



CLIMATE
PROMISE



Partnership on Transparency
in the Paris Agreement



United Nations
Framework Convention on
Climate Change



CITEPA

Exigências do ICTU no contexto da NDC

Citepa, Outubro de 2023



Agenda

Parte 1: Introdução : NDC e ICTU

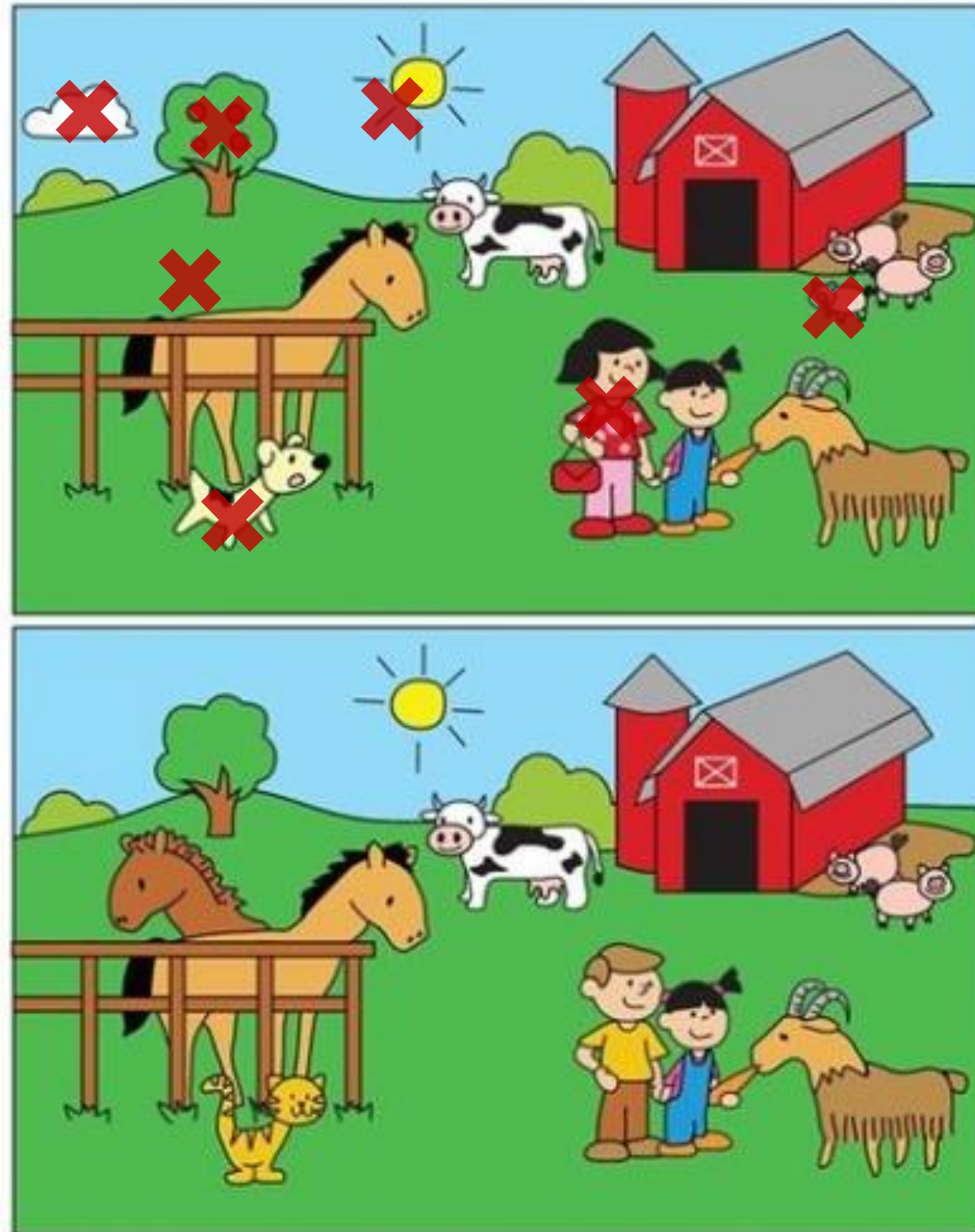
Parte 2: Visão geral da ICTU

Parte 3: Lista de verificação de elementos ICTU:

(i) Estudo de caso Brasil com checklist

(ii) Discussão aberta : desafios

Para começar : jogo dos 7 erros



Enquete/votação

- **Entre os presentes na sala:**
 - **Quem já conhece suficientemente bem todos os aspectos do ICTU?**
 - **Quem já ouviu falar, tem algumas noções, mas gostaria de conhecer melhor o conceito?**
 - **Quem vai ser apresentado pela primeira vez de forma detalhada a este conceito?**

ICTU : principais elementos

Information for
Clarity,
Transparency
and
Understanding



Informação quantificável sobre o ponto de referência (incluindo, quando necessário, um ano de referência)



Horizontes de tempo e período de implementação



Escopo e abrangência



Processo de planejamento



Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções



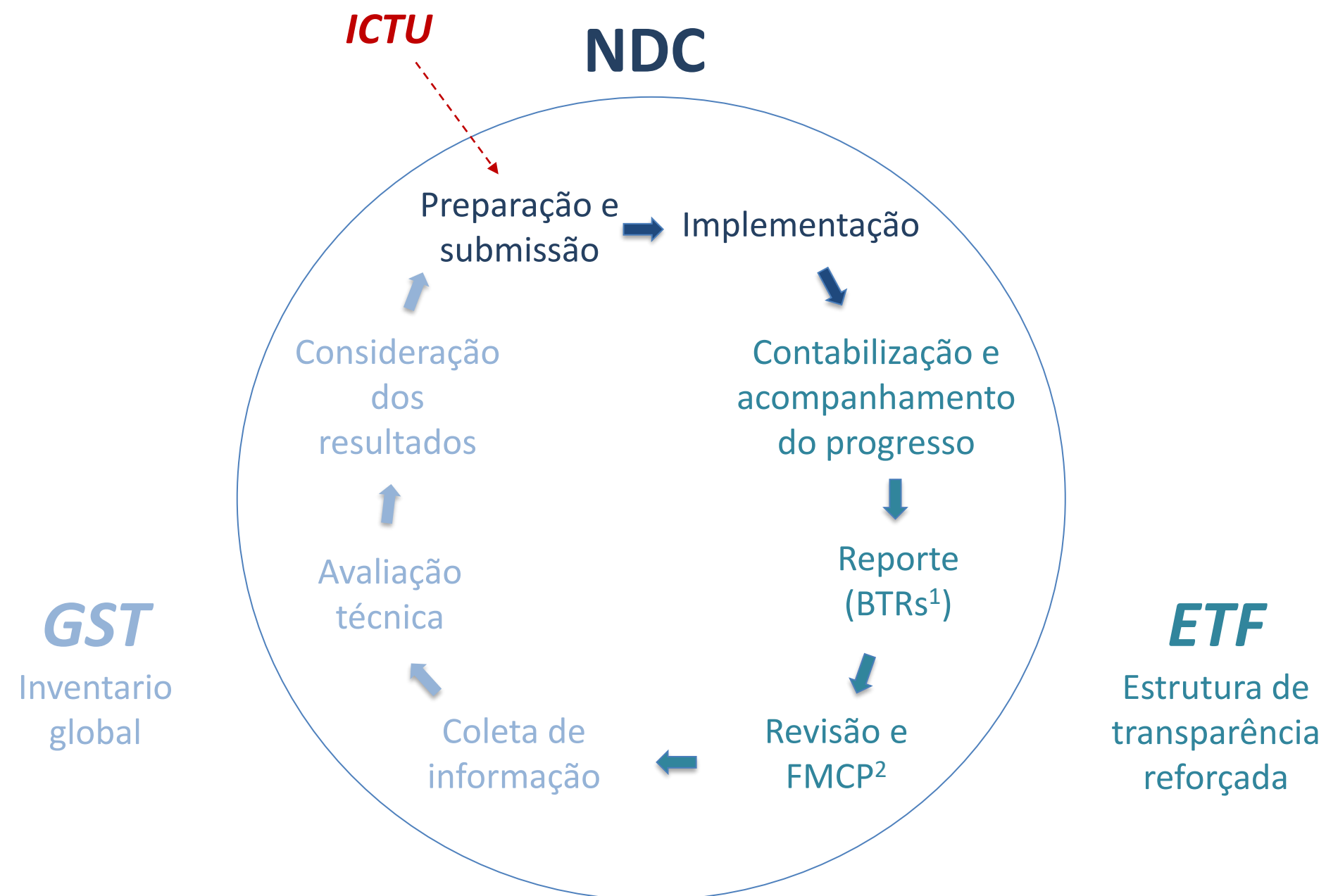
Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais



Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

ICTU no contexto do acordo de Paris

Katowice
climate package



Fonte : UNFCCC Virtual workshop, MENA Region, 26-28 Oct 2020

1 Biennial Transparency Report

2 Facilitative, Multilateral Consideration of Progress

Verificação ICTU : fontes

Interim NDC Registry

→ <https://www4.unfccc.int/sites/NDCStaging/Pages/LatestSubmissions.aspx>

NDC Registry (interim) | HOME | **ALL NDCs** | NDC Information | FAQ

To access **all NDCs** through country pages

Click here for the latest submissions

Latest Submissions: To access the NDCs arranged by the date of submission

186 Parties have submitted their first NDCs.
2 Parties have submitted their second NDCs.

Welcome to the interim NDC Registry maintained by the secretariat.

In accordance with Article 4, paragraph 10, of the Paris Agreement, the NDC Registry is maintained by the secretariat.

Climate Transparency

G20 REPORT | TOPICS | COUNTRIES

Home > NDC Transparency Check

NDC Transparency Check

Introduction | Methodology | Assessments

Click on the picture to download the document.

ARGENTINA
MAKING ARGENTINA'S 2020 NDC UPDATE MORE TRANSPARENT

AUSTRALIA
MAKING AUSTRALIA'S 2020 NDC UPDATE MORE TRANSPARENT

ICTU : principais elementos



Informação quantificável sobre o ponto de referência (incluindo, quando necessário, um ano de referência)



Horizontes de tempo e período de implementação



Escopo e abrangência



Processo de planejamento



Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções

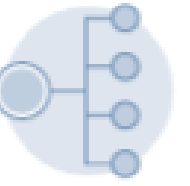


Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais



Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Verificação ICTU : discussão sobre a referência



1. Informação quantificável sobre o ponto de referência (incluindo, se necessário, o ano base):

- a) Ano de referência, ano base, período de referência ou outro ponto de partida;
- b) Informação quantificável sobre os indicadores de referência, seus valores no ano de referência, ano base, período de referência ou outro ponto de partida, e, si aplicável no ano do objetivo;
- c) Para estratégias, planos e ações mencionadas no Artigo 4, parágrafo 6, do Acordo de Paris, ou políticas e medidas como elementos da CDN onde o parágrafo 1(b) acima não se aplica, as Partes devem fornecer outras informações relevantes;
- d) Objetivo relativo ao indicador de referência, numericamente explícito, por exemplo em % de redução;
- e) Informações sobre as fontes de dados usados na quantificação do ponto de referência;
- f) Informações sobre as circunstâncias sob as quais a Parte possa atualizar os valores dos indicadores de referência.



1. Informação quantificável sobre o ponto de referência (incluindo, se necessário, o ano base):

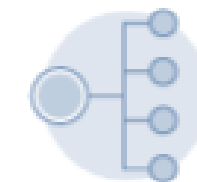
- a) O ano de referência para a NDC do Brasil é 2005;
- b) A quantificação do indicador de referência é baseada no total líquido de de emissões de GEE no ano de referência de 2005 comunicado no “Inventario Nacional de Emissões (...)”. O Brasil vai adotar o ultimo Inventario Nacional disponível e submetido à UNFCCC no momento da avaliação de resultados da NDC.
- c) Não aplicável;
- d) Reduzir as emissões de GES de 37% abaixo dos níveis de 2005 em 2025, e de 50% abaixo dos níveis de 2005 em 2030;
- e) Inventario Nacional de emissões de GEE (...);
- f) Informações sobre as emissões de 2005 e os valores de referência podem ser atualizados

Verificação do elemento 1: NDC Brasil



Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
1. Quantifiable information on the reference point (including, as appropriate, a base year):					
(a) reference year(s), base year(s), reference period(s) or other starting point(s)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/> n/a	<input type="checkbox"/> Reference year(s) – including for reduction against a baseline <input checked="" type="checkbox"/> Base year(s) <input type="checkbox"/> Reference period(s) <input type="checkbox"/> other starting point(s)	Base year is 2005	-	-
(b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year; (If 1 (c) is completed, this is not applicable)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/> n/a	<input type="checkbox"/> Quantified – in CO ₂ or CO ₂ -eq or in other emissions units <input type="checkbox"/> Quantified – other units <input checked="" type="checkbox"/> Quantifiable information provided – to quantify in CO ₂ or CO ₂ -eq <input type="checkbox"/> Quantifiable information provided – to quantify in other units <input type="checkbox"/> No quantifiable information	The 2005 value was not included in the NDC.	<input checked="" type="checkbox"/> Yes	?
(c) For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or policies and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information; (If 1(b) is completed, this is not applicable, unless a country has provided policies and measures as well)	<input type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	<input type="checkbox"/> The country has provided reference points for relevant quantified goals for specific PAMs. <input type="checkbox"/> The country has provided reference point for qualitative goals for PAMs with non-quantified goals.		-	-
(d) Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction;	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a	<input checked="" type="checkbox"/> % reduction from base year <input type="checkbox"/> % reduction from BAU <input type="checkbox"/> % intensity reduction from base year <input type="checkbox"/> Other	To reduce greenhouse gas emissions by 37% below 2005 levels in 2025, and by 50% below 2005 levels in 2030	-	-
(e) Information on sources of data used in quantifying the reference point(s);	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/> n/a	Source : <input checked="" type="checkbox"/> GHG inventory <input type="checkbox"/> Reference to underlying data sources <input type="checkbox"/> Other studies Enhanced conformance – traceability: <input checked="" type="checkbox"/> Source readily found	National Inventory of Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases not controlled by the Montreal Protocol.	-	-
(f) Information on the circumstances under which the Party may update the values of the reference indicators.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a	GHG inventory: How values may be updated When Baseline projections: Information on whether the baseline will be updated, when and why. Intensity: If, whether and how the country will update its intensity reference indicator.	Information on emissions in 2005 and reference values may be updated and recalculated due to methodological improvements applicable to the inventories.	-	-

Verificação ICTU : discussão sobre a referência



(b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year:

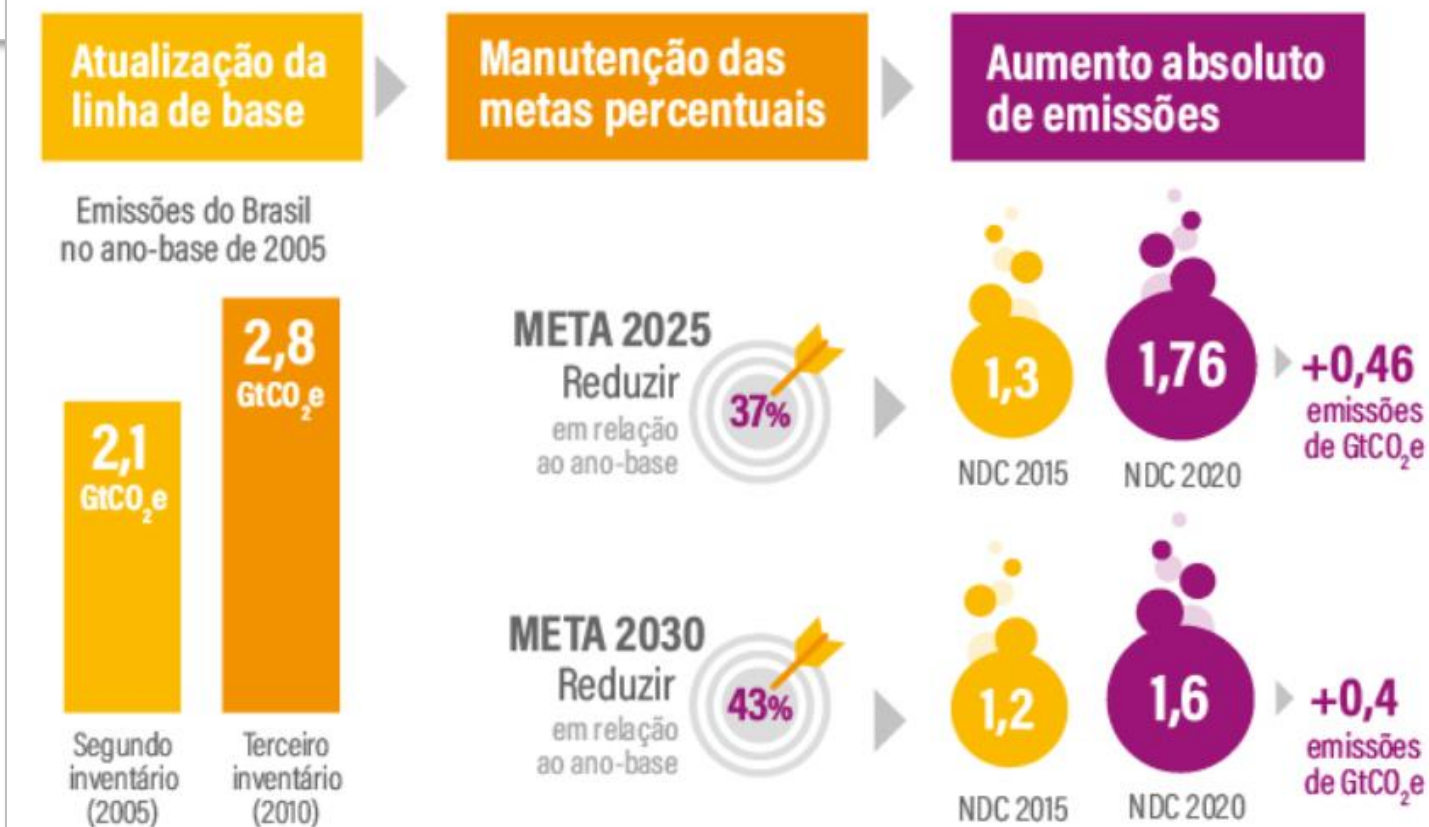
The quantification of the reference indicator is based on the total net emissions of greenhouse gases (GHG) in the reference year of 2005 reported in the “National Inventory of Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases not controlled by the Montreal Protocol”. Brazil will adopt the latest National Inventory Report available and submitted to the UNFCCC by the time of the assessment of the results of the NDC.

WRI BRASIL PROGRAMAS PROJETOS NOTÍCIAS PUBLICAÇÕES

Nova NDC do Brasil: entenda por que a meta climática foi considerada pouco ambiciosa

01 Abr 2021 Por Viviane Romeiro, Carolina Genin e Bruno Felin

Por que a nova meta da NDC do Brasil é menos ambiciosa



Fonte: elaboração dos autores com base em dados do MCTI e das NDCs submetidas pelo Brasil na UNFCCC

WRI BRASIL

ICTU : principais elementos



Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)



Horizontes de tempo e período de implementação



Escopo e abrangência



Processo de planejamento



Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções



Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais



Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 2 do ICTU : Horizonte temporal

1. Horizonte de tempo e/ou período de implementação:

- a) Horizonte de tempo e/ou período de implementação, incluindo data de início e fim, consistente com qualquer decisão futura adotada pela COP servindo como reunião das Partes do Acordo de Paris (CMA);;
- b) Seja um objetivo referente a um ano ou multianual, conforme aplicável.



1. Horizonte de tempo e/ou período de implementação:








- a) As emissões líquidas de 01/01/2005 a 31/12/2005 comparadas com as emissões de 01/01/2025 a 31/12/2025.
As emissões líquidas de 01/01/2005 a 31/12/2005 comparadas com as emissões de 01/01/2030 a 31/12/2030;
- b) Objetivos “uni anuais” para 2025 e 2030

Verificação do elemento 2: NDC Brasil



Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
2. Time frames and/or periods for implementation:					
(a) Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);	(X) Yes () No () n/a	() Stated time frame of 5 years () Stated time frame of 10 years () Other stated time frame (X) Start date: 1 January 2005 (X) End date: 31 December 2025	"Net emissions from 01/01/2005 to 31/12/2005 compared with net emissions from 01/01/2025 to 31/12/2025."	-	-
(b) Whether it is a single-year or multi-year target, as applicable.	(X) Yes () No	() Single-year target (X) Multi-year target	"Single-year targets in 2025 and 2030."	-	-

ICTU : principais elementos

-  Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)
-  Horizontes de tempo e período de implementação
-  **Escopo e abrangência**
-  Processo de planejamento
-  Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções
-  Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais
-  Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 3 do ICTU : Abrangência



1. Escopo e abrangência:

- a) Descrição geral do objetivo;
- b) Setores, gases, categorias e sumidouros cobertos pela NDC, incluindo, conforme aplicável, consistente com as diretrizes do IPCC;
- c) Como a Parte levou em consideração o parágrafo 31(c) e (d) da decisão 1/CP.21;
- d) Co-benefícios resultantes das ações de mitigação da Parte e/ou dos planos de diversificação econômica, incluindo descrição específica de projetos, medidas e iniciativas das ações de adaptação das parte e/ou dos planos de diversificação econômica.

3. Scope and coverage:

(a) General description of the target:

Economy-wide absolute targets, consistent with the sectors present in the National Inventory of Greenhouse Gas Emissions for 2025 and 2030, always compared with 2005. The targets will be translated into policies and measures to be detailed and implemented by the Brazilian Federal government.

(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Inter governmental Panel on Climate Change (IPCC) guidelines:

CO₂, CH₄, N₂O, SF₆, perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs).

(c) How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21:

The same gases previously indicated in the 2015 iNDC have been kept.

(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans:

As a developing country, Brazil faces the challenge of contributing to the global efforts to mitigate emissions, according to the principle of common but differentiated responsibilities, and at the same time implement adaptation actions to cope with the impacts of climate change in its territory.

According to the Working Group I contribution to the Sixth Assessment Report of the IPCC, published in August 2021, parts of South America, including the Brazilian territory, will experience an increase in temperature that is above the global average, which will lead to the worsening of agricultural and ecological droughts and to the increase in the frequency of extreme climate events. The IPCC findings are aligned with studies also carried out in Brazil and reported in its 4th National Communication to the UNFCCC, which states that "Brazil's climate is changing, especially the frequency of extreme precipitation events that occur with greater intensity, just like the variability of temperatures and precipitation also seem to suffer important changes".








Adaptation actions implemented in the context of this NDC will aim at reducing vulnerability in terms of water, energy, food, social and environmental security, thus potentially generating synergies with the implementation of the 2030 Agenda and enhancing social and productive benefits. Based on the second cycle of the National Adaptation Plan (NAP), adaptation measures in Brazil will aim at strengthening the management of water resources, the

Verificação do elemento 3: NDC Brasil



Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
3. Scope and coverage:					
(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	Sectors: <input checked="" type="checkbox"/> Energy <input checked="" type="checkbox"/> IPPU <input type="checkbox"/> AFOLU – specified separately for land use and agriculture <input checked="" type="checkbox"/> LULUCF (if specified separately from above) <input checked="" type="checkbox"/> Agriculture (if specified separately from above) <input checked="" type="checkbox"/> Waste <input type="checkbox"/> Other Categories: <input type="checkbox"/> Categories and sub-categories used for each sector above in the NDC Gases: <input checked="" type="checkbox"/> Carbon dioxide: CO2 <input checked="" type="checkbox"/> Methane: CH4 <input checked="" type="checkbox"/> Nitrous oxide: N2O <input checked="" type="checkbox"/> Perfluorocarbons: PFCs <input checked="" type="checkbox"/> Hydrofluorocarbons: HFC <input checked="" type="checkbox"/> Sulphur hexafluoride: SF6 <input type="checkbox"/> Nitrogen trifluoride: NF3 Pools: <input type="checkbox"/> Aboveground biomass <input type="checkbox"/> Belowground biomass <input type="checkbox"/> Dead wood <input type="checkbox"/> Litter <input type="checkbox"/> Soil organic matter	"CO2, CH4, N2O, SF6, perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs)."	Yes	?
(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/> n/a	Economic diversification: <input type="checkbox"/> Energy Efficiency <input type="checkbox"/> Renewable energy <input type="checkbox"/> Carbon Capture and Utilization/Storage <input type="checkbox"/> Utilization of gas <input type="checkbox"/> Methane recovery and flare minimization <input type="checkbox"/> Other Adaptation actions with mitigation co-benefits: <input checked="" type="checkbox"/> Water and waste-water management	General information is provided but no specific actions or quantified informations is available	Yes	?

ICTU : principais elementos

-  Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)
-  Horizontes de tempo e período de implementação
-  Escopo e abrangência
-  **Processo de planejamento**
-  Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções
-  Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais
-  Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 4 do ICTU : Processo de planejamento



4. Planning processes:

(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:

- (i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner;
- (ii) Contextual matters, including, inter alia, as appropriate:
 - a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;
 - b. Best practices and experience related to the preparation of the nationally determined contribution;
 - c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;

(b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement;

(c) How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;

(d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:

- (i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;
- (ii) Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.



4. Planning processes:

(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:

(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner:

At the governmental level, the Interministerial Committee on Climate Change and Green Growth, instituted by decree 10.845, of 25 October 2021, sets the institutional framework for the elaboration and implementation of public policies on climate change.

The institutional dialogue between the Brazilian government and civil society takes place through the Brazilian Forum on Climate Change, instituted by decree 9.082, of 26 June 2017. The forum aims at raising “awareness and mobilize society and to contribute to the discussion of actions needed to deal with global climate change, in accordance with the National Policy on Climate Change, the United Nations Framework Convention on Climate Change and its resulting international agreements, including the Paris Agreement and Brazil's Nationally Determined Contributions”.

Articles 5, 231, and 232 of the Brazilian Constitution establish ample rights and guarantees for all Brazilian citizens, paying due attention to the special needs of women and indigenous peoples. Brazil is also a party to the ILO Convention 169 on Indigenous and Tribal Peoples.

(ii) Contextual matters, including, inter alia, as appropriate:

a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication:

With a territory of over 8.5 million square kilometers, Brazil has equatorial, tropical, and subtropical climates with rainfall levels that range from 500 mm to 2,000 mm per year, as well as six biomes, namely the Cerrado (savannah), the Amazon (equatorial rainforest), the Caatinga (semi-arid), the Atlantic Forest (tropical rainforest), the Pantanal (seasonal wetlands), and the Pampa (subtropical grasslands). All of the six Brazilian biomes will suffer from the negative impacts of climate change, which will require the federal government to consider specific policies and measures to address their particularities when implementing this NDC.

Brazil has also signed all major multilateral environmental treaties and has enacted a wide range of laws and public policies regarding sustainable development. It has also worked to implement policies aimed at fighting poverty and reducing vulnerabilities in areas such as health, education, social security and minimum income. Brazil currently ranks 84th among 188 countries in the latest United Nations Human Development Index ranking. Brazilian figures regarding social development point to the need to ensure economic growth while promoting improvements in the life standards of its population.

Verificação do elemento 4: NDC Brasil



Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
4. Planning processes:					
(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:					
(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner;	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	Domestic institutional arrangements: <input type="checkbox"/> No information provided <input checked="" type="checkbox"/> Some information provided <input type="checkbox"/> Detailed information provided	-	Yes	?
((i).cont.) ..if available, information provided on a Party's implementation plans;	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	Implementation plans: <input checked="" type="checkbox"/> No information provided <input type="checkbox"/> Some information provided Enhanced conformance: <input type="checkbox"/> Detailed information on how implementation	No information	Yes	?
(ii) Contextual matters, including, inter alia, as appropriate:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	a. Inclusion of relevant national circumstances, such as geography, climate, economy, sustainable development and poverty eradication <input type="checkbox"/> No information provided	Information only on national circumstances	Yes	?
(b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the	<input type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	<input type="checkbox"/> Terms of the agreement to act jointly. <input type="checkbox"/> Emission level allocated to each Party within the relevant time period Enhanced conformance: <input type="checkbox"/> Detailed description of the basis for burden-	Not applicable	-	-
(c) How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	<input type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	Information on how the previous global stocktake (GST) informed the NDC: <input type="checkbox"/> Yes <input type="checkbox"/> No Enhanced conformance:	Not applicable	-	-
(d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent					
(i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	<input type="checkbox"/> The NDC contains information on how the economic and social consequences of response measures have been considered in developing the NDC.	Not applicable	-	-
(ii) Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	The NDC contains information on specific projects, measures and activities for adaptation which mitigation co-benefits in: <input type="checkbox"/> Energy resources <input type="checkbox"/> Water resources <input type="checkbox"/> Coastal resources	Not applicable	-	-

Verificação ICTU : discussão sobre o processo de planejamento



1. Información sobre buenos ejemplos o estudios de casos (desafíos o éxitos) de Guinea Ecuatorial.

Cuando Guinea Ecuatorial elaboró en el año 2015 su primer NDC, la información utilizada en su primer Inventario Nacional de GEI (INGEI) fue elaborada en 2013; la cual aportó información de las emisiones de los cuatro sectores económicos principales generados de emisiones en el país: Energía; Transporte; Agricultura, Silvicultura y Cambios de Usos de la tierra; y Residuos, por entonces. En ese momento, alguna información sobre los datos de actividad (DA) fue conseguida principalmente por fuentes internacionales como la FAO o el Banco Mundial, entre otros.

Sin embargo, en la NDC actualizada del 2021, el país ya había avanzado en la elaboración en 2019, de los Arreglos Institucionales entre el ministerio entonces responsable de Bosques y Medio Ambiente con otros departamentos sectoriales clave. El objetivo con esos Arreglo Institucionales era de facilitar el flujo de información relevante (IR). En base al Acuerdo de Colaboración establecido en estos Arreglos Institucionales, el Ministerio encargado de Bosques y Medio Ambiente, organizó en 2019, un curso de una semana para la recolecta de DA que serían utilizados en el INGEI para el NDC 2021. La formación sobre la metodología, recolección y tipo de datos de cada sector y sub-sector, fue facilitada tanto para los técnicos del sector de bosques y medio ambiente como a los puntos focales sectoriales identificados en el marco de los Arreglos Institucionales establecidos.

Estudo de caso – Sistema de monitoramento do indicador de referência (Total de emissões líquidas de GEE) da NDC Brasileira

Sistema de Registro Nacional de Emissões – SIRENE

O SIRENE, instituído pelo Decreto Nº 9.172/2017, é um sistema desenvolvido pelo Ministério da Ciência, Tecnologia e Inovação (MCTI), cujo objetivo principal é disponibilizar os resultados do Inventário Nacional de Emissões Antrópicas por Fontes e Remoções por Sumidouros de Gases de Efeito Estufa não Controlados pelo Protocolo de Montreal, assim como disponibilizar as informações relacionadas a outras iniciativas de contabilização de emissões, tais como as Estimativas Anuais de Emissões de Gases de Efeito Estufa e o inventário do Relatório de Atualização Bienal.

Verificação ICTU : discussão sobre o processo de planejamento



Estudo de caso – Sistema de monitoramento do indicador de referência (Total de emissões líquidas de GEE) da NDC Brasileira

Sistema de Registro Nacional de Emissões – SIRENE

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Verificação ICTU : discussão sobre o processo de planejamento










1. Información sobre buenos ejemplos o estudios de casos (desafíos o éxitos) de Guinea Ecuatorial.

Cuando Guinea Ecuatorial elaboró en el año 2015 su primer NDC, la información utilizada en su primer Inventario Nacional de GEI (INGEI) fue elaborada en 2013; la cual aportó información de las emisiones de los cuatro sectores económicos principales generados de emisiones en el país: Energía; Transporte; Agricultura, Silvicultura y Cambios de Usos de la tierra; y Residuos, por entonces. En ese momento, alguna información sobre los datos de actividad (DA) fue conseguida principalmente por fuentes internacionales como la FAO o el Banco Mundial, entre otros.

Sin embargo, en la NDC actualizada del 2021, el país ya había avanzado en la elaboración en 2019, de los Arreglos Institucionales entre el ministerio entonces responsable de Bosques y Medio Ambiente con otros departamentos sectoriales clave. El objetivo con esos Arreglo Institucionales era de facilitar el flujo de información relevante (IR). En base al Acuerdo de Colaboración establecido en estos Arreglos Institucionales, el Ministerio encargado de Bosques y Medio Ambiente, organizó en 2019, un curso de una semana para la recolecta de DA que serían utilizados en el INGEI para el NDC 2021. La formación sobre la metodología, recolección y tipo de datos de cada sector y sub-sector, fue facilitada tanto para los técnicos del sector de bosques y medio ambiente como a los puntos focales sectoriales identificados en el marco de los Arreglos Institucionales establecidos.

ICTU : principais elementos

-  Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)
-  Horizontes de tempo e período de implementação
-  Escopo e abrangência
-  Processo de planejamento
-  **Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções**
-  Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais
-  Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 5 do ICTU : Metodologia e hipóteses

5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals:

(a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;

(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;

(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate;

(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;

(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:

(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands;

(ii) Approach used to account for emissions and removals from harvested wood products;

(f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:

(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;

(ii) For Parties with nationally determined contributions that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;

(iii) For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated;

(iv) Further technical information, as necessary;

(g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.



(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals:

Emissions of gases covered by Brazil's NDC will be calculated based on the 2006 IPCC Guidelines. The methodological tier to be employed will depend on the availability of data in the different sectors. Brazil will make an effort to apply at least tier 2 methodologies for the key categories identified.

Emissions of the covered gases will be aggregated in terms of the 100-year time-horizon global warming potential (GWP-100), on the basis of the values stipulated in the IPCC Fifth Assessment Report, or 100-year time-horizon global warming potential values subsequently determined by the IPCC, as agreed by the CMA.

Consistent with Decision 18/CMA.1, Brazil will also continue to employ the global temperature potential (GTP), which is a more accurate metric for assessing the contribution of different gases to climate change.

(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:

(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands:

This approach will still be defined and subsequently informed.

(ii) Approach used to account for emissions and removals from harvested wood products:

Brazil will use the production approach, consistent with the 2006 IPCC Guidelines.

(iii) Approach used to address the effects of age-class structure in forests:

This approach will still be defined and subsequently informed.

(f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:

(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used:

Brazil has not used any other assumptions or methodological approaches.








(ii) For Parties with nationally determined contributions that contain nongreenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable:

Not applicable.

Verificação do elemento 5: NDC Brasil

Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals:					
(a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;	(X) Yes () No	() A general description of the accounting approach. () Detailed description of how the country will account for the land sector in its NDC.	"Brazil will update its national inventories for the historical series based on the 2006 IPCC Guidelines or any subsequent guidelines that may come to replace them."	-	-
(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;	() Yes () Partly () No (X) n/a	() No information provided () Some information provided () Detailed information provided	P&M will be treated in the BTR. Brazil will also apply specific assumptions and methodologies, when appropriate, when assessing progress made under the policies and measures related to the implementation of its NDC in its Biennial Transparency Report.	-	-
(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate;	() Yes () Partly (X) No	() The country has specified that they will use existing methods and guidance. () The country has specified that they will not use existing methods and guidance. () The country has not provided any information	No explicit information on this	Yes	?
(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;	(X) Yes () Partly () No () n/a	(X) The country has specified in their NDC whether they have used 1996 or 2006 IPCC guidelines for estimating emissions and removals, and/or other IPCC guidance. (X) The country has specified which GWP values it is using (from which IPCC assessment report)	Explicit information is provided	-	-
(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:				-	-
(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands:	() Yes (X) No () n/a	() Approach to addressing emissions and removals on managed lands reported in the NDC. () No information included in the NDC.	"This approach will still be defined and subsequently informed."	Yes	?
(ii) Approach used to account for emissions and removals from harvested wood products;	(X) Yes () No () n/a	() Approach to harvested wood products reported. () No information included in the NDC.	"Brazil will use the production approach, consistent with the 2006 IPCC Guidelines. "	-	-

ICTU : principais elementos

-  Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)
-  Horizontes de tempo e período de implementação
-  Escopo e abrangência
-  Processo de planejamento
-  Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções
-  **Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais**
-  Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 6 do ICTU : Justiça/equidade e ambição



6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:

- (a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;
- (b) Fairness considerations, including reflecting on equity;
- (c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;
- (d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;
- (e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.



(a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:

Brazil is a developing country and, as such, struggles with challenges associated with poverty eradication, the need to improve its development indexes in areas that include education, public health, employment rates, housing and social inclusion. In spite of its challenges, Brazil has contributed greatly with the global efforts to mitigate greenhouse gas emissions, thus proving that it is possible to decouple economic growth and emissions.

In the pre-2020 period, the Brazilian government has voluntarily committed to implementing

(b) Fairness considerations, including reflecting on equity:

Most of the current concentration of greenhouse gases in the atmosphere is a result of emissions that have taken place since the Industrial Revolution (the post-1750 period). Current generations are bearing the costs of past interference with the global climate system, resulting from human activities and consequent greenhouse gas emissions, primarily by developed countries, during the last two and a half centuries. In order to build a fair global response to climate change, it is therefore of central importance to establish a connection between cause (anthropogenic emissions) and effect (temperature increase and climate change).

The average increase in the global temperature due to anthropogenic emissions is an objective

(c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement:

The target of reducing emissions by 50% between 2005 and 2030 represents an increase of 13 percentage points compared to the previous target of reducing emissions by 37% between 2005 and 2025. The current target is also consistent with a long-term objective of reaching climate neutrality by 2050.

(d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement:

Despite being a developing country, Brazil has already adopted an absolute, economy-wide target since it presented its INDC.

(e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement:








Not applicable.

Verificação do elemento 6: NDC Brasil



Element of ICTU	Included in NDC	Category of assessment	Information in NDC and assessment	Improvement possible?	Blocking point?
6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:					
(a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;	Fair <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Ambitious <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Inclusion of grounds for why the NDC target is fair. <input type="checkbox"/> Inclusion of grounds for why the NDC target is ambitious.	"The Brazilian NDC is one of the most ambitious in the world."	Yes	?
b) Fairness considerations, including reflecting on equity;	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	The country has provided in its NDC: <input type="checkbox"/> References to equity analyses by international experts. <input type="checkbox"/> References to equity analyses by incountry experts. <input type="checkbox"/> References to indicators found in equity literature. <input type="checkbox"/> References to the application of preferred	"the marginal relative contribution to the global average surface temperature increase is a relevant measure for evaluating the level of each party's responsibility in the collective effort"	-	-
(c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement; ("Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.");	Progression <input type="checkbox"/> Yes <input type="checkbox"/> Partly <input checked="" type="checkbox"/> No Ambition <input type="checkbox"/> Yes <input type="checkbox"/> Partly <input checked="" type="checkbox"/> No	Progression: <input type="checkbox"/> The NDC contains a statement that the mitigation target in NDC is more stringent than the country's previous NDC or emissions target under the Convention or Kyoto Protocol. <input type="checkbox"/> If a developing country, the target type has changed to an economy-wide absolute emissions target and/or more sectors have been included. <input type="checkbox"/> Developed country NDCs – reference to leadership via economy-wide absolute emission reduction targets.	"The target of reducing emissions by 50% between 2005 and 2030 represents an increase of 13 percentage points compared to the previous target of reducing emissions by 37% between 2005 and 2025. The current target is also consistent with a long-term objective of reaching climate neutrality by 2050."	Yes	?
(d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement; ("Developed country Parties should continue taking the lead by undertaking economywide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances");	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Developing country NDCs – reference to enhancing their mitigation efforts. <input type="checkbox"/> Developing country NDCs – timing to move to an economy-wide emission reduction or limitation target indicated	"Despite being a developing country, Brazil has already adopted an absolute, economy-wide target since it presented its INDC."	-	-
(e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement. ("The least developed countries and small island developing States may prepare and communicate strategies, plans and actions for low greenhouse gas emissions developing reflecting their special circumstances");	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	NDCs of LDCs and SIDS: <input type="checkbox"/> Fairness addressed in strategies, plans and actions communicated. <input type="checkbox"/> Ambition addressed in strategies, plans and actions communicated. <input type="checkbox"/> Neither of the above.		-	-

ICTU : principais elementos

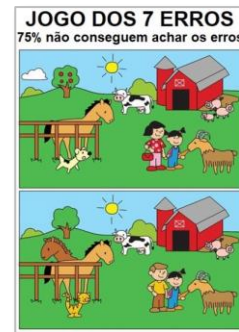
-  Informação quantificável sobre o ponto de referencia (incluindo, quando necessário, um ano de referencia)
-  Horizontes de tempo e período de implementação
-  Escopo e abrangência
-  Processo de planejamento
-  Hipóteses e princípios metodológicos, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções
-  Como a parte considera sua NDC justa e ambiciosa, sob o prisma das circunstâncias nacionais
-  Como a NDC ajuda a atingir o objetivo da Convenção conforme Artigo 2

Elemento 6 do ICTU : Contribuição aos objetivos globais



7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:

- (a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;
- (b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.



7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:

(a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:

By presenting one of the most ambitious NDCs in the world, Brazil understands it is significantly contributing to the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system", consistent with Article 2 of the UNFCCC.

By the same token, Brazil believes to be contributing to the collective effort to hold "the increase in the global average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", consistent with Article 2.1(a) of the Paris Agreement.

(b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement:

As per Article 4.1 of the Paris Agreement, Brazil presents a sizeable emission reduction target, which largely exceeds any goals related to peaking emissions. Brazil's NDC is compatible with a long-term objective of achieving carbon neutrality in 2050.

Verificação do elemento 7: NDC Brasil

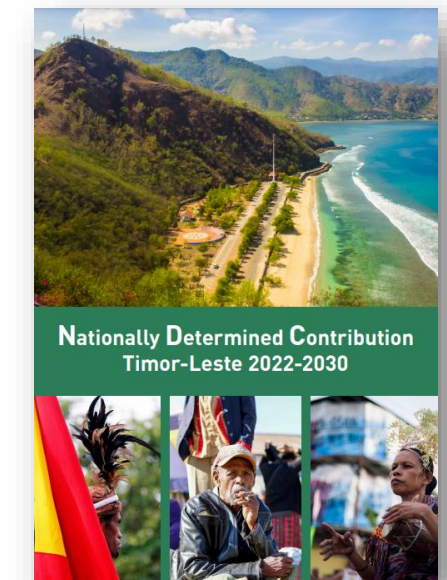
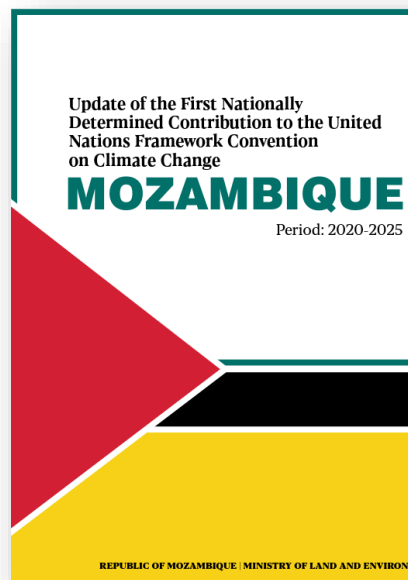
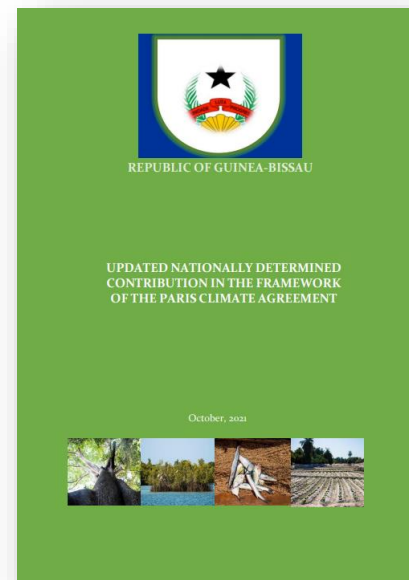
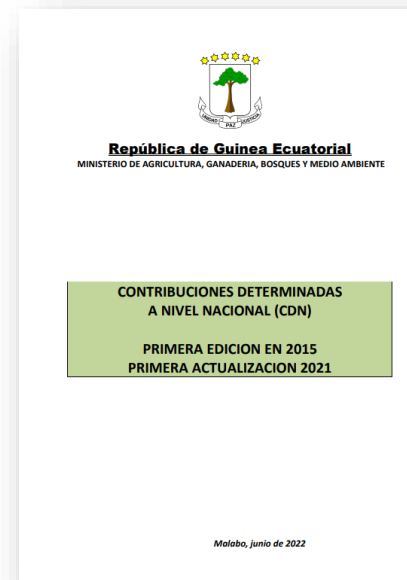
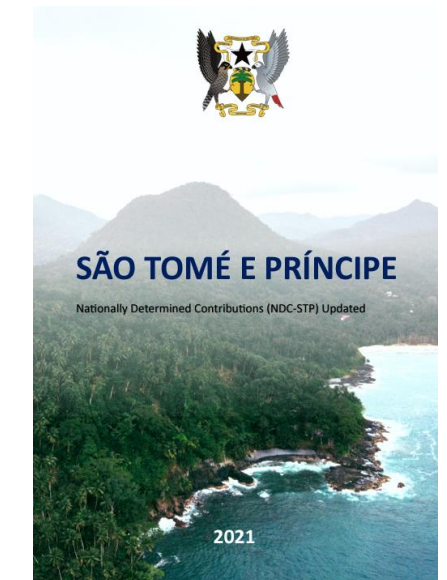
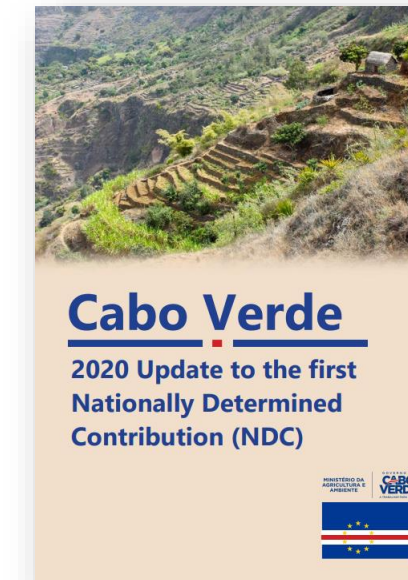
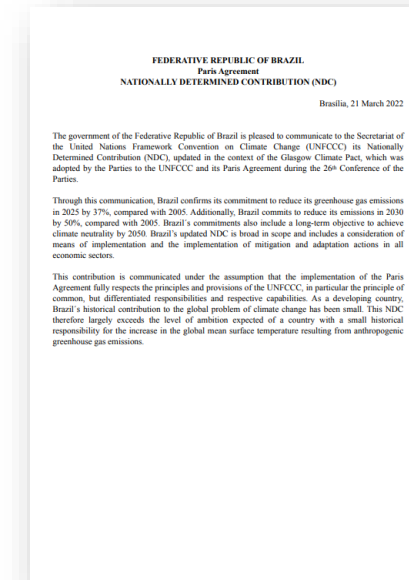
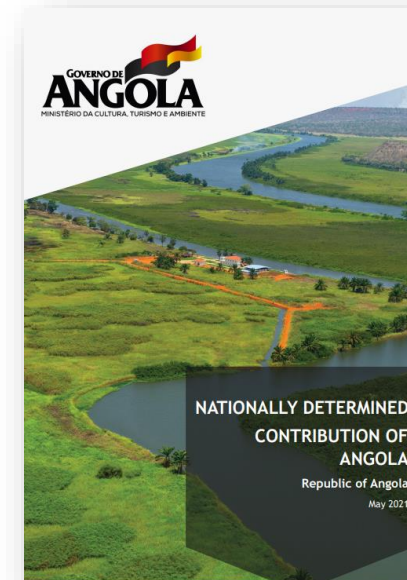


7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:					
(a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Partly <input type="checkbox"/> No	<input checked="" type="checkbox"/> The NDC refers to Article 2 of the Convention in relation to mitigation ambition. <input type="checkbox"/> The NDC contains information on how it contributes to the reduction of emissions in terms of Article 2 of the Convention. <input type="checkbox"/> The NDC contains information on how natural sinks are being maintained and enhanced.	General statements, no precise information	Yes	?
(b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No	<input type="checkbox"/> The NDC contains a reference to the peaking year – either when it occurred or when it is projected to be. <input type="checkbox"/> For countries whose emissions have peaked, the NDC provides grounds for the NDC target being consistent with “rapid reductions thereafter”. <input checked="" type="checkbox"/> The NDC contains a reference to a national policy goal of net zero emissions, and by which year. <input checked="" type="checkbox"/> The NDC contains a clear link between the Paris Agreement’s Article 2.1(a) and the country’s NDC.	"As per Article 4.1 of the Paris Agreement, Brazil presents a sizeable emission reduction target, which largely exceeds any goals related to peaking emissions. Brazil’s NDC is compatible with a long-term objective of achieving carbon neutrality in 2050.". No explicit information on the peaking year.	Yes	?

NDCs do nucleo lusófono vs ICTU

- Informação quantificável sobre o ponto de **referência** (incluindo, quando necessário, um ano de referência)
- Horizontes de tempo e **período** de implementação
- Escopo e **abrangência**
- Processo** de planejamento
- Hipóteses e **princípios metodológicos**, incluindo para estimações e contabilizações de GEE de origem antropogênica, e, se aplicável, remoções
- Como a parte considera sua NDC **justa e ambiciosa**, sob o prisma das circunstâncias nacionais
- Como a **NDC ajuda a atingir o objetivo** da Convenção conforme Artigo 2

- **Como as outras NDCs passariam pelo checklist de verificação ICTU?**
- **Como cada um pensa tratar o tema do ICTU na próxima NDC?**
- **Quais são os desafios para melhorar a clareza, transparência e compreensão?** (ex. sistemas de coleta de dados, ferramenta de modelização, treinamentos técnicos, regulamentação, limites organizacionais, etc.)



Reflexão

*Como pretendemos
tratar de ICTU na
proxima NDC?*

CLIMATE PROMISE

Supported by:



on the basis of a decision by the German Bundestag



From the People of Japan



Federal Ministry for Economic Cooperation and Development



Sverige



Co-funded by the European Union



UK Government



Belgium partner in development



Government of Iceland Ministry for Foreign Affairs



+ UNDP's Core Donors

Supported by:



Partnership on Transparency in the Paris Agreement



Federal Ministry for Economic Affairs and Climate Action

Federal Foreign Office



INTERNATIONAL CLIMATE INITIATIVE

on the basis of a decision by the German Bundestag



CITEPA



CLIMATE
PROMISE



Partnership on Transparency
in the Paris Agreement



United Nations
Framework Convention on
Climate Change



CITEPA

Avaliação de P&M com foco nos indicadores

Citepa, Outubro de 2023



Agenda

Parte 1: Introdução : conceitos-chave

Parte 2: Passo a passo PATPA para o rastreamento de indicadores NDC

Parte 3: Passo a passo GHG protocol para a avaliação de P&M

O que significa avaliar e acompanhar o progresso da NDC

O acompanhamento do progresso em direção às metas da NDC e a contabilização das metas da NDC respondem à questão de quanto progresso o país fez para atingir suas metas ao longo do tempo e até que ponto o país atingiu sua NDC.

Isto é implementado através da comunicação de uma **série temporal** do indicador relevante e da **comparação** com o **objetivo** e/ou o **nível de referência**.

a) Acompanhamento do progresso do NDC
MPG: Secção III.C (pgf 59-79)

Rastreamento top-down
Com base nos dados do Inventário
Nacional de GEE

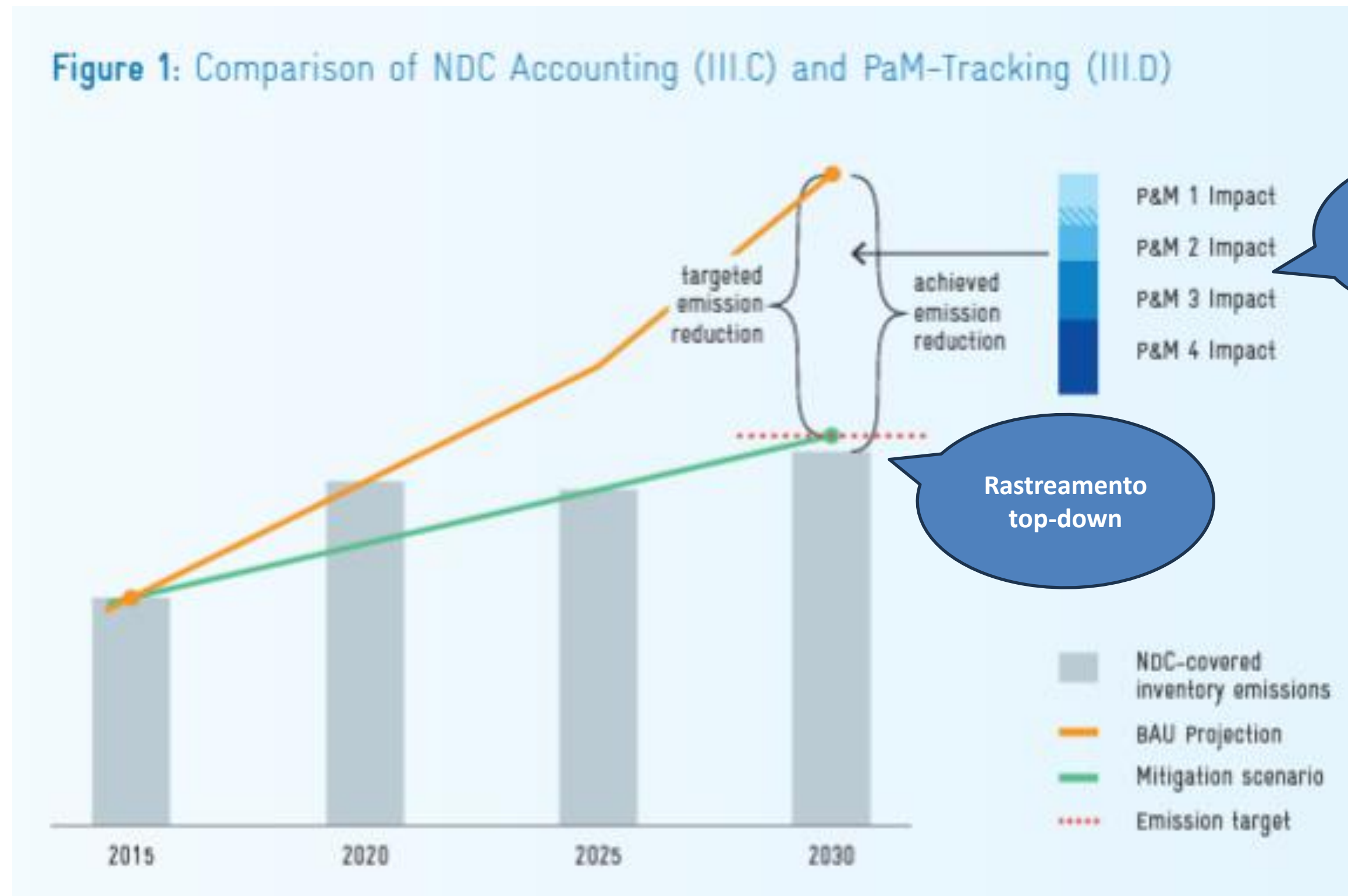
Uso de indicadores para reportar
avanços nas metas da NDC

**b) Acompanhamento de políticas e medidas de
mitigação, ações e planos**
MPG: Secção III.D (pgf 80-85)

Com base no rastreamento
bottom_up

Uso de indicadores para reportar
avanços no P&M
+ avaliação dos impactos GEE das P&M

Rastreamento NDC vs PaM: rastreamento top-down vs bottom-up

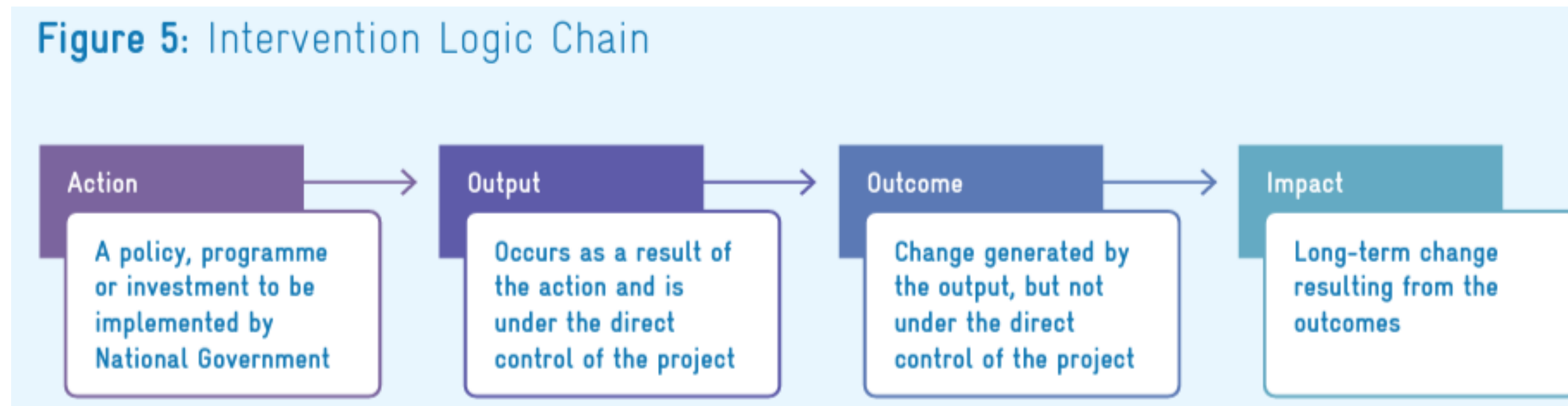


Passo a passo PATPA para o rastreamento de indicadores NDC

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets

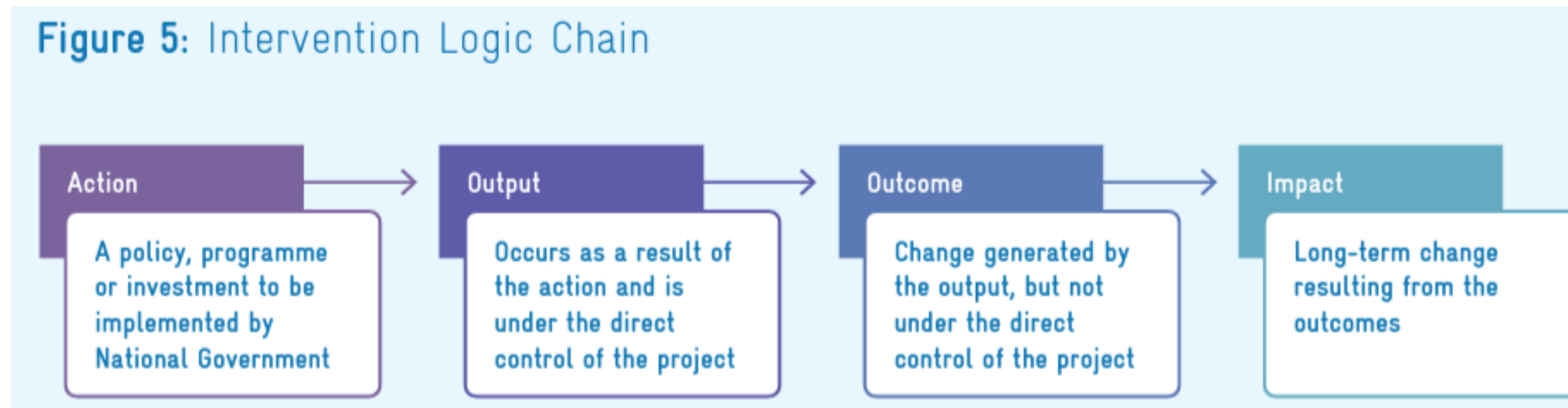


Um conceito chave : a “Cadeia logica de intervenção”



Exercicio ! Replicar a « Cadeia logica de intervenção » para uma ação de electrificação de frota de onibus.

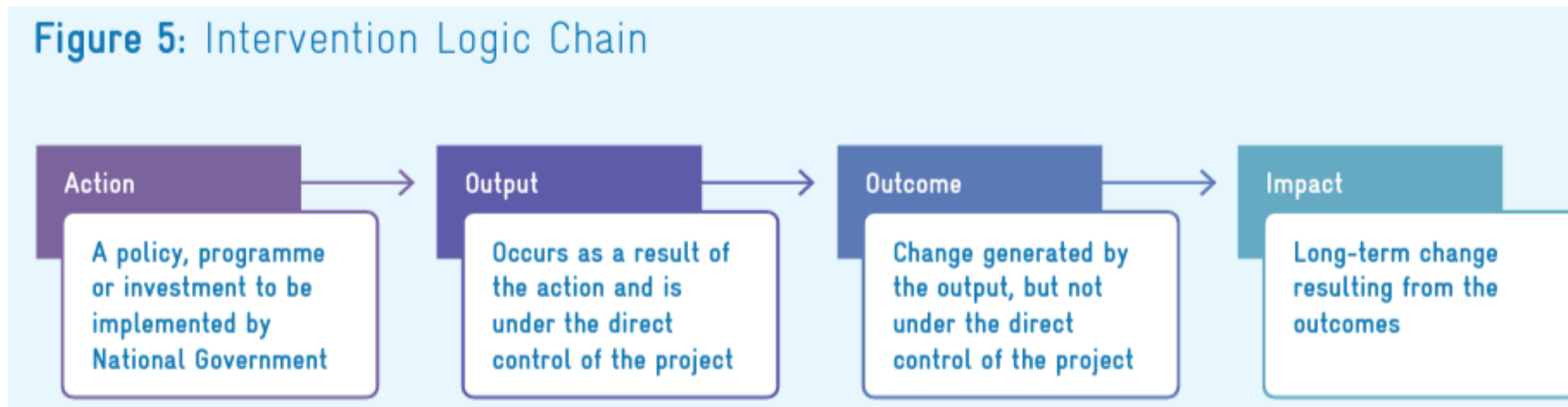
Um conceito chave : a “Cadeia logica de intervenção”



Exercicio ! Replicar a « Cadeia logica de intervenção » para uma ação de electrificação de frota de onibus.

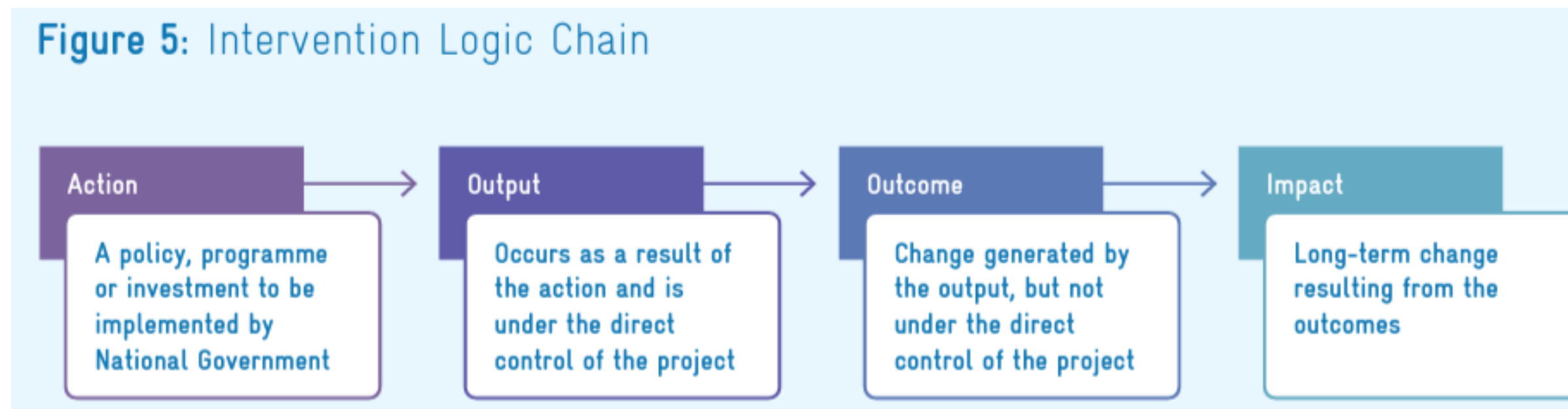
Sector	Action	Output	Outcome	Impact
Transport	Electrification of the bus fleet	Increased number of electric buses	Reduced pollutant and noise emissions in the city	Improvements for public health

Um conceito chave : a “Cadeia logica de intervenção”



Exercicio ! Replicar a « Cadeia logica de intervenção » para uma ação de eficiencia energética na industria

Um conceito chave : a “Cadeia logica de intervenção”



Exercicio ! Replicar a « Cadeia logica de intervenção » para uma ação de eficiencia energética na industria

Sector	Action	Output	Outcome	Impact
Energy/Industry	Energy efficiency program for local industries	Reduced consumption of fossil fuels	Energy savings for businesses	Improved profitability

Passo a passo PATPA para o rastreamento de indicadores NDC

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets



Passo a passo PATPA para o rastreamento de indicadores NDC (1/5)

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets



What to do

As a starting point, identify all mitigation and adaptation targets included in the most recent NDC. List them in a tabular format, including:

- The target or effort.
- The target value (if quantitative) or description (if qualitative).
- The scope of the target or effort (e.g., sectors, gases).
- The unit of the target value (if quantitative).
- The target timeframe.
- The baseline value (if available).

NDC target type	Country Examples	Scope	Target value	Target unit	Target timeframe	Value in reference / Base period / BAU
GHG related targets						
Absolute emission reduction or limitation target relative to a base year	Brazil's NDC commits 'to reduce its greenhouse gas emissions in 2025 by 37%, compared with 2005' ¹⁶ .	CO ₂ , CH ₄ , N ₂ O, perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and SF ₆	37	%	2025	Base year emission estimation in the fourth BUR is around 2.4 Mio. kt of CO ₂ eq. May be updated according to the latest inventory.
Emission reduction target below a BAU level	Morocco's NDC unconditional reduction target, "18.3% below BAU emissions by 2030" ¹⁷ .	CO ₂ , CH ₄ , N ₂ O and HFCs	18.3	%	2030	The BAU scenario is projected approx. 1.4 Mio. kt CO ₂ eq in 2030
Fixed-level target	Argentina's 's fixed-level target, will not exceed net emissions of 359 Mt CO ₂ eq by 2030 to 369 Mt CO ₂ eq for 2030' ¹⁸ .	CO ₂ , CH ₄ , N ₂ O, HFCs and PFCs	359	Mt CO ₂ eq	2030	No reference value is used. But in its NDC submission Argentina compares the level of ambition to its 2016 emissions, which were around 364 Mt CO ₂ eq.
Trajectory target	China's target is to peak CO ₂ emissions before 2030 and achieve carbon neutrality before 2060' ¹⁹ .	CO ₂	NDC does not indicate at which emission level peaking will occur	kt CO ₂ eq (comparing emission levels of the unspecified peaking year with the levels of later years)	Year of peaking to be compared with all following years	N/A

Passo a passo PATPA para o rastreamento de indicadores NDC (2/5)

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets

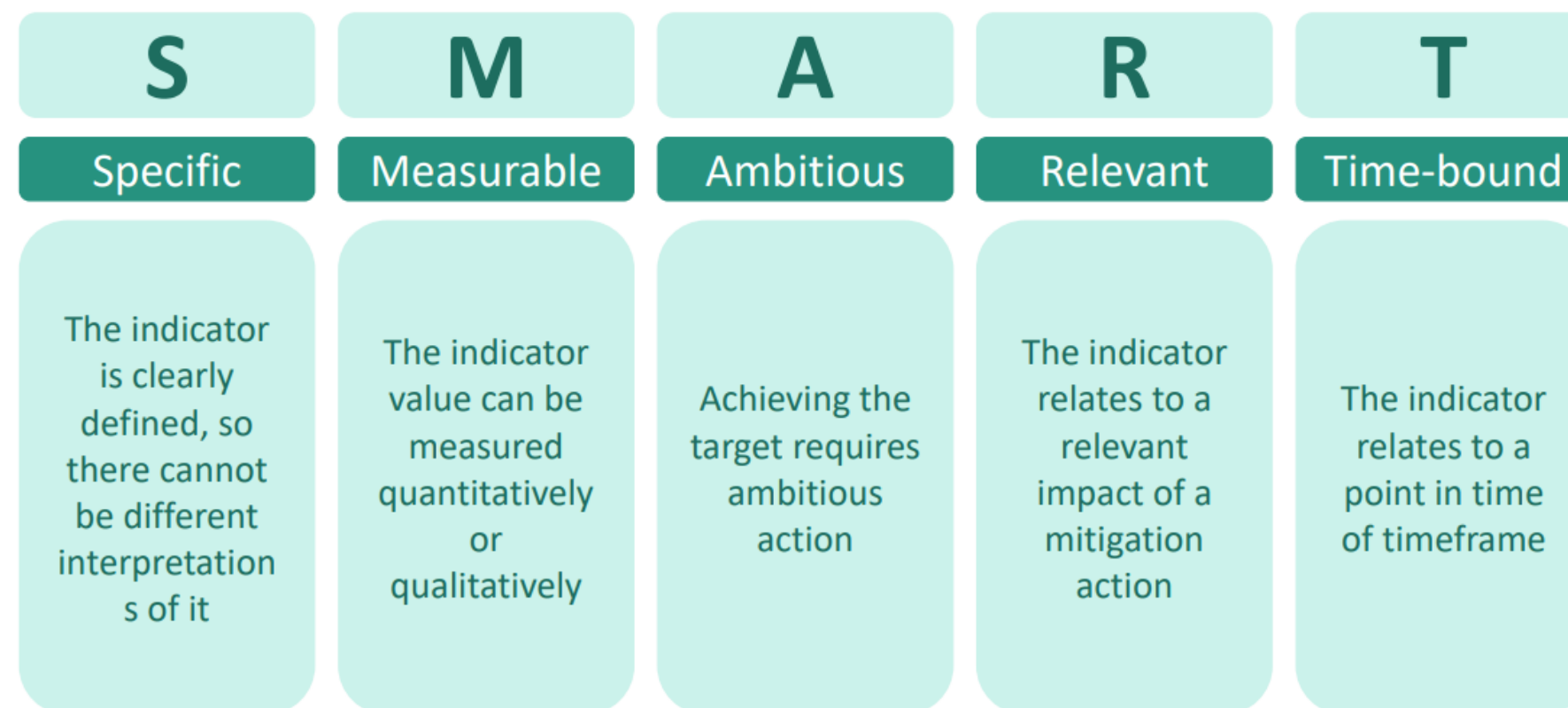


What to do

Assess and, if necessary, clarify the scope covered by the target. Where necessary, clarify also other elements, e.g., units, reference / baseline levels. This is a relevant prerequisite to constructing relevant indicators in the following step. Targets defined in a more general manner usually require more work. In doing so, involve the stakeholders who will be responsible for implementing the measures necessary to achieve the targets.

Type of mitigation target	Elements to consider for a SMART target	Unit
GHG related targets		
Absolute emission reduction or limitation target relative to a base year	<ul style="list-style-type: none"> • Base year clearly agreed? • Gases included agreed? • Sectors / GHG inventory categories agreed • Target year agreed? 	kt CO ₂ eq
Emission reduction target below a BAU level	<ul style="list-style-type: none"> • As for absolute emission reduction target • BAU level clearly defined? Data and methods available? 	%
Peaking Target	<ul style="list-style-type: none"> • GHG emissions (t CO₂ eq) in all years leading to the current year, with or without land use, land use change and forestry (LULUCF) 	kt CO ₂ eq
Intensity target	<ul style="list-style-type: none"> • As for absolute emission reduction target • Intensity-relevant factor and source / methodology to be used clearly defined, e.g., GDP, population? 	kt CO ₂ eq / capita or GDP / etc. % (if compared to BAU or base period)

Passo a passo PATPA para o rastreamento de indicadores NDC (2/5)



E.g. achieving a share of 28% of renewable power by 2030

This is not a fully SMART target yet.

- What should the 28% refer to – e.g., power generation (including or excluding imports and exports?) or capacities installed?
- Which technologies should be counted as renewable power technologies?

Exercicio ! Qual indicador de vossas NDCs pode ser modificado para ser « 100% SMART »?

Passo a passo PATPA para o rastreamento de indicadores NDC (3/5)

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets



What to do

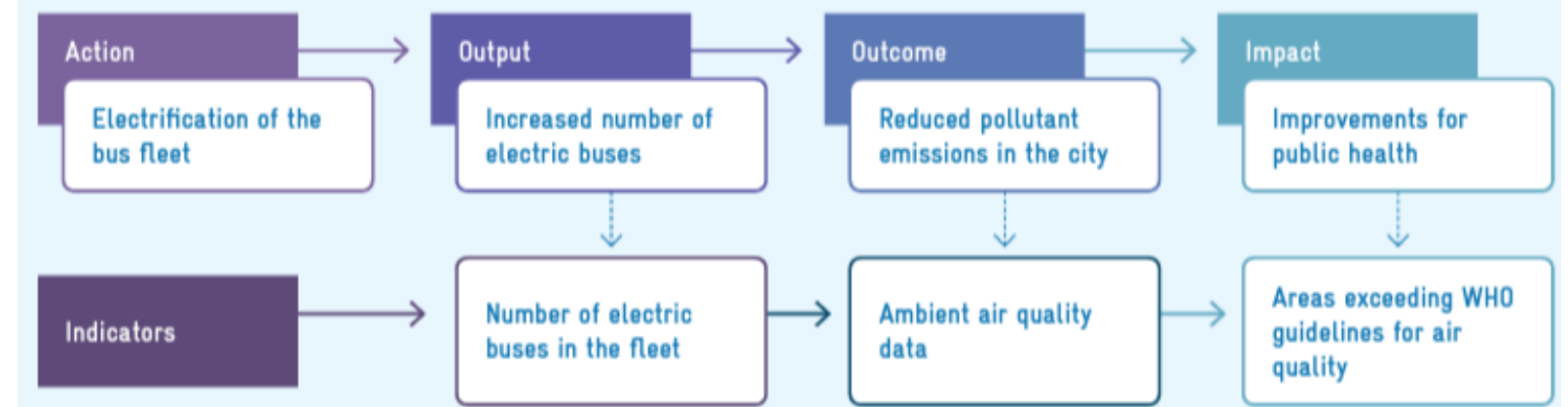
Once the NDC targets have been made SMART, identify indicators which allow understanding whether these targets have been met or not. With quantitative targets, once they are made SMART, the most relevant indicator can be identified from the target itself. With qualitative targets the intervention logic framework (Logframe) provides a helpful approach to identifying suitable progress indicators (cf. section 2.1).

Further indicators, e.g., related to implementation, could of course be chosen to support the understanding of progress, e.g., afforested surface area, area for which forest management plans have been improved, etc. The MPGs leave the choice of indicators to the Parties, as

long as the indicators are relevant to their NDC. The use of such implementation-related progress indicators can surely be considered beneficial at the national level. Parties might however decide not to include such information in their BTRs.

It is vital that the identification and agreement of the NDC progress indicators involves all relevant stakeholders to ensure their credibility and legitimacy.

Figure 6: Illustrative mitigation example of the intervention logic chain in relation to public transport



Passo a passo PATPA para o rastreamento de indicadores NDC (4/5)

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets



What to do

Once indicators have been defined, identify the data and methodology required to compile the indicator.

For each indicator, a data collection plan needs to be developed. This will provide a complete overview for each indicator of what is being measured, the baseline, the targets, data sources and methods. It also specifies

who will be collecting data, with what frequency and to whom it will be reported. In the case of NDC indicators, much relevant information or sometimes even the indicator data itself is likely to be already available from data collection for the compilation of other sections of the BTR (see Table 11 below for details).

Mitigation target categories	Relevant data sources
GHG-related targets	
Absolute emission reduction or limitation target relative to a base year	<ul style="list-style-type: none"> National GHG inventory data from the BTR under preparation
Emission reduction target below a BAU level	<ul style="list-style-type: none"> National GHG inventory data from the BTR under preparation BAU projections from the most recent NDC or from the BTR under preparation in case the BAU projections are updated over time
Peaking target	<ul style="list-style-type: none"> National GHG inventory data from the BTR under preparation
Intensity target	<ul style="list-style-type: none"> National GHG inventory data from the BTR under preparation Depending on specific target: GDP, population typically available from the national statistical offices
Non-GHG targets	
Renewable Energy	Depending on specific target: <ul style="list-style-type: none"> % of electricity generated by source and/or total generation by source from the national energy balance (if available), likely collected for the mitigation chapter of the BTR under preparation Installed capacity by source: Potentially collected for the mitigation chapter of the BTR under preparation, alternatively to be collected from the Ministry responsible for power and heat generation
Energy Efficiency	<ul style="list-style-type: none"> Total energy demand or consumption: from the national energy balance (if available), potentially collected for the mitigation chapter of the BTR under preparation Energy intensity of the economy: Potentially available from the national statistical services.
Forest cover	<ul style="list-style-type: none"> Depending on type of target information like: <ul style="list-style-type: none"> % of land covered by forest Hectares of land covered by forest Hectares of land restored or reforested Volume of forest stock Tonnes of CO₂ stored/sequestered per year Has likely been collected for the preparation of the LULUCF categories of the national GHG inventory and potentially for the mitigation and/or adaptation chapters.
Implementation of qualitative policies and measures	<ul style="list-style-type: none"> Information likely available from the mitigation chapter of the BTR under preparation.

Passo a passo PATPA para o rastreamento de indicadores NDC (5/5)

Figure 8: Step by step process – Identifying and compiling progress indicators for NDC targets



What to do

The assessment of available data sources in the previous step will show that many progress indicators can be compiled with data already available from BTRs and National Communications (NCs). Relevant data sources should be entered in the data collection plan for each indicator. The timing – when such data, e.g., national GHG inventory estimates, information on adaptation actions, becomes available – will be important to consider for the overall BTR compilation process.

Where additional data needs to be collected, assess whether such data collection can be integrated into existing data collection processes or can be built up together with data collection processes which need to be established for BTR reporting.

Not all relevant data might be available from the start and/or data might not be available at the quality desired. This is a very normal situation which can be remedied by long-term planning for relevant improvements. These can include performing assessments (e.g., studies), introducing relevant processes to regularly collect relevant data, introduce more sophisticated calculation methodologies where appropriate, etc. Figure 10 illustrates the process of data collection and improvement over time.

In collecting data, compiling, and reporting indicators, use quality control and quality assurance processes as you do for your national GHG inventory compilation, BUR/ NC and BTR compilation. The Biennial Transparency Report Guidance and Roadmap Tool³⁰ can help in this

³⁰ PATPA, 2021, Biennial Transparency Report Guidance and Roadmap Tool <https://transparency-partnership.net/publications-tools/btr-guidance-and-roadmap-tool>

Type of data gap	What to do	What to report in the BTR
Relevant input data not available at all	<ul style="list-style-type: none"> Identify <ul style="list-style-type: none"> activities enabling the collection of relevant data (e.g., research, studies, new statistics) entities responsible for these activities necessary preconditions, e.g., budget / staff, legal framework, MoUs, etc. 	Report <ul style="list-style-type: none"> the fact that the indicator data is currently not available and why that is the case action taken to make the indicator data available in the future When you expect to be able to report on the indicator What international support is required to do so (if applicable)
Relevant input data not available for all years, all sectors, all regions, etc	<ul style="list-style-type: none"> Where possible, use gap-filling approaches (e.g., overlap, surrogate data, interpolation, and trend extrapolation)³² to estimate the indicator value for the full scope / all relevant years Use approaches suggested under "relevant input data not available at all" to collect missing data in the future 	Report <ul style="list-style-type: none"> what information was not available / for which years? What gap filling approaches have been deployed? actions taken to make indicator data available in the future When would you expect to be able to report the indicator? What international support is required to do so (if applicable)?
Data is not available as a relevant mitigation or adaptation action has not started yet	<ul style="list-style-type: none"> Put data collection and compilation processes in place before the action starts 	Report <ul style="list-style-type: none"> The fact that the implementation has not yet started and When is it planned to start?

Exemplo de rastreamento de uma ação de mitigação

Ação de mitigação ou de adaptação incluída na NDC do seu país que considera estar em estado mais avançado de implementação.

Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal (PPCDAm)

Criado em 2004, o Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal (PPCDAm) foi o principal responsável pela queda de 83% do desmatamento até 2012, segundo dados do Instituto Nacional de Pesquisas Espaciais (Inpe). As iniciativas do plano mantiveram o desmatamento abaixo de 8 mil km² até 2018. Com a revogação do PPCDAm em 2019 e o desmonte dos órgãos ambientais no último governo, o desmatamento atingiu a marca de 13 mil km² em 2021, o que não ocorria desde 2006, afastando o país das metas estabelecidas em acordos internacionais.

Lançada em maio de 2023 pelo Presidente da República, a 5ª fase do plano estabelece a meta de desmatamento zero até 2030. Foi estruturado em 4 eixos temáticos: atividades produtivas sustentáveis; monitoramento e controle ambiental; ordenamento fundiário e territorial; e instrumentos normativos e econômicos voltados à redução do desmatamento e à efetivação das ações abrangidas pelos demais eixos.

Após o diagnóstico das causas do desmatamento, foram definidos 12 objetivos estratégicos. Para o alcance desses objetivos há 38 resultados esperados e 194 linhas de ação. O plano também estabelece para o primeiro ano de execução 142 metas com os respectivos indicadores, e define prazos, atores-chave e órgãos parceiros. As metas e indicadores servirão de base para avaliação e monitoramento do PPCDAm, que será submetido a atualização anual.

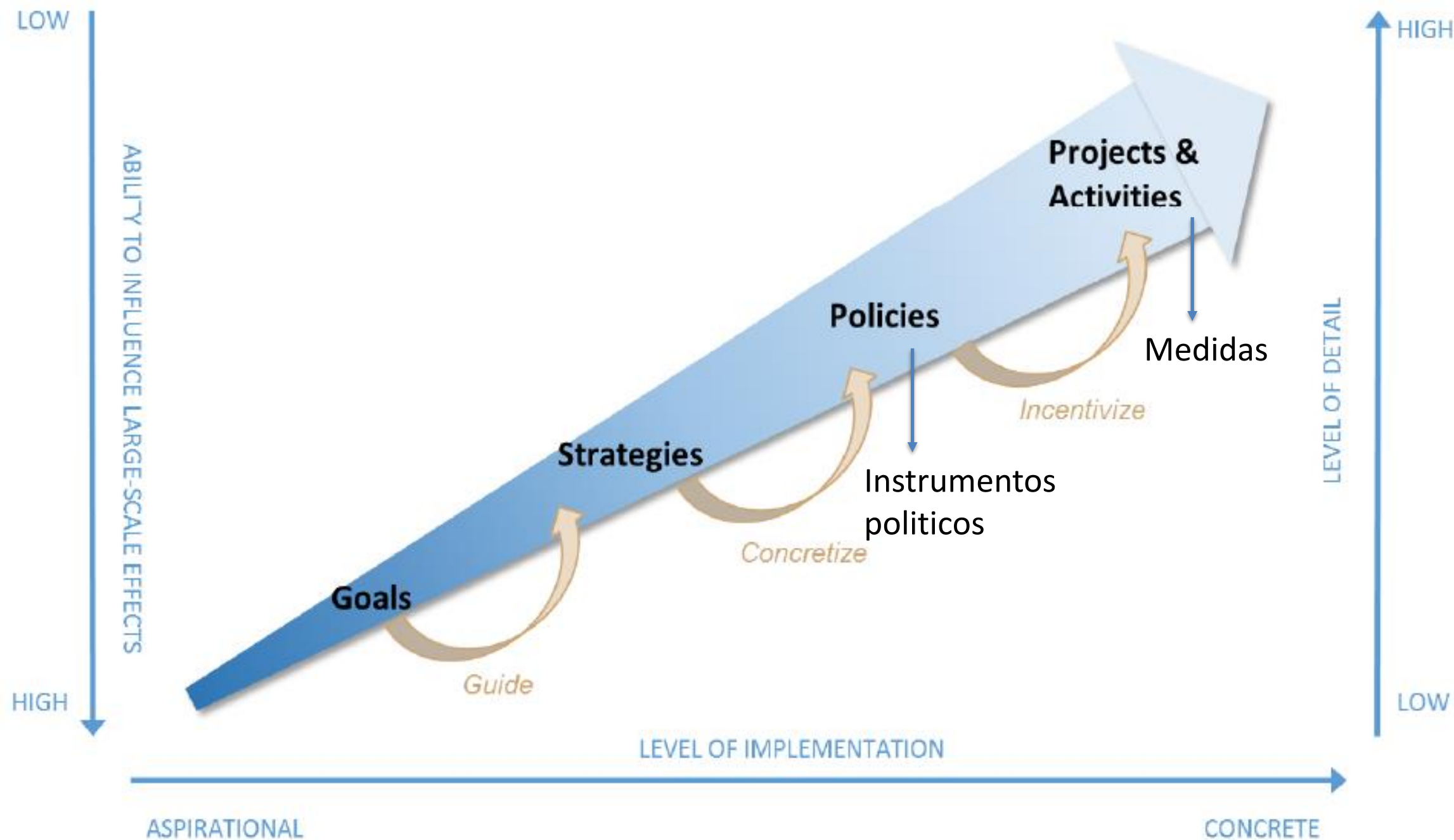
Objetivo 2. Promover o Manejo Florestal Sustentável e a recuperação de áreas desmatadas ou degradadas.					
Resultado Esperado	Meta	Indicadores	Prazo	Ator-chave	Parceiros
2.1. Produção madeira e não madeira por meio do Manejo Florestal Sustentável e Concessões Florestais incrementada	Ampliar a área de floresta pública federal sob concessão florestal em até 5 milhões de hectares, incluindo a restauração florestal e silvicultura de espécies nativas	Área (ha) sob concessão florestal/ Quantidade de produtos florestais madeireiros comercializados/ Valor da produção (R\$)	2027	MMA/SFB	
	Implementar programa de incentivos econômicos e apoio à organização produtiva, extensão rural e assistência técnica para empreendimentos florestais e agroflorestais, incluindo aqueles de natureza comunitária	Nº de empreendimentos florestais e agroflorestais apoiados	2024	SFB e SBC – MMA/MDA/ MEC/MF/MAPA/ MDIC/Anater	
	Implantar concessão para restauração florestal em 100 mil hectares	Área (ha) de concessão florestal implantados	2027		
	Criar o programa federal de apoio à restauração ecológica e ao manejo florestal comunitário	Nº de etapas concretizadas para criação do programa	2024	SFB – MMA/ SFDT – MDA	ICMBio






Avaliação de P&M

O que significa "política" e "ação"?

Relationship between different types of mitigation actions

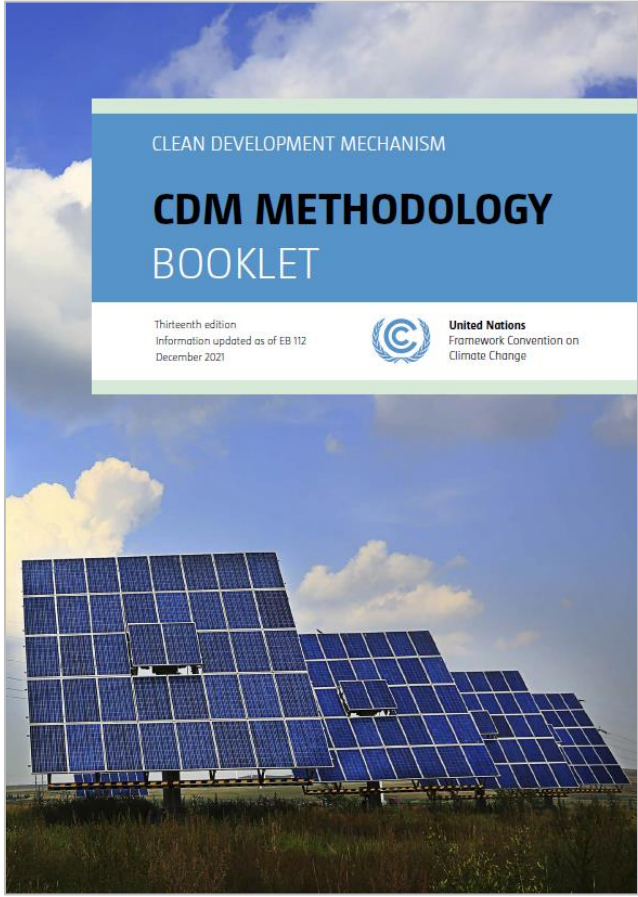
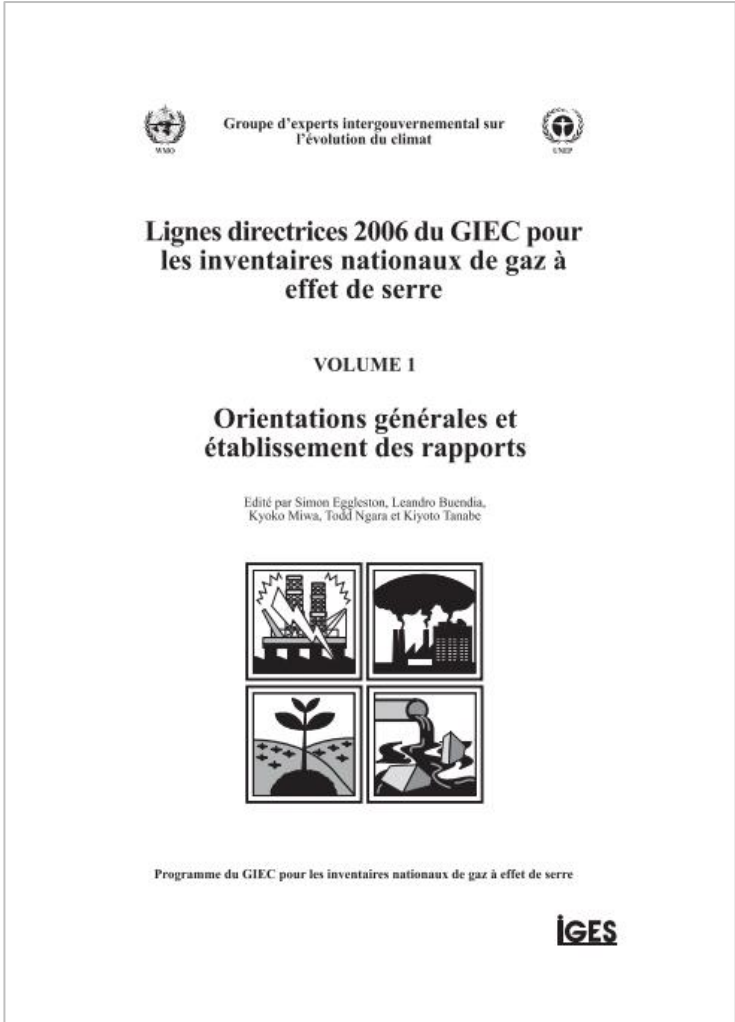
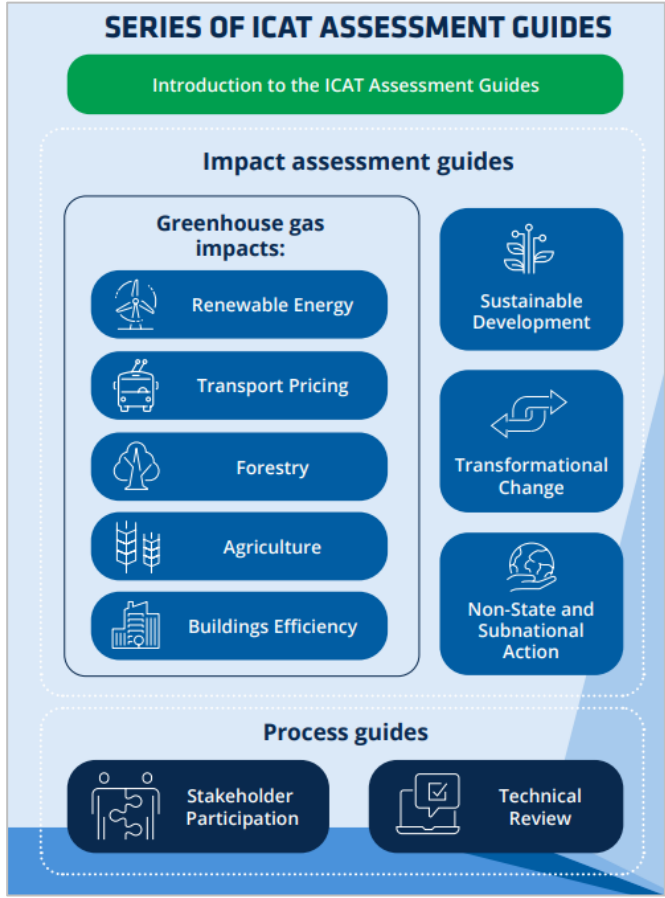
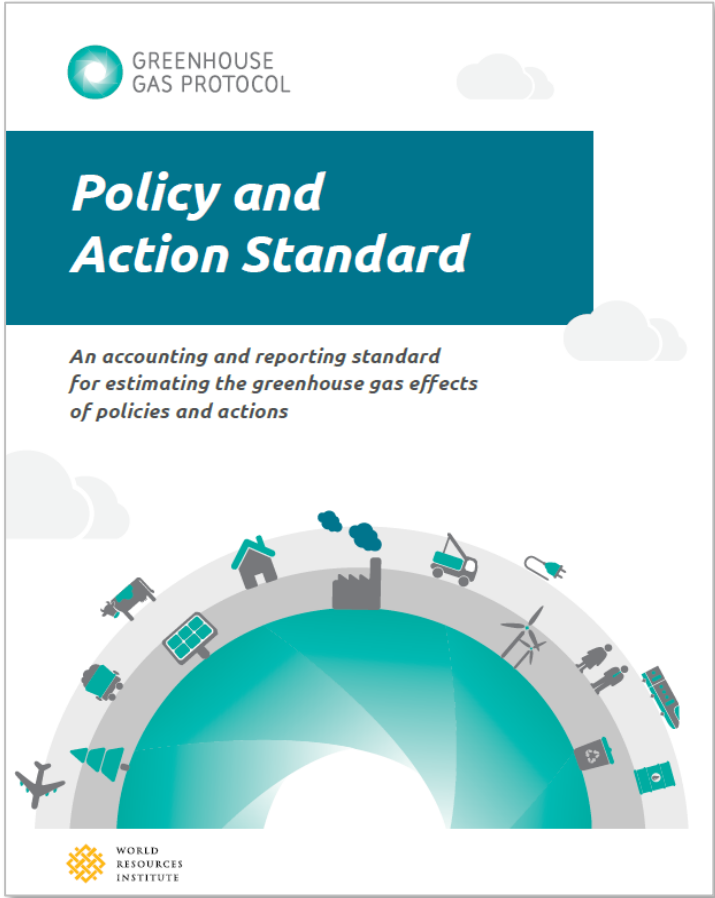


TYPE OF INTERVENTION	EXAMPLE
 Broad strategies, plans or goals	Intent to increase energy efficiency by 30% by 2030
 Policy instruments	Energy efficiency standard for appliances
 Implementation of technologies, processes or practices	Replacement of old appliances with new efficient ones

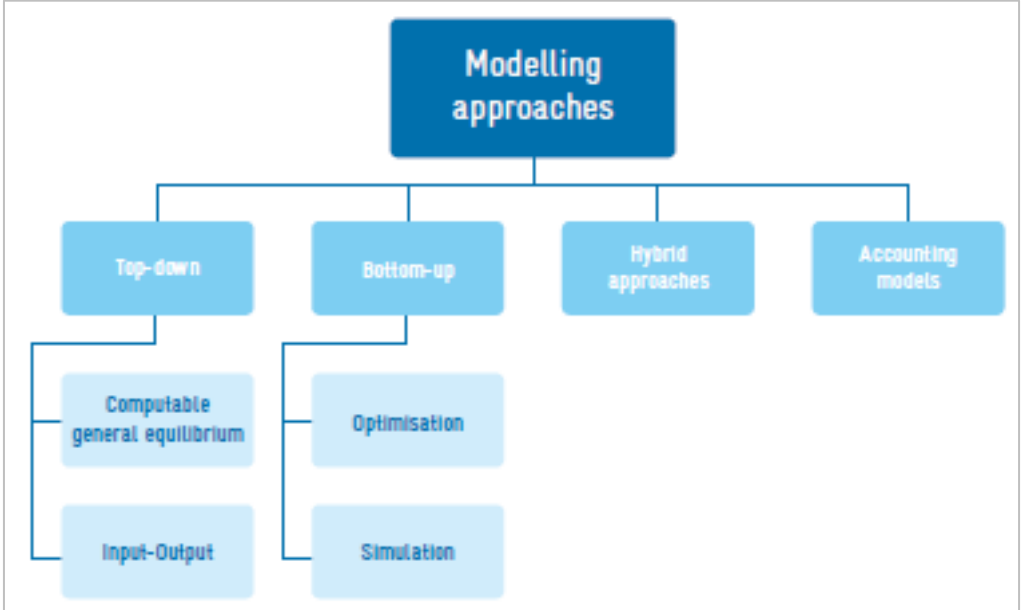
Tipos de políticas e ações



Metodologias, métodos e ferramentas para estimar os efeitos de GEE de ações, políticas e medidas de mitigação



...



Diretrizes de avaliação de P&M

Etapas de avaliação do GHG Protocol

- Definindo a política ou ação
- Identificando efeitos e mapeando a cadeia causal
- Definição do Limite de Avaliação de GEE
- Estimativa de emissões de linha de base
- Estimando os efeitos dos GEE ex-ante
- Monitorando o desempenho ao longo do tempo
- Estimando os efeitos de GEE ex-post
- Avaliando a incerteza
- Verificação
- Relatórios

Etapas da avaliação ICAT

Descrição da política e impactos de GEE

Objectivos da avaliação das políticas

- Descrição da política
- Identificar efeitos intermediários e impactos de GEE
- Desenvolver cadeia causal
- Definir limite e período de avaliação
- Outras sinergias e interações

Considerações metodológicas

Metodologia para avaliação das emissões de GEE

- Cenário base
- Cenário político
- Dados para avaliação

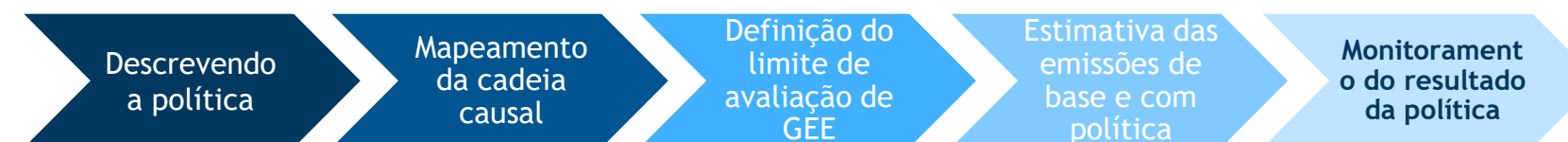
Estimating GHG emissions

- Compilar dados de atividade
- Escolha de parâmetros e fatores de emissão
- Calcular as emissões de base
- Calcular as emissões resultantes da política
- Calcular impactos de GEE

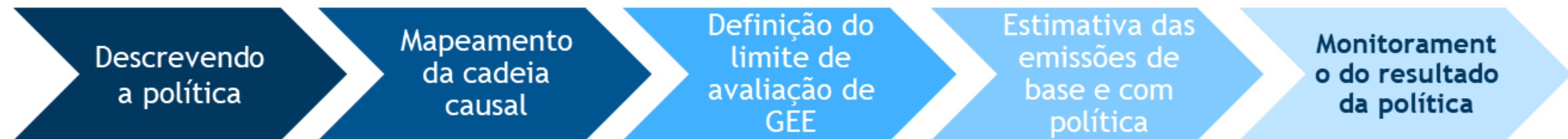
Monitorando o desempenho da política

- Indicadores-chave de desempenho das políticas
- Plano de monitoramento

Simplified step-by-step:

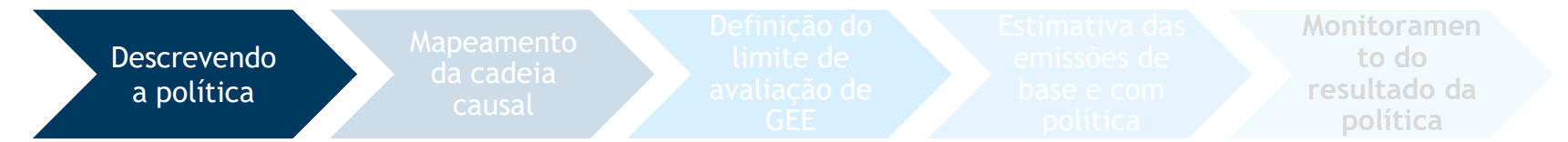


Simplified step-by-step



Descrrevendo a política

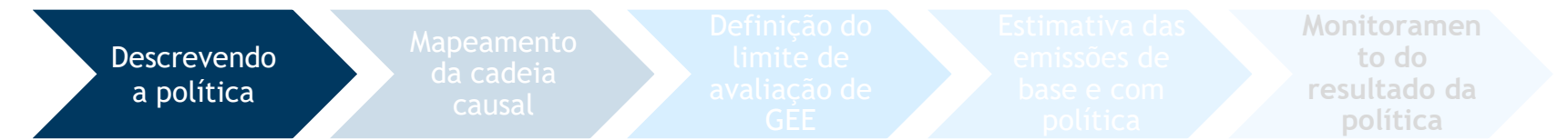
Methodology



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 the policy or action 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/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 all the jurisdictions where the policy or action has an impact	City of 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 <i>Guidelines for National Greenhouse Gas Inventories</i> 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 ₂ O
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

Descrevendo a política

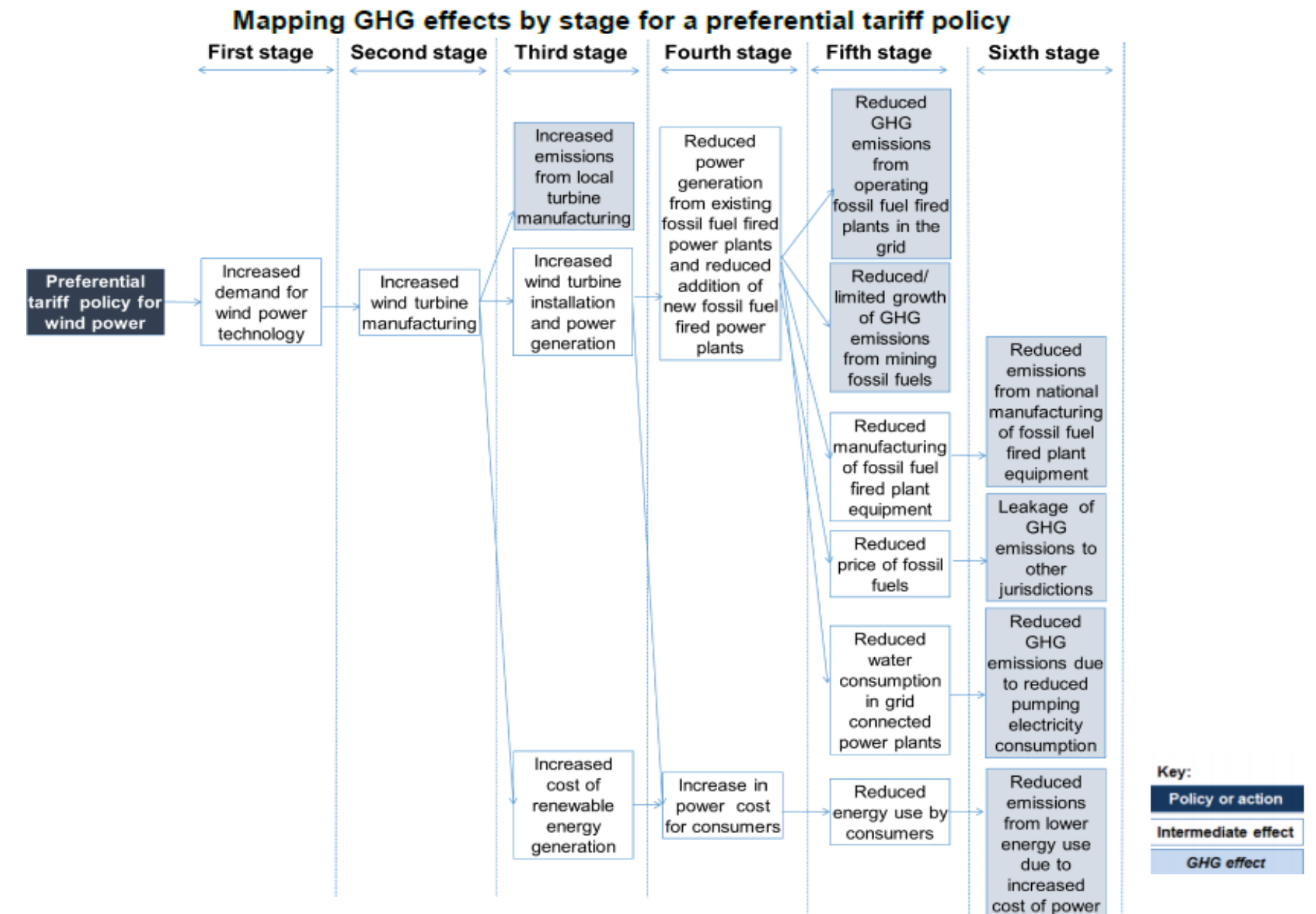
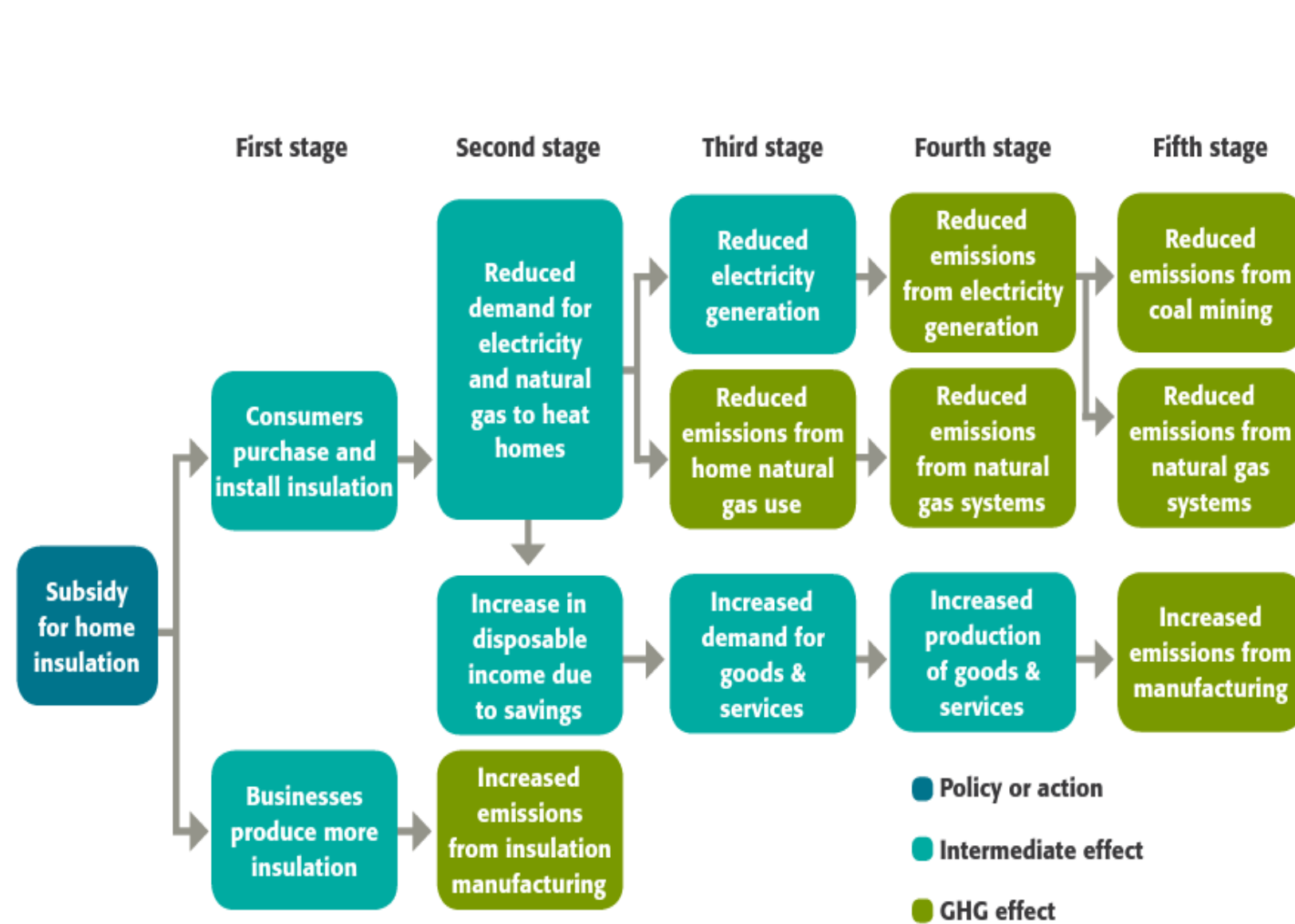
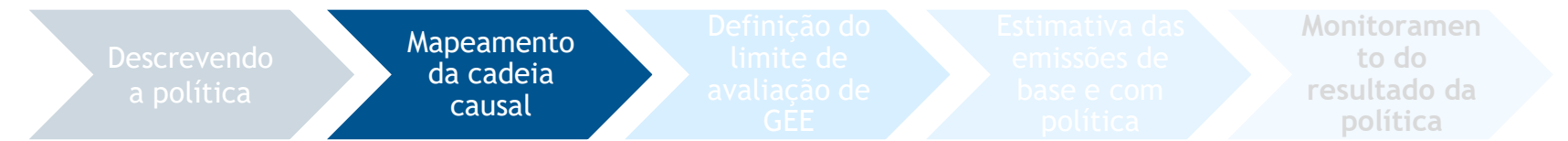
Niger example



Information to define the policy or action	
Policy or action name	Plan d'Action National des Energies Renouvelables du Niger
Policy or action short name <i>(maximum 35 characters)</i>	PANER
Is it a package of related policies or actions?	Package of related policies or actions
List of policies and actions in the package	Construction d'une centrale hydroélectrique de 130 MW à Kandadji, Développement de la Production d'électricité à partir du solaire PV de 402 MWc à 2030, Développement de capacité hors réseau de 100 MW en 2030
Description of policy or action	<p>Le Plan d'Actions des Energies Renouvelables (PANER) se propose de contribuer à l'émergence d'un développement énergétique, à travers : l'élaboration d'une politique nationale en matière de l'énergie incluant les dispositions spécifiques aux énergies renouvelables.</p> <p>La dynamisation du CNES en synergie avec l'Agence Nationale pour la Promotion de l'Electrification Rurale doit constituer le maillon fort de la mise en oeuvre du PANER.</p> <p>Le PANER prévoit une contribution significative des énergies renouvelables au mix électrique de l'ordre de 30%. La contribution des énergies renouvelables hors réseau connaîtra une forte croissance, malgré la situation de référence très marginale. Ces objectifs se fondent sur des projections réalistes basées sur des projets en cours, des projets en instruction et les perspectives à moyen et long terme.</p>
Type of policy or action	Implementation of new technologies, processes, or practices
Description of specific interventions	Construction de centrales solaire PV connectés au réseau, centrales Hydroélectrique et miniréseaux solaires
The status of the policy or action	Adopted - policy/action for which an official decision has been made, but that has not been implemented yet
Date of implementation	2015
Date of completion (if applicable)	2030
Entity or entities implementing the policy or action	MEER, NIGELEC, ANPER, ARSE ANERSOL
Objective(s) of the policy or action	Améliorer l'accès des populations à l'électricité, augmenter la capacité de production nationale d'électricité, réduire les émissions de CO2 liées à la production d'électricité, contribuer à l'atteinte de 30% des EnR dans le mix
Geographic coverage	national
Sectors, and source/sink categories are targeted?	Résidentiel (augmentation dt taux d'accès) ; Production d'électricité , service
Greenhouse gases targeted (if applicable)	CO2
Other related policies or actions	
Link to further information on type of policy or action	

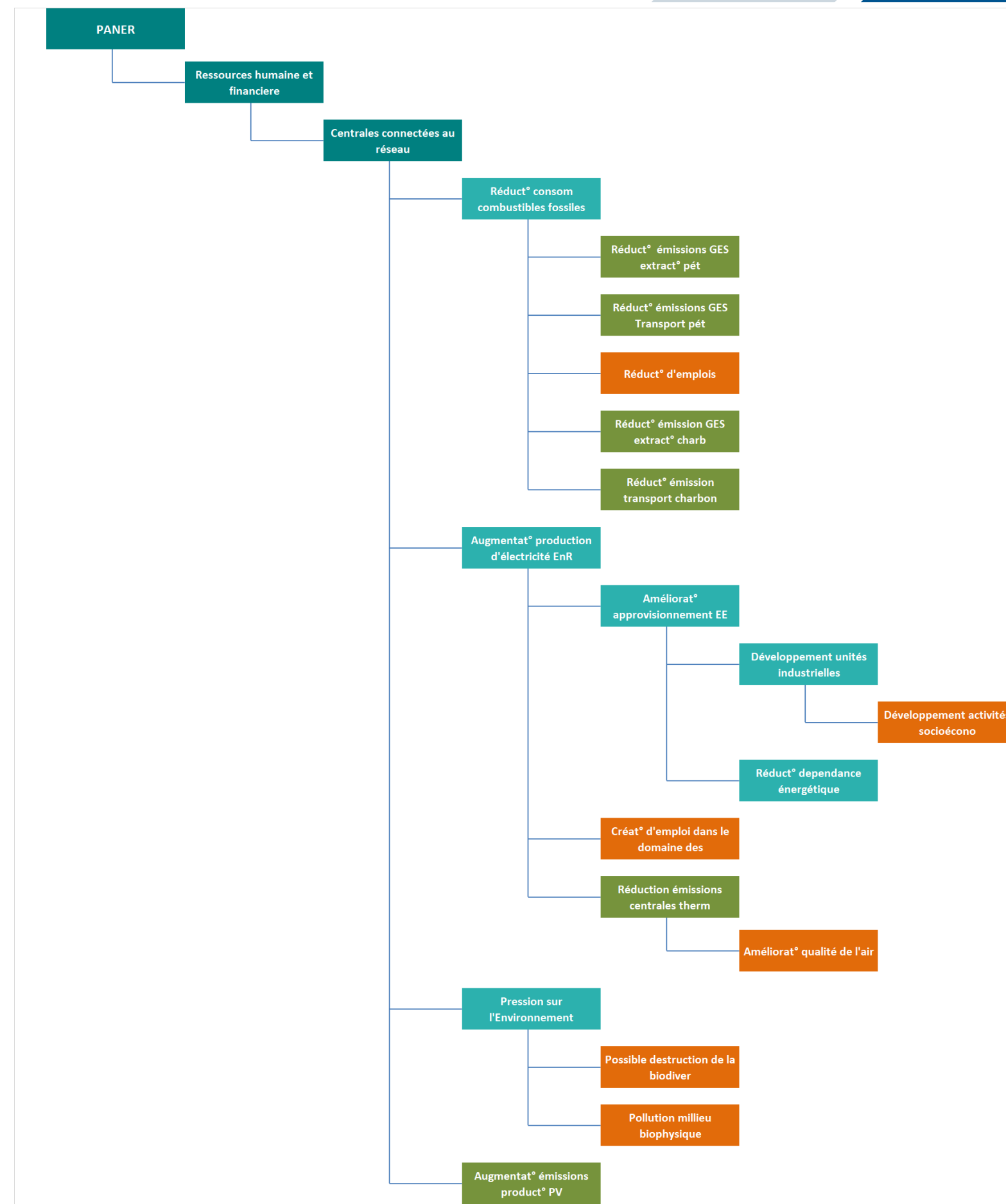
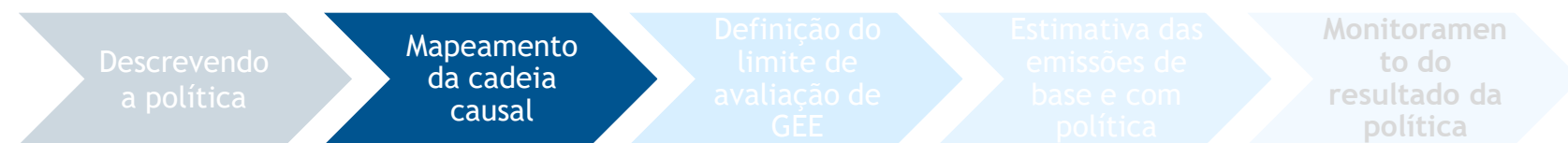
Mapping the causal chain

Methodology

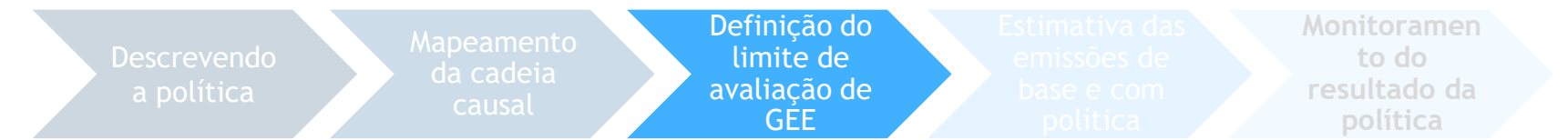


Mapping the causal chain

Example



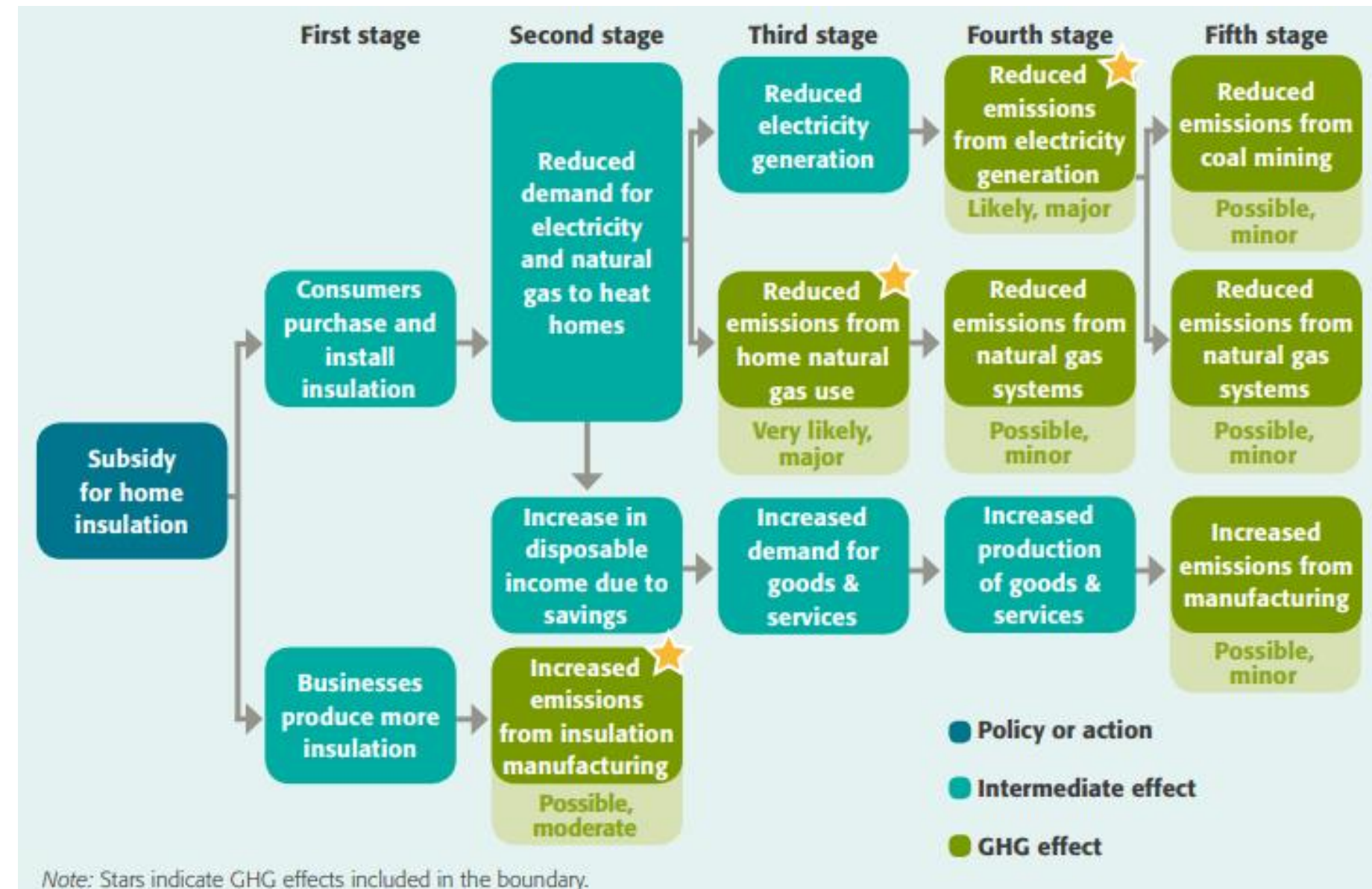
Defining GHG assessment boundary : Methodology



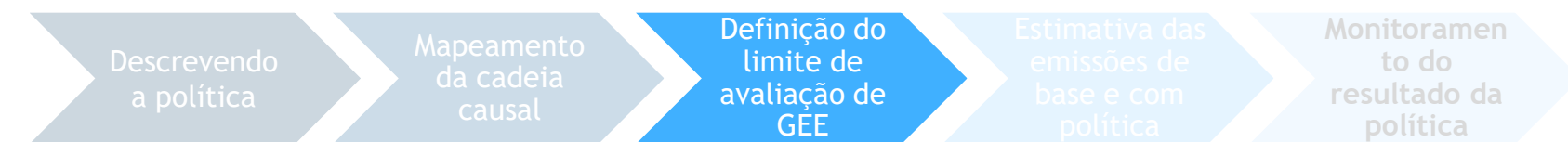
Likelihood	Magnitude		
	Minor	Moderate	Major
Very likely	May exclude	Should include	
Likely			
Possible			
Unlikely			
Very unlikely			

Relative magnitude	Description	Approximate relative magnitude (rule of thumb)
Major	The effect significantly influences the effectiveness of the policy or action. The change in GHG emissions or removals is likely to be significant in size.	> 10%
Moderate	The effect influences the effectiveness of the policy or action. The change in GHG emissions or removals could be significant in size.	1%–10%
Minor	The effect is inconsequential to the effectiveness of the policy or action. The change in GHG emissions or removals is insignificant in size.	< 1%

Likelihood	Description
Very likely	Reason to believe the effect will happen (or did happen) as a result of the policy. (For example, a probability in the range of 90–100%.)
Likely	Reason to believe the effect will probably happen (or probably happened) as a result of the policy. (For example, a probability in the range of 66–90%.)
Possible	Reason to believe the effect may or may not happen (or may or may not have happened) as a result of the policy. About as likely as not. (For example, a probability in the range of 33–66%.) Cases where the likelihood is unknown or cannot be determined should be considered possible.
Unlikely	Reason to believe the effect probably will not happen (or probably did not happen) as a result of the policy. (For example, a probability in the range of 10–33%.)
Very unlikely	Reason to believe the effect will not happen (or did not happen) as a result of the policy. (For example, a probability in the range of 0–10%.)

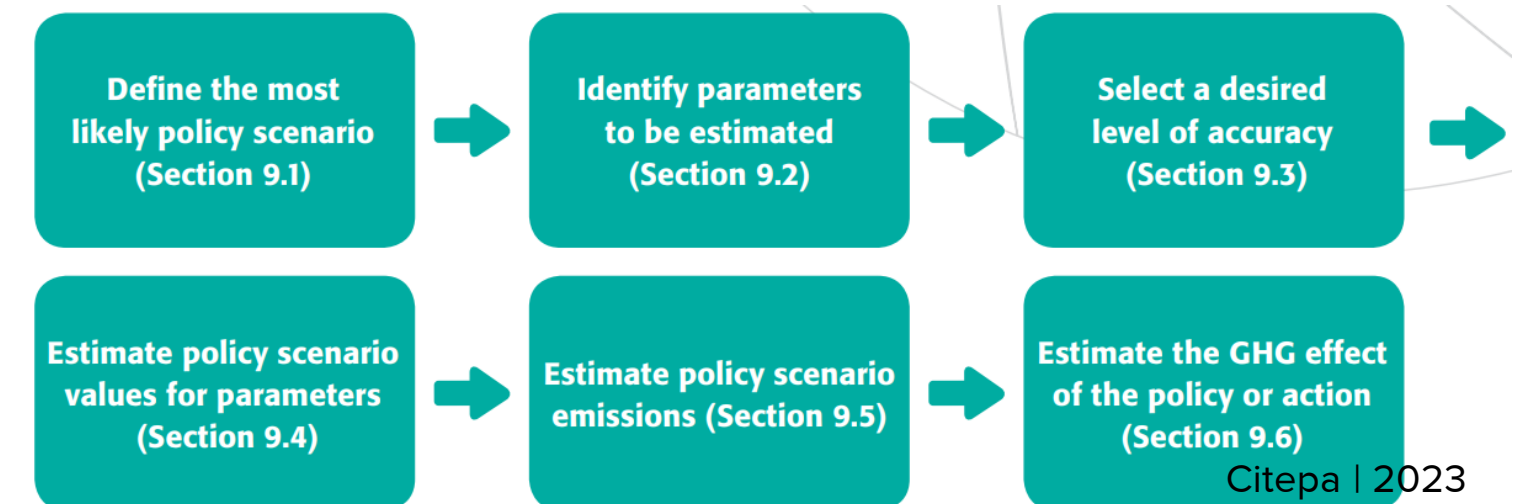
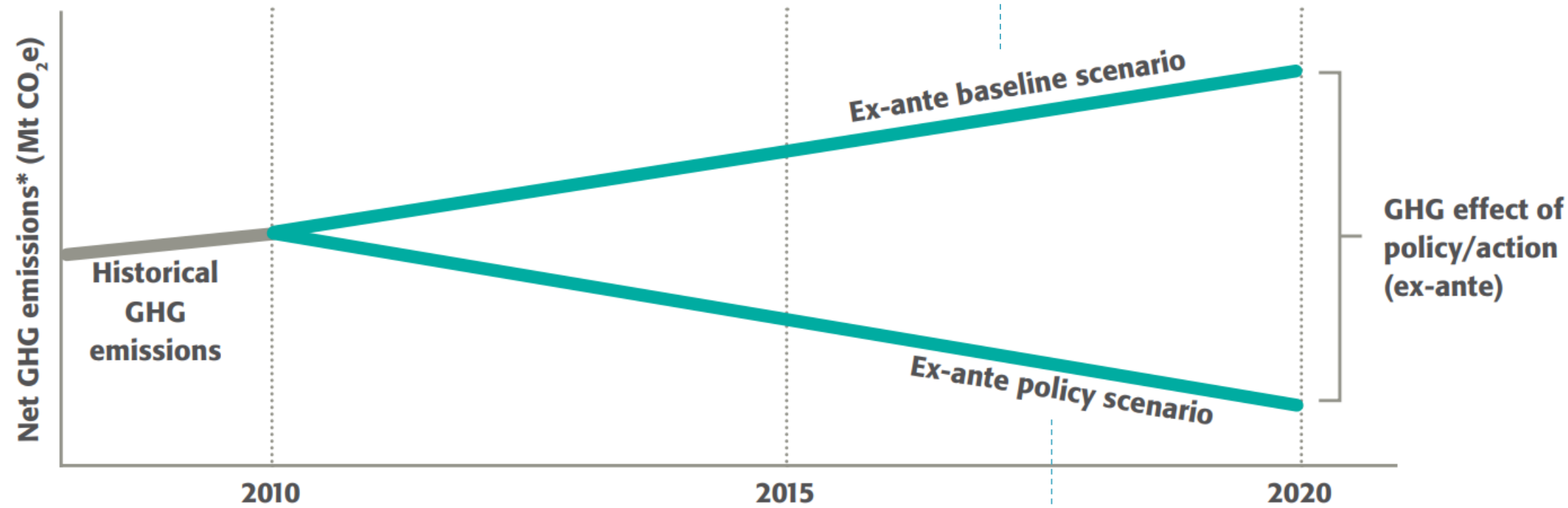
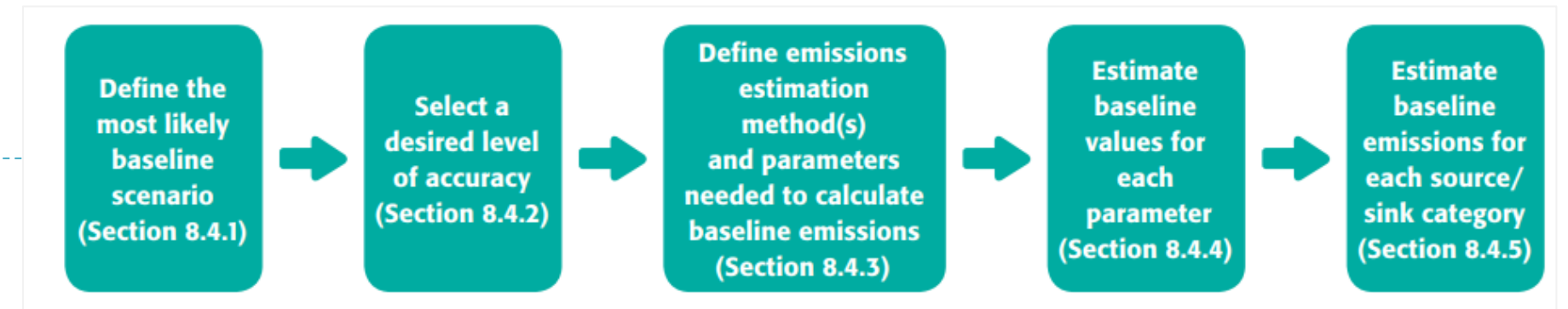
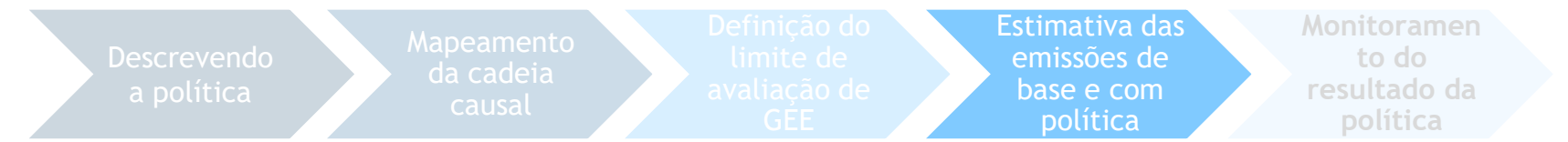


Defining GHG assessment boundary : Example

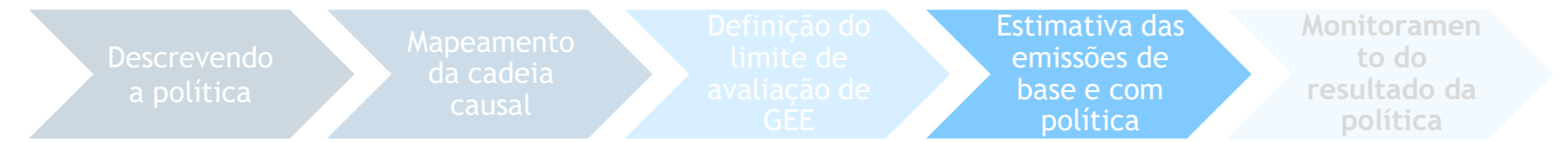


GHG effect	Jurisdiction	Source/Sink Category	Relevant GHG	Likelihood of occurring	Relative magnitude	Recommended approach	Include?	Justification for exclusion
Reduction of GHG emissions due to reduced combustion in conventional power plants	in-jurisdiction	1 A 1 a Main Activity Electricity and Heat Production	CO2	Likely	Major	Should include	yes	
Reduction of GHG emissions due to reduced combustion in conventional power plants	in-jurisdiction	1 A 1 a Main Activity Electricity and Heat Production	CH4	Likely	Major	Should include	yes	
Reduction of GHG emissions due to reduced combustion in conventional power plants	in-jurisdiction	1 A 1 a Main Activity Electricity and Heat Production	N2O	Likely	Major	Should include	yes	
Reduced GHG emissions from oil extraction	in-jurisdiction	1 A 1 c Manufacture of Solid Fuels and Other Energy	CO2	Likely	Moderate	Should include	yes	
Reduced GHG emissions from oil extraction	in-jurisdiction	1 A 1 c Manufacture of Solid Fuels and Other Energy	CH4	Likely	Moderate	Should include	yes	
Reduced GHG emissions from oil transport	in-jurisdiction	1A3 Transport	CO2	Likely	Minor	May exclude	yes	
Reduced GHG emissions from oil transport	in-jurisdiction	1A3 Transport	CH4	Very unlikely	Minor	May exclude	yes	
Reduced GHG emissions from oil refining	in-jurisdiction	1 A 1 b Petroleum Refining	CO2	Likely	Moderate	Should include	yes	
Reduced GHG emissions from oil refining	in-jurisdiction	1 A 1 b Petroleum Refining	CH4	Likely	Moderate	Should include	yes	
Reduced GHG emissions from coal extraction	in-jurisdiction	1 A 1 c Manufacture of Solid Fuels and Other Energy	CO2	Likely	Moderate	Should include	yes	
Reduced GHG emissions from coal extraction	in-jurisdiction	1 A 1 c Manufacture of Solid Fuels and Other Energy	CH4	Likely	Moderate	Should include	yes	
Reduced GHG emissions from coal extraction	in-jurisdiction	1 A 1 c Manufacture of Solid Fuels and Other Energy	N2O	Very unlikely	Moderate	May exclude	no	Les émissions de N2O sont très faible
Reduced GHG emissions from coal transport	in-jurisdiction	1A3 Transport	CO2	Likely	Moderate	Should include	yes	
Reduced GHG emissions from coal transport	in-jurisdiction	1A3 Transport	CH4	Very unlikely	Moderate	May exclude	no	Le CH4 est quasi nulle
Reduced GHG emissions from coal transport	in-jurisdiction	1A3 Transport	N2O	Very unlikely	Moderate	May exclude	no	Pas des émissions de N2O lors de transport du charbon
Increased GHG emissions due to increased production of PV systems	out-of-jurisdiction	1A2 Manufacturing Industries and Construction	CO2	Possible	Moderate	Should include	yes	indisposant des unités de production des Pv
Increased GHG emissions due to increased production of PV systems	out-of-jurisdiction	1A2 Manufacturing Industries and Construction	CH4	Possible	Moderate	Should include	yes	indisposant des unités de production des Pv
Increased GHG emissions due to increased production of PV systems	out-of-jurisdiction	1A2 Manufacturing Industries and Construction	N2O	Possible	Moderate	Should include	yes	indisposant des unités de production des Pv

Estimating baseline and policy scenarios: Methodology



Estimating baseline and policy scenarios: Example



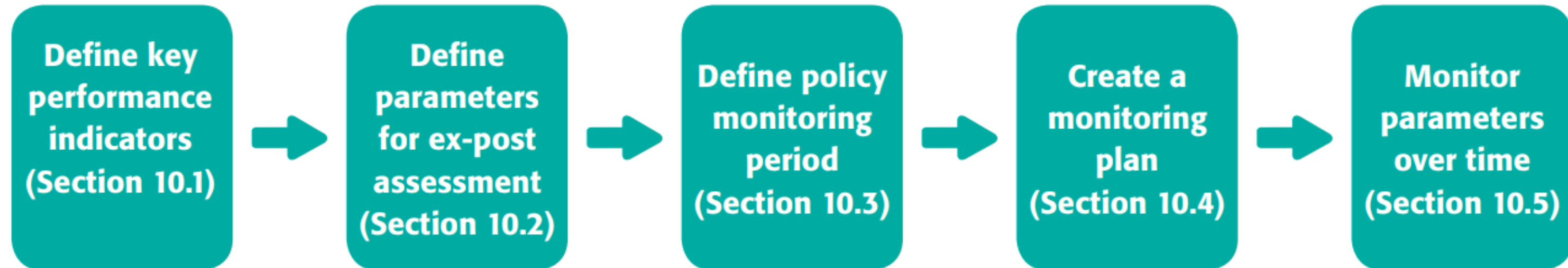
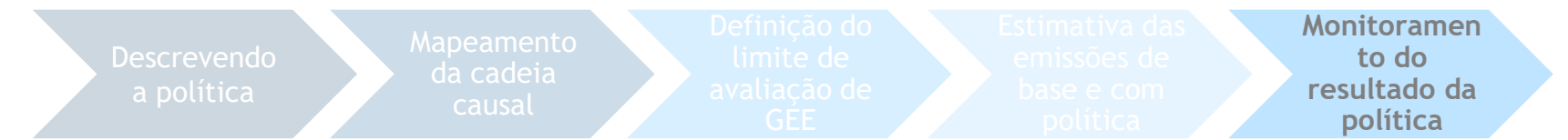
Baseline scenario :

	Unit	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Installed capacity of PV power plants	(MW)	50										
Cumulative installed capacity of PV power plants	(MW)	50,00	50	50	50	50	50	50	50	50	50	50
Annual production of 1 MW of PV power plant	MWh/year	1600	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00
Annual production of PV electricity	(MWh/year)	80000	80000	80000	80000	80000	80000	80000	80000	80000	80000	80000
Specific consumption of Niger thermal power plant	TJ/GWh	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37
Baseline fossil fuels consumption	(TJ/year)	670	670	670	670	670	670	670	670	670	670	670
Coal	(TJ/year)	433	433	433	433	433	433	433	433	433	433	433
LPG	(TJ/year)	237	237	237	237	237	237	237	237	237	237	237
Emission factor coal	kg CO2/TJ	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00
Emission factor coal	kg CH4/TJ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Emission factor coal	kg N2O/TJ	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
Emission factor LPG	kg CO2/TJ	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00
Emission factor LPG	kg CH4/TJ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Emission factor LPG	kg N2O/TJ	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10
GWP CH4		25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00
GWP N2O		298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00

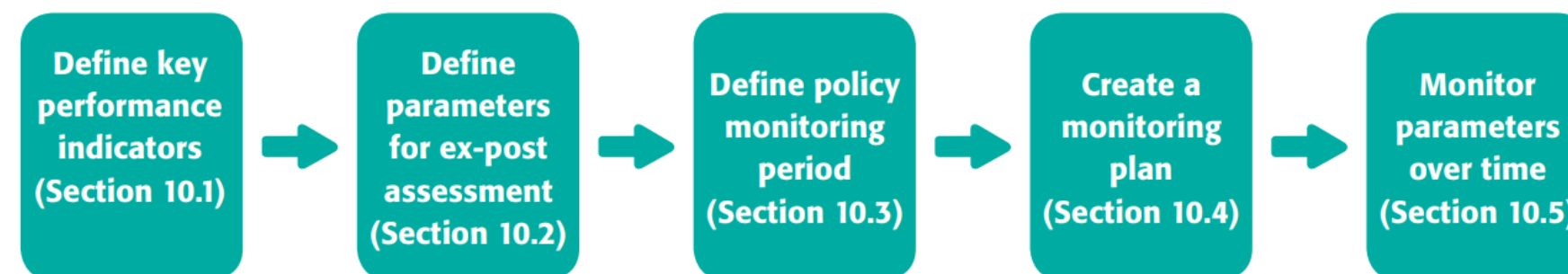
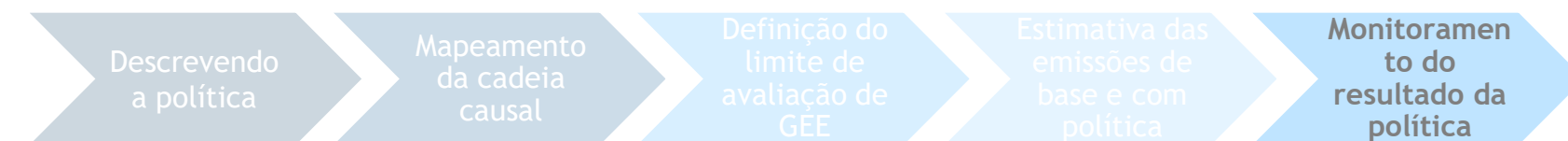
Policy scenario :

	Unit	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Installed capacity of PV power plants	(MW)	50										
Cumulative installed capacity of PV power plants	(MW)	50,00	50	50	50	50	50	50	50	50	50	50
Annual production of 1 MW of PV power plant	MWh/year	1600	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00	1600,00
Annual production of PV electricity	(MWh/year)	80000	80000	80000	80000	80000	80000	80000	80000	80000	80000	80000
Specific consumption of Niger thermal power plant	TJ/GWh	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37	8,37
Policy scenario fossil fuels consumption	(TJ/year)											
Coal	(TJ/year)											
LPG	(TJ/year)											
Emission factor coal	kg CO2/TJ	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00	101000,00
Emission factor coal	kg CH4/TJ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Emission factor coal	kg N2O/TJ	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
Emission factor LPG	kg CO2/TJ	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00	63100,00
Emission factor LPG	kg CH4/TJ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Emission factor LPG	kg N2O/TJ	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10
GWP CH4		25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00
GWP N2O		298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00	298,00

Monitoring policy performance: Methodology

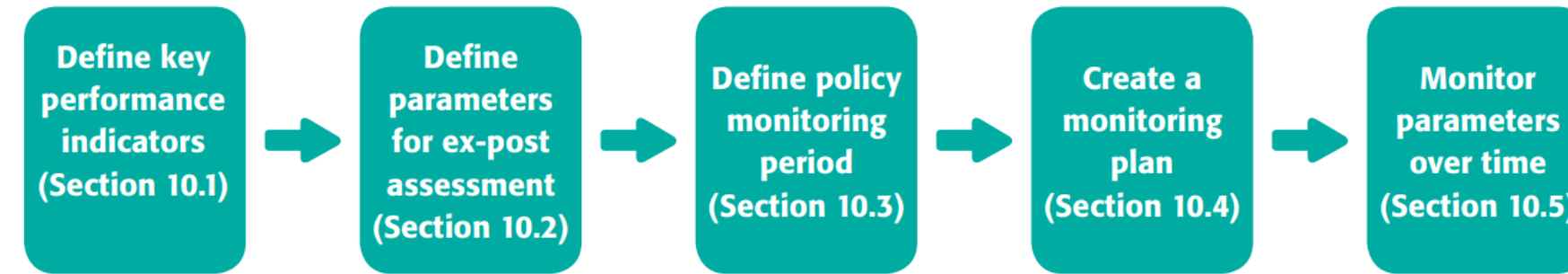
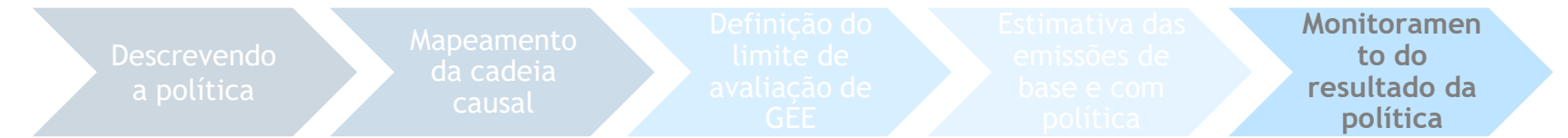


Monitoring policy performance: Methodology



Indicator types	Definitions	Examples for a home insulation subsidy program
Inputs	Resources that go into implementing a policy or action, such as financing	Money spent to implement the subsidy program
Activities	Administrative activities involved in implementing the policy or action (undertaken by the authority or entity that implements the policy or action), such as permitting, licensing, procurement, or compliance and enforcement	Number of energy audits carried out, total subsidies provided
Intermediate effects	Changes in behavior, technology, processes, or practices that result from the policy or action	Amount of insulation purchased and installed by consumers, fraction of homes that have insulation, amount of natural gas and electricity consumed in homes
GHG effects	Changes in greenhouse gas emissions by sources or removals by sinks that result from the intermediate effects of the policy or action	Reduced CO ₂ , CH ₄ , and N ₂ O emissions from reduced natural gas and electricity use
Non-GHG effects	Changes in relevant environmental, social, or economic conditions other than GHG emissions or climate change mitigation that result from the policy or action (see Appendix C for examples)	Household disposable income from energy savings

Monitoring policy performance: Methodology



Examples of policies	Selected examples of parameters to be monitored
Energy efficiency program in the commercial buildings sector	<ul style="list-style-type: none"> • Electricity use (annual, direct metering) • Emission factor from grid electricity • Gross floor area of building units
Solar power incentives	<ul style="list-style-type: none"> • Solar panels produced each year • Capacity of solar power installed • Electricity generated from solar power
Electric vehicle subsidy	<ul style="list-style-type: none"> • Number of electric vehicles (quarterly) • Passenger figures (monthly) • Vehicle-kilometers traveled (monthly)
Emissions trading system	<ul style="list-style-type: none"> • Facility-level monitoring of emissions data from covered facilities
Information campaign to encourage energy savings in the residential sector	<ul style="list-style-type: none"> • Surveys of a representative sample of households to collect data such as: awareness of the campaign, actions taken as a result of the campaign, household size, household income, and household energy use over time

Monitoring policy performance: Methodology

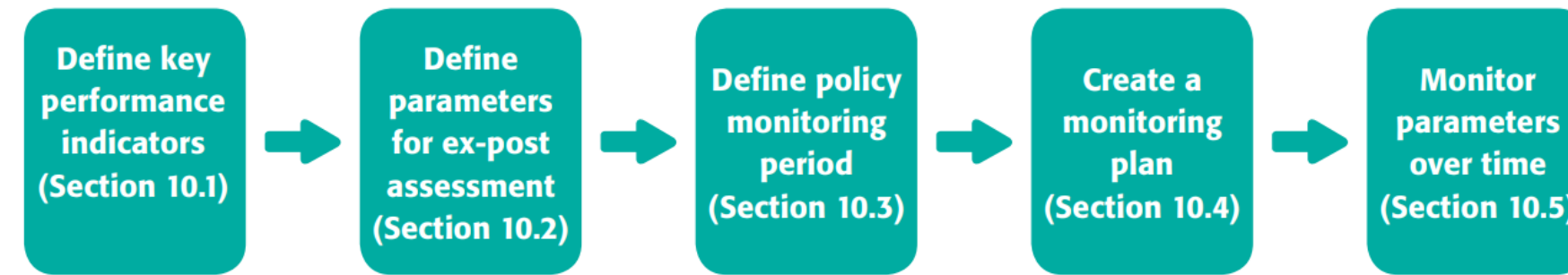
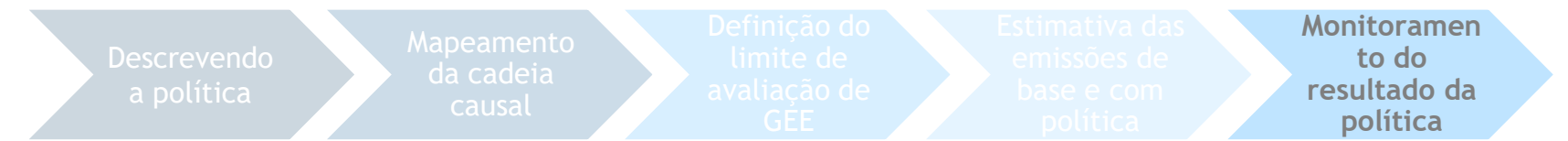
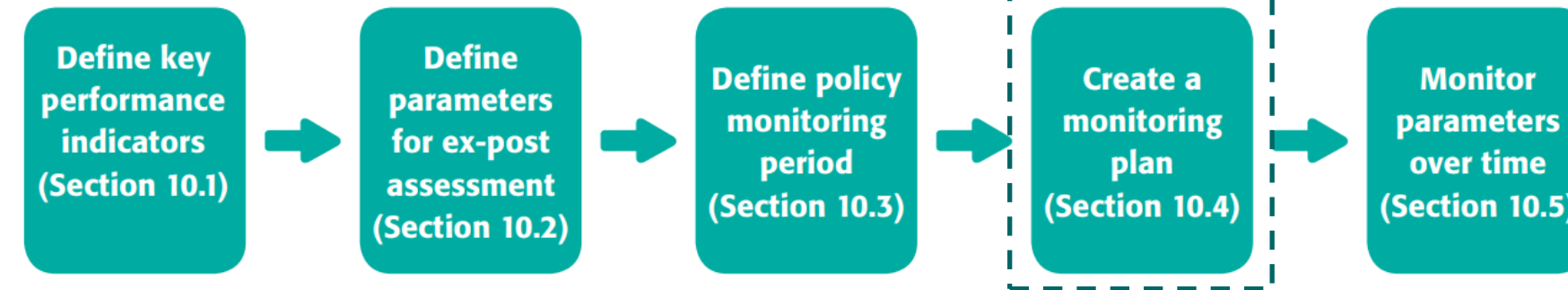
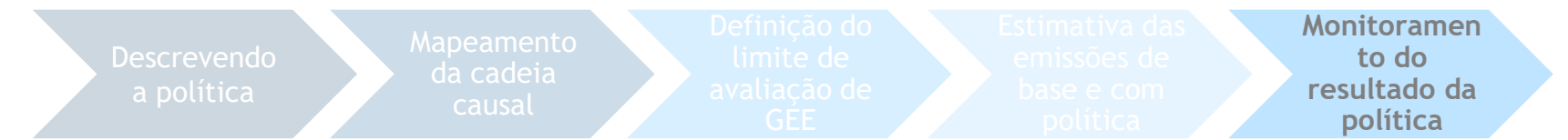


Figure 10.2 Example of policy implementation period, policy monitoring period, and GHG assessment period

	Years					
	2005–09	2010–14	2015–19	2020–24	2025–29	2030–34
Policy implementation period						
Policy monitoring period						
GHG assessment period (ex-ante)						

Monitoring policy performance: Methodology



Indicator or parameter (and unit)	Source of data	Monitoring frequency	Measured, calculated, or estimated (and uncertainty)	Responsible entity
GHG impact of thermal insulation				
Number of houses insulated and insulated area by type (roof, wall, glazing) and m ²	ANME information system (to be created)	Annual	Measured (Low uncertainty)	ANME
For existing dwellings: historical annual electricity and primary thermal energy consumption (kWh/m ²)	Energy bills	Annual	Measured (Low uncertainty)	Collected by energy counsellors; feed into ANME information system through electronic application file
For new dwellings: annual electricity and primary thermal energy consumption (kWh/m ²) of dwellings that do not apply to the program	Sampled metering on 50 new dwellings and survey to assess energy profile (baseline)	Annual verification	Measured for 50 dwellings and estimated for the rest (Medium uncertainty)	Collected by ANME control officers to build a baseline scenario for new dwellings

Indicator or parameter (and unit)	Source of data	Monitoring frequency	Measured, calculated, or estimated (and uncertainty)	Responsible entity
GHG impact of thermal insulation (continued)				
For new and existing dwellings: final electricity savings and primary thermal energy savings (kWh/m ²)	Sampled metering on 100 new and existing dwellings and survey to assess energy profiles' changes (including possible rebound effect) after first year of operation	Annual	Measured for 100 dwellings and estimated for the rest (Medium uncertainty)	Control officers carry out on-site verification; feed information into Promo-isol+ information system
Energy intensity of buildings: annual electricity and primary thermal energy consumption (kWh/year) per m ² and per dwellings	ANME information system	Every 5 years	To be determined	ANME
Job creation				
Number of employees in new and existing companies that provide energy services for buildings	ANME accreditation system and human resources department	Annual	Measured (Low uncertainty)	ANME
Creation of new companies				
Number of new companies created to provide energy services for buildings	ANME accreditation system and human resources department	Annual	Measured (Low uncertainty)	ANME
Saved energy costs for end users and saved energy subsidies for the Tunisian government				
(Energy savings by source from GHG ex-post assessment) × (Energy prices for electricity, natural gas, LPG, kerosene, wood, charcoal)	GHG ex-post assessment and ANME sources on energy prices and subsidies	Annual	Measured and calculated (Low uncertainty)	ANME

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