
1 Introduction

The transport sector is responsible for approximately 18% of global greenhouse gas (GHG) emissions,¹ and experts predict that economic growth could cause transport activity to double by 2050. A fundamental transformation is needed if the sector is to play its part in the transition to net zero global GHG emissions in the second half of the 21st century. Pricing policies, such as removing fuel subsidies or increasing fuel taxes, can play an important role in reducing GHG emissions. These can be considered win-win policies because of the multitude of environmental, social and economic benefits they bring.

In this context, there is an increasing need to assess and communicate the impacts of transport policies to ensure that they are effective in mitigating GHG emissions, and helping countries meet their sectoral targets and national commitments. The Initiative for Climate Action Transparency (ICAT) Transport Pricing Methodology helps policymakers assess the impacts of pricing policies in the transport sector and improve their effectiveness. It can play a critical role in providing the information needed for preparing reports under the Paris Agreement's enhanced transparency framework and for the United Nations Sustainable Development Goals.

1.1 Purpose of the methodology

This document provides methodological guidance for assessing the GHG impacts of pricing policies in the transport sector. Specifically, the methodology provides a stepwise approach for estimating the impacts of higher fuel prices using price elasticities of demand. Other methods are provided in less depth for estimating the impacts of vehicle purchase incentives and road pricing policies.

This methodology is part of the series of ICAT guides for assessing the impacts of policies and actions. It is intended to be used in combination with any other ICAT documents that users choose to apply. The series of assessment guides is intended to enable users who choose to assess GHG, sustainable development and transformational impacts of a policy to do so in an integrated and consistent way within a single impact assessment process. Refer to the ICAT *Introduction to the ICAT Assessment Guides*² for more information about the ICAT assessment guides and how to apply them in combination.³

1.2 Relationship to other guidance and resources

This methodology uses and builds on existing resources mentioned throughout the document, such as the GIZ *Reference Document on Measurement, Reporting and Verification in the Transport Sector*,⁴ as well as additional resources listed in [Appendix B](#).

The methodology builds on the Greenhouse Gas Protocol *Policy and Action Standard*⁵ (© WRI 2014; all rights reserved) to provide a detailed method

² <https://climateactiontransparency.org/wp-content/uploads/2020/01/Introduction-to-the-ICAT-Assessment-Guides.pdf>

³ An executive summary of this Guide has been published separately. <https://climateactiontransparency.org/wp-content/uploads/2020/01/Transport-Pricing-Methodology-Executive-summary.pdf>

⁴ Available at: http://transferproject.org/wp-content/uploads/2014/10/Reference-Document_Transport-MRV_final.pdf.

⁵ WRI (2014).

¹ Huizenga and Peet (2017).

for specific transport pricing policies. The *Policy and Action Standard* provides guidance on estimating the GHG impacts of policies and actions, and discusses many of the accounting concepts in this document, such as baseline and policy scenarios. This methodology adapts the structure, and some of the tables, figures and text from the *Policy and Action Standard*, where relevant. Chapters 1, 2, 4, 5, 6, 11 and 12, and the glossary include elements drawn from the *Policy and Action Standard*. Figures and tables adapted from the *Policy and Action Standard* are cited, but for readability not all text taken directly or adapted from the standard is cited.

A full list of references is provided at the end of this document.

1.3 Intended users

This methodology is intended for use by policymakers and practitioners seeking to assess GHG impacts in the context of development and implementation of nationally determined contributions (NDCs), national low emission development strategies, nationally appropriate mitigation actions (NAMAs) and other mechanisms. The primary intended users are developing country governments and their partners who are implementing and assessing transport pricing policies. Throughout the document, the term “user” refers to the entity implementing the methodology.

The main emphasis of the methodology is the assessment of GHG impacts. Impact assessment can also inform and improve the design and implementation of policies. Thus, intended users include any stakeholders involved in the design and implementation of national transport policies, strategies, NDCs or NAMAs, including research institutions, businesses and non-governmental organizations.

1.4 Scope and applicability of the methodology

This document provides general principles and concepts, and a stepwise method for estimating the GHG impacts of the following types of transport

pricing policies,⁶ which are described in more detail in [Chapter 3](#):

- **Fuel subsidy removal.** Subsidies that reduce the price of vehicle fuel below its fair-market cost are removed.
- **Increased fuel tax or levy.** The tax imposed on each unit of vehicle fuel is increased. The tax may include general taxes that apply to many goods and special taxes specific to vehicle fuel.
- **Road pricing (road tolls and congestion pricing).** Motorists pay directly for driving on a particular roadway in a particular area. Road pricing has two general objectives: revenue generation and congestion management.
- **Vehicle purchase incentives for more efficient vehicles.** Governments increase the fuel efficiency of the vehicle fleet and/or promote a shift to lower-carbon fuels by providing incentives for the purchase of selected vehicles. This policy is most applicable to electric, plug-in hybrid-electric, hydrogen-fuelled and other vehicles that are not powered by gasoline or diesel. It is applied by governments through lower purchase taxes, purchase rebates, income tax credits and lower vehicle taxes.

The methodology does not include non-motorized transport, nor every fuel or vehicle type. However, the methods and calculations in this document can be applied to other transport or fuel types, depending on country-specific needs.

The methodology does not cover all transport policies, but rather aims to fill gaps in existing guidance. Users can refer to the *Compendium on Greenhouse Gas Baselines and Monitoring: Passenger and Freight Transport*⁷ for descriptions and links to guidance on other transport policies or actions. Appendix H lists the full criteria used to choose the scope of the methodology.

⁶ Throughout this document, where the word “policy” is used without “action”, it is used as shorthand to refer to both policies and actions. See [Glossary](#) for definition of “policy or action”.

⁷ Available at: www.international-climate-initiative.com/fileadmin/Dokumente/2017/170602_Compendium_GHG_Monitoring_Transport.pdf.

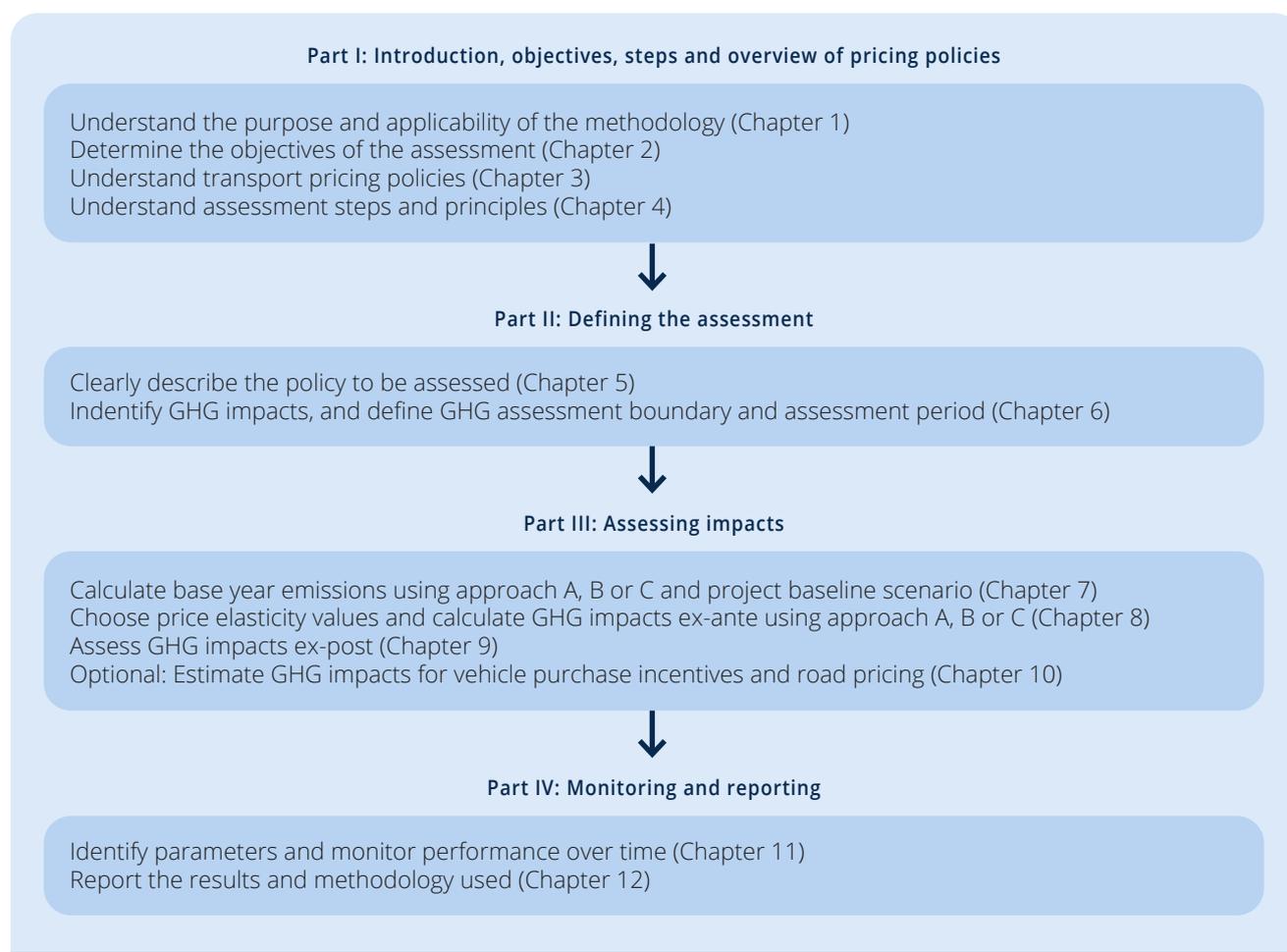
This methodology is organized into four parts (see [Figure 1.1](#)). It details a process for users to follow when conducting a GHG assessment of pricing policies. It provides guidance on defining the assessment, an approach to GHG assessment including ex-ante (forward-looking) assessments and ex-post (backward-looking) assessments, and monitoring and reporting. Examples from an assessment in Indonesia for subsidy removal and vehicle purchase incentives are included in [Sections 9.2](#) and [10.2.5](#) to illustrate how to apply the methodology. The full report of the assessment conducted in Indonesia will be published on the ICAT website.⁸

The methodology is applicable to policies:

- at any level of government (national, subnational, municipal) in all countries and regions (depending on the approach chosen)
- that are planned, adopted or implemented
- that are new policies; or extensions, modifications or eliminations of existing policies.

FIGURE 1.1

Overview of the methodology



⁸ www.climateactiontransparency.org

1.5 When to use the methodology

The methodology can be used at multiple points throughout the policy design and implementation process, including:

- **before pricing policy implementation** – to assess the expected future impacts of a pricing policy (through ex-ante assessment)
- **during pricing policy implementation** – to assess the impacts achieved to date, ongoing performance of key performance indicators, and expected future impacts of a pricing policy
- **after pricing policy implementation** – to assess what impacts have occurred as a result of a pricing policy (through ex-post assessment).

Depending on individual objectives and when the methodology is applied, users can implement the steps related to ex-ante assessment, ex-post assessment or both. The most comprehensive approach is to apply the methodology before policy implementation, regularly during implementation and again after implementation. Users carrying out an ex-post assessment only can skip [Chapter 8](#). Users carrying out an ex-ante assessment only can skip [Chapter 9](#).

1.6 Key recommendations

The methodology includes key recommendations that are recommended steps to follow when assessing and reporting impacts. These recommendations are intended to help users to produce credible and high-quality impact assessments that are based on the principles of relevance, completeness, consistency, transparency and accuracy.

Key recommendations are indicated in subsequent chapters by the phrase “It is a *key recommendation* to ...”. All key recommendations are also compiled in a checklist at the beginning of each chapter.

Users who want to follow a more flexible approach can use the methodology without adhering to the key recommendations. The ICAT *Introduction to the ICAT Assessment Guides* provides more information on how and why key recommendations are used within the ICAT assessment guides, and on following either the “flexible approach” or the “key recommendations approach” when using the documents. Refer to the

Introduction to the ICAT Assessment Guides before deciding which approach to follow.

1.7 Alignment with the enhanced transparency framework of the Paris Agreement

This methodology can help countries to fulfil their accounting and reporting requirements under the enhanced transparency framework of the Paris Agreement. Specifically, the methodology can help countries understand the impacts of transport pricing policies, estimate baseline emissions and GHG impacts, conduct projections, and monitor progress over time using indicators and parameters. This enables countries to account for their contributions and track progress towards implementation and achievement of their NDCs. Alignment of indicators and parameters (i.e. using the same indicators and parameters to assess the impacts of a transport pricing policy and to meet reporting requirements of the transparency framework) is recommended for the following:

- Estimating baseline emissions and GHG impacts. Align input parameters used to estimate baseline emissions and GHG impacts of transport pricing policies with the input parameters used for GHG accounting of NDCs (see [Chapter 7](#)).
- Projections and assessment period. Align the parameters and assessment period used to develop projections for transport pricing policies with the parameters and time frame used to meet reporting requirements of the transparency framework (see [Chapters 7 and 8](#)).
- Monitoring and tracking progress toward NDCs. Indicators and parameters used in this methodology to monitor transport pricing policy implementation can also be used to track progress towards implementation and achievement of an NDC. Some indicators suggested in this methodology can be used to track sustainable development impacts (see [Chapter 6](#)).

1.8 Process for developing the methodology

This methodology has been developed through an inclusive, multi-stakeholder process convened by ICAT. The development is led by INFRAS (technical lead) and Verra (co-lead), who serve as the secretariat and guide the development process. The first draft was developed by drafting teams, consisting of a subset of a broader Technical Working Group (TWG) and the secretariat. The TWG consists of experts and stakeholders from a range of countries identified through a public call for expressions of interest. The TWG contributed to the development of the technical content of the methodology through participation in regular meetings and written comments. A Review Group provided written feedback on the first draft of the methodology. ICAT's Advisory Committee, which provides strategic advice to ICAT, reviewed the second draft.

The second draft was applied by ICAT participating countries and other non-state actors to ensure that it can be practically implemented. The current version of the methodology was informed by the feedback gathered from that experience.

More information about the methodology development process, including governance of the initiative and the participating countries, is available on the ICAT website.⁹

All contributors are listed in the [Contributors section](#).

⁹ <https://climateactiontransparency.org>

2 Objectives of assessing the GHG impacts of pricing policies

This chapter provides an overview of objectives users may have in assessing the GHG impacts of pricing policies. Determining the assessment objectives is an important first step, since decisions made in later chapters are often guided by the stated objectives.

Checklist of key recommendations

- Determine the objectives of the assessment at the beginning of the impact assessment process

Assessing the impacts of transport pricing policies is a key step towards identifying opportunities and gaps in effective GHG mitigation strategies. Impact assessment supports evidence-based decision-making by enabling policymakers and stakeholders to understand the relationship between pricing policies and expected GHG impacts. It is a *key recommendation* to determine the objectives of the assessment at the beginning of the impact assessment process.

Examples of objectives for assessing the GHG impacts of a policy are listed below. The ICAT *Sustainable Development Methodology* and *Transformational Change Methodology* can be used to assess the broader sustainable development and transformational impacts of transport pricing policies, and users should refer to these methodologies for objectives for assessing such impacts.

2.1 Objectives of assessing impacts before policy implementation

- **Improve policy design and implementation** by understanding the impacts of different design and implementation choices.
- **Inform goal-setting** by assessing the potential contribution of policies to national or subnational goals, such as NDCs
- **Assess the transformational potential** of a policy and use that to seek funding

from finance institutions supporting transformational action.

2.2 Objectives of assessing impacts during or after policy implementation

- **Assess policy effectiveness and improve implementation** by determining whether policies are being implemented as planned and delivering the intended results.
- **Learn from experience** and share best practices about policy impacts.
- **Track progress towards national goals** such as NDCs and understand the contribution of policies to achieving them.
- **Inform future policy design**, including reformulation of NDCs towards enhanced ambition, and decide whether to continue current actions, enhance current actions or implement additional actions.
- **Report**, domestically or internationally, including under the Paris Agreement's enhanced transparency framework, on the impacts of policies achieved to date.
- **Meet funder requirements** to report on impacts of policies, if applicable.

Users should identify the intended audience(s) of the assessment report. Possible audiences include policymakers, the general public, non-governmental organizations, companies, funders, financial institutions, analysts, research institutions, or other stakeholders affected by (or who can influence) the policy. For more information on identifying stakeholders, refer to the ICAT *Stakeholder Participation Guide* (Chapter 5).

Subsequent chapters provide flexibility to enable users to choose how best to assess the impacts of pricing policies in the context of their objectives, including which impacts to include in the GHG

assessment boundary, and which methods and data sources to use. The appropriate level of accuracy and completeness is likely to vary by objective. Users should assess the impacts of pricing policies with a sufficient level of accuracy and completeness to meet the stated objectives of the assessment.