasible, users should develop the monitoring plan during the policy design phase (before implementation), rather than after the policy has been designed and implemented.

### 11.2.1 Monitoring period

The policy implementation period is the time period during which the policy is in effect. The assessment period is the time period over which the GHG impacts resulting from the policy are assessed. The monitoring period is the time period over which the policy is monitored. There can be multiple monitoring periods within the assessment period.

At a minimum, the monitoring period should include the policy implementation period. It is useful if the monitoring period also covers monitoring of relevant activities before implementation of the policy and post-policy monitoring of relevant activities after the implementation period. Depending on the indicators being monitored, it may be necessary to monitor some indicators over different time periods than others.

Users should strive to align the monitoring period with those of other assessments being conducted using other ICAT methodologies. For example, if assessing sustainable development impacts using the ICAT *Sustainable Development Methodology* in addition to assessing GHG impacts, the monitoring periods should be the same.

For further information on institutional arrangements for coordinated monitoring, as well as key elements of a robust monitoring plan and system, refer to [Section 3.2](#).

## 11.3 Monitor indicators and parameters over time

It is a *key recommendation* to monitor each of the indicators and parameters over time, in accordance with the monitoring plan. The frequency of monitoring is dependent on user resources, data availability, feasibility, and the degree of uncertainty to be accounted for in reporting. The monitoring plan should include an iterative process for balancing these dependencies. Where monitoring indicates that the assumptions used in the ex-ante assessment are no longer valid, users should document the difference and account for the monitored results when updating ex-ante estimates or when estimating ex-post GHG impacts.

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# 12 Reporting

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*Reporting the results, methodology and assumptions used is important to ensure that the impact assessment is transparent, and gives decision makers and stakeholders the information they need to properly interpret the results. This chapter provides a list of information that is recommended for inclusion in an assessment report.*

## Checklist of key recommendations

- Report information about the assessment process and the GHG impacts resulting from the policy (including the information listed in [Section 12.1](#))

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## 12.1 Recommended information to report

It is a *key recommendation* to report information about the assessment process and the GHG impacts resulting from the policy (including the information listed below<sup>74</sup>). Where two or more assessment guides are applied to the policy, the general information and policy description only need to be reported once. For guidance on providing information to stakeholders, refer to the ICAT *Stakeholder Participation Guide* (Chapter 7).

### General information

- The name of the policy assessed
- The person(s) or organization(s) that did the assessment
- The date of the assessment
- Whether the assessment is an update of a previous assessment and, if so, links to any previous assessments

### Chapter 2: Objectives of assessing the GHG impacts of pricing policies

- The objective(s) and intended audience(s) of the assessment

### Chapter 4: Steps and assessment principles

- Opportunities for stakeholders to participate in the assessment

### Chapter 5: Describing the pricing policy

- A description of the policy, including the information in [Table 5.1](#). Whether the assessment applies to an individual policy or a package of policies; if a package is assessed, which policies are included in the package
- Whether the assessment is ex-ante, ex-post, or a combination of ex-ante and ex-post

### Chapter 6: Identifying impacts: how pricing policies reduce GHG emissions

- A list of all GHG impacts of the policy, using a causal chain, showing which impacts are included in the GHG assessment boundary
- A list of potential GHG impacts that are excluded from the GHG assessment boundary, with justification for their exclusion
- The assessment period

### Chapter 7: Estimating the baseline scenario and emissions

- The approach followed for estimating base year emissions (approach A, B or C)
- A description of the baseline scenario projection, based on expected developments in population and GDP
- A list of influencing policies and actions, including the information in [Table 12.1](#)

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<sup>74</sup> The list does not cover all chapters in this document because some chapters provide information or guidance that is not relevant to reporting.

- The methods and assumptions used for the projection of each parameter value, including which other external influences were included, if any, and a general description of the expected development of the parameter (see [Table 12.2](#) for an example)
- Parameter values and GHG emission estimates for each year based on projected parameter values, using methods set out in [Sections 7.1](#) and [7.2](#); reported as a time series using [Table 12.3](#), including any available historical data, and indicating which data are historical and which are projected

TABLE 12.1

## Reporting on influencing policies and actions (example)

Influencing policy or actions	Implementation period for policy (start date, duration)	Description of potential effect on transport sector	Deviation from trend?	Magnitude of effect (major, moderate, minor)	Likelihood of effect (very likely, likely, possible, unlikely, very unlikely)
Import duty based on vehicle age and emission control technology	Planned start date: 1 June 2017 No end date	Improvement of average vehicle fleet efficiency Reduced growth in vehicle ownership per capita	Yes	Moderate	Likely

TABLE 12.2

## Reporting on parameter assumptions and expected developments (example)

Parameter	General description of expected development	Method used	External influences included?	Sources
Fuel use	Fuel use is expected to grow with a constant factor	Adjusted trend	Technology improvement with a constant efficiency gain of X%/year Income elasticity of fuel of 1.7	Using European Union data from European Environment Agency; literature review

TABLE 12.3

**Reporting on parameter values and baseline emissions**

Parameter	Unit	Year 1 (historical)	Year 2 (projection)	Year 3 (projection)	Year 4 (projection)	Year <i>n</i> (projection)
Baseline emissions	tCO <sub>2</sub>					
Fuel use (total)	MJ					
Fuel use (gasoline)	MJ					
Fuel use (diesel)	MJ					

- The method or approach used to assess uncertainty
- An estimate or description of the uncertainty and/or sensitivity of the results, to help users of the information properly interpret the results

**Chapter 8: Estimating GHG impacts ex-ante**

- Results of the GHG impact calculations and related uncertainties
- Any methodologies and assumptions used to estimate GHG emissions, including any models used
- All sources of data used to estimate parameters, including activity data, emission factors and assumptions
- The method or approach used to assess uncertainty
- An estimate or description of the uncertainty and/or sensitivity of the results, to help users of the information properly interpret the results

**Chapter 9: Estimating GHG impacts ex-post**

- Total annual and cumulative policy scenario emissions over the GHG assessment period
- The methodology and assumptions used to estimate policy scenario emissions, including the emissions estimation methods (including any models) used

- All sources of data used to estimate key parameters, including activity data, emission factors, global warming potential values, and assumptions
- An estimate of the total cumulative GHG impacts of the policy over the assessment period, and disaggregated by each GHG source included in the GHG assessment boundary
- The method or approach used to assess uncertainty
- An estimate or description of the uncertainty and/or sensitivity of the results, to help users of the information properly interpret the results

**Chapter 10: Estimating GHG impacts for vehicle purchase incentives and road pricing**

- Where Chapter 10 is applied, the information recommended under “General information” above and Chapters 2, 3, 5, 6 and 11, in addition to an explanation of the approach and data used to calculate GHG impacts

**Chapter 11: Monitoring performance over time**

- A list of the key performance indicators used to track performance over time and the rationale for their selection
- Sources of key performance indicator data and monitoring frequency

**Additional information to report (if relevant)**

- How the policy is modifying longer-term trends in GHG emissions
- The economic, social and environmental (sustainable development), and transformational impacts of the policy
- The type of technical review undertaken (first, second or third party), the qualifications of the reviewers and the review conclusions. More guidance on reporting information related to technical review is provided in Chapter 9 of the ICAT *Technical Review Guide*.



# APPENDICES