

Training Workshop for the countries of Eurasia, Central Asia and the Caucasus: Deep dive into tracking NDC mitigation commitments under the Paris Agreement

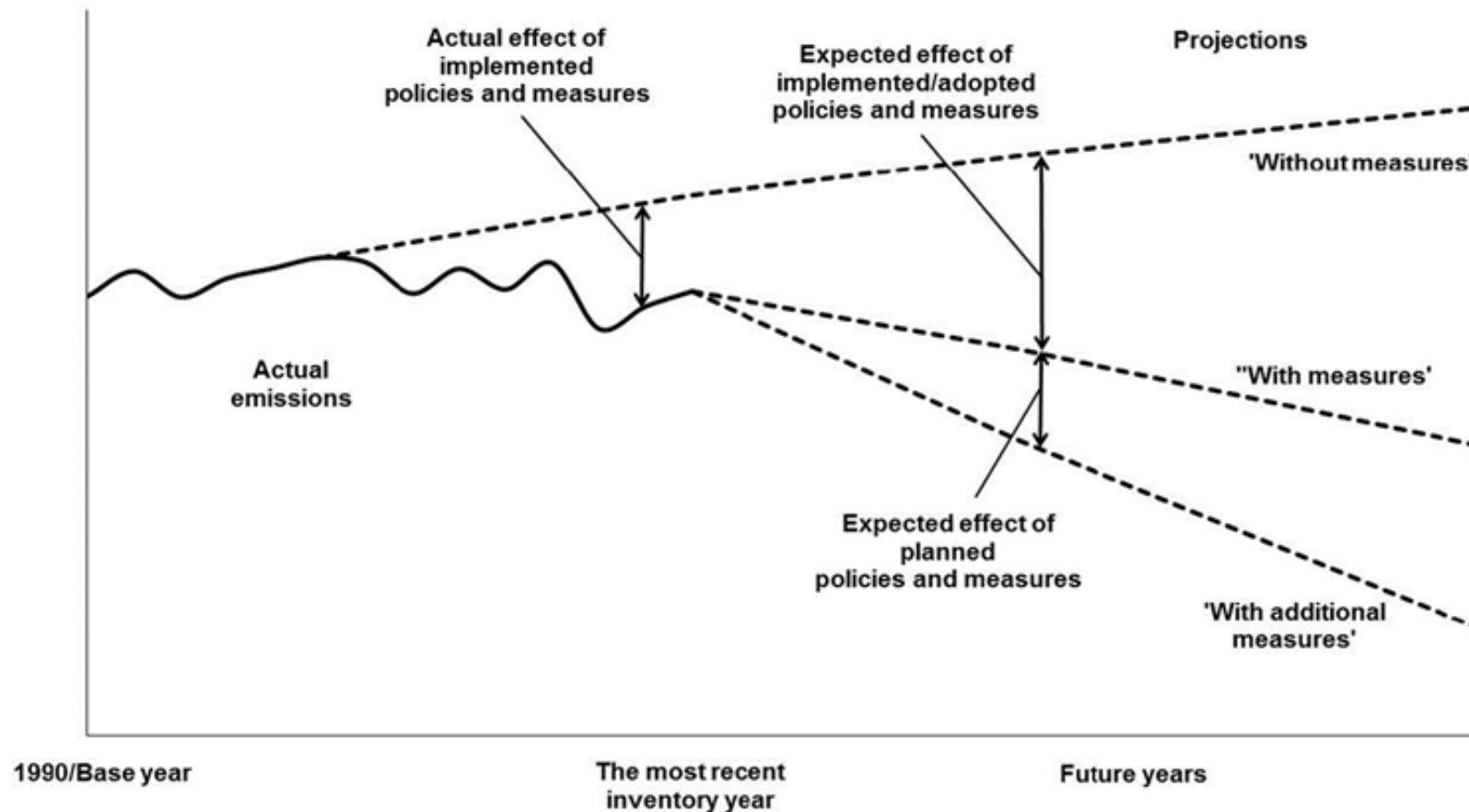
Presentation: Elements on
Projections

Fernando Farias

Senior Advisor

UNEP Copenhagen Climate Centre

Projections:

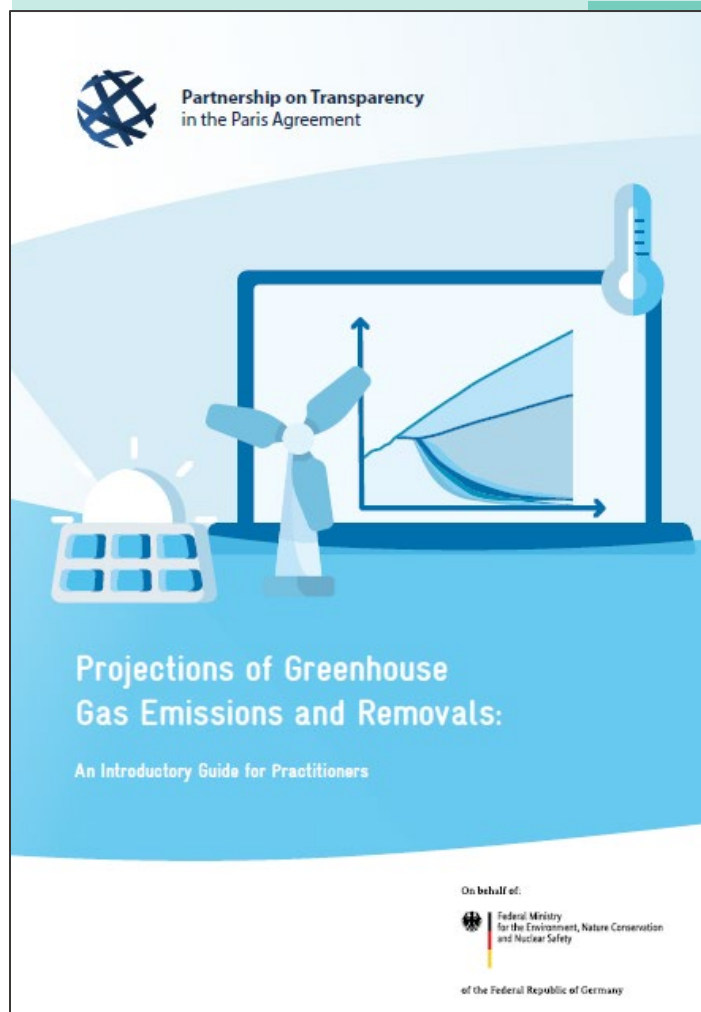


Definitions on projections:

What projections represent in mitigation terms is **an ex-ante estimation of expected future GHG emissions**. They become very useful when the science indicates the urgency to move towards scenarios of net-zero emissions during this century, giving countries the choice on how they can contribute with their mitigation actions, policies and measures to this ambitious goal.

Importantly, they can also provide an **understanding if countries can comply** with their GHG targets included in their NDC

PATPA publication on projections:



PATPA Publication on Projections

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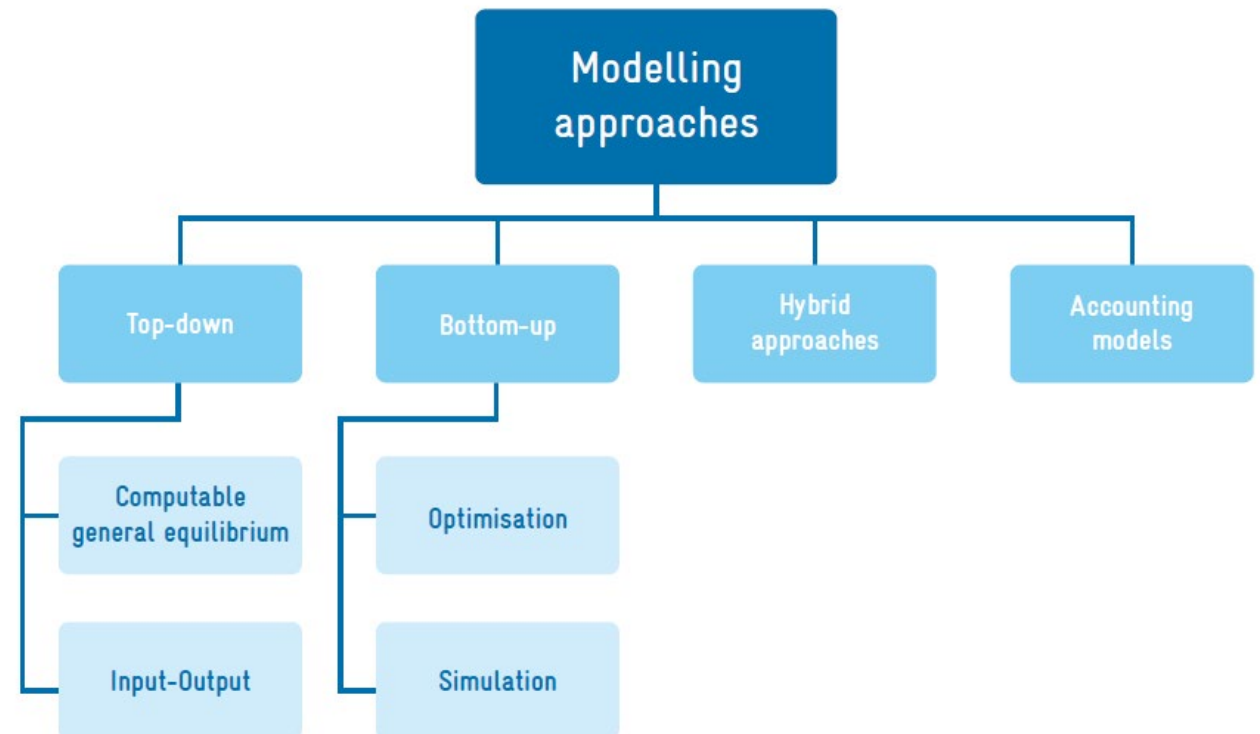
- 1) The importance of developing projections
- 2) Basic approach to developing GHG projections
- 3) Quality Assurance and Quality Control
- 4) Refining the projection's approach over time

<https://transparency-partnership.net/publications-tools/projections-greenhouse-gas-emissions-and-removals-introductory-guide>

Developing projections:

No standardised methodologies or tools exist to allow GHG projections to be calculated.

There are several modelling approaches/tools available which can help with this task.



Developing projections: data requirements and outputs

Data requirements:

Historical emissions (activity data, emissions factors, emissions)
and non-emissions data (activity data)

Projected data (drivers, policies)

Assumptions

Definition of Indicators

Outputs:

GHG results

Non-GHG results

Policy evaluation

Developing projections: drivers

Drivers affecting the estimation of emissions and projections correspond to socioeconomic factors as well as physical and technical elements:

- Economic activity (e.g. GDP, household disposable income);
- Population;
- Energy prices (e.g. prices of natural gas, petroleum products, coal, biofuels, electricity) and other relevant prices (e.g. commodity prices);
- Costs (e.g. of various technologies);
- Weather (e.g. differences in energy use based on colder than average winters as expressed in heating degree days, or hotter than average summers as expressed in cooling degree days);
- Structural effects (e.g. structural changes in economic sectors, shifts from industry to service sector jobs, shifts of industrial production between countries);
- Changes in consumer preferences (e.g. preferences for types of vehicles, household size, commuting practices);
- Autonomous technological improvement over time (e.g. decarbonisation of economic sectors, energy efficiency improvements, long-term trends in carbon- or energy-intensity of the economy), if applicable.

Assessing quality of projections and continuous assessment

Projecting future emissions is an inherently **uncertain task**, affected by multifarious variables

Projection can also **change** in time

Uncertainty is part of projections, **sensitivity** in parameters, and in the future

The **quality of the data** used to prepare these projections is also of paramount relevance. It is unlikely that a model fed with inadequate data will produce satisfactory results.

Developing countries are starting to take this into consideration and preparing robust **QA/QC** systems to address the issue of quality of the data associated with their estimation of projections (see **CBIT-Chile** (2017): <https://www.cbitplatform.org/projects/strengthening-chileans-nationally-determined-contribution-ndc-transparency-framework>)

Reporting projections:

The assessment of projections has only been reported by the [developed countries](#) as part of their National Communications/ Biennial Reports to the UNFCCC.

As indicated in the most recent UNFCCC reporting guidelines on national communications for Parties included in Annex I to the UNFCCC ([Decision 6/CP25 of 2019](#)), "the primary objective of the projections section of the national communication is to give [an indication of future trends in GHG emissions](#) and removals, given current national circumstances and implemented and adopted policies and measures, and to give an [indication of the path of emissions](#) and removals without such policies and measures."

Reporting projections:

The European Environmental Agency defines 3 different types of projections encompassing a mitigation scenario ('without measures' (WOM); 'with existing measures' (WEM) and 'with additional measures' (WAM)) and associated definitions are included in this table

	Baseline scenario	Mitigation Scenario
'Without measures' (WOM)	means projections of anthropogenic GHG or air pollutant emissions by sources that exclude the effects of all policies and measures which are planned, adopted or implemented after the year allocated as the starting point for the relevant projection.	
'With existing measures' (WEM) scenario includes adopted and implemented policies		means projections of anthropogenic GHG or air pollutant emissions by sources that encompass the effects of currently implemented or adopted policies and measures
'With additional measures' (WAM) scenario includes planned policies over WEM scenario policies		means projections of anthropogenic GHG or air pollutant emissions by sources that encompass the effects of policies and measures which have been adopted and implemented, as well as planned policies that are judged to have a realistic chance to be adopted and implemented in the future

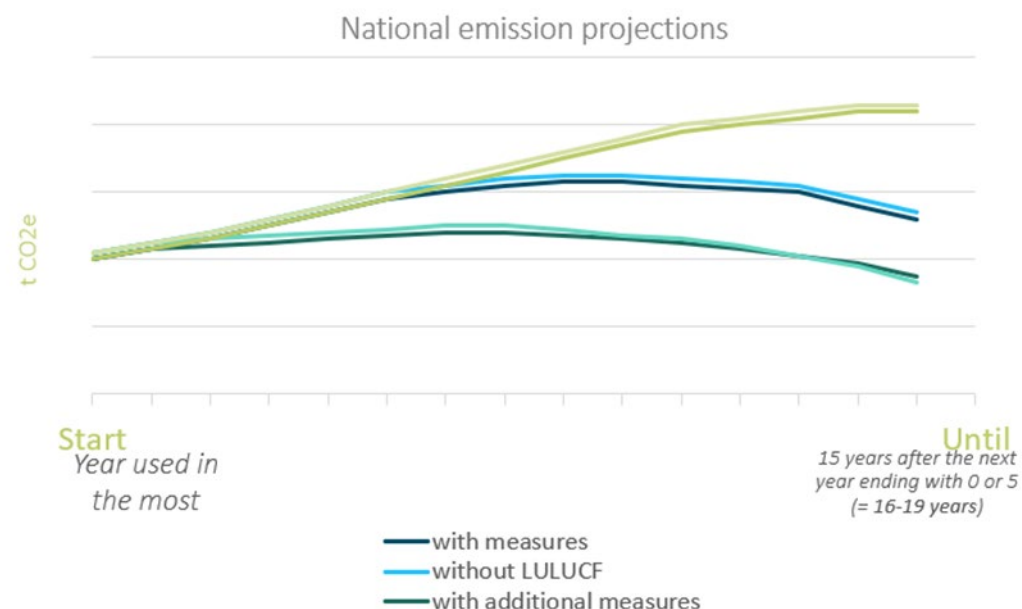
□ Source: EEA Projections in hindsight (2015)

Reporting projections under the ETF:

Under the Paris Agreement's ETF all countries are required to report on GHG emissions projections.

Parties that need flexibility in light of their capacities are only encouraged to do so and if they decide to report GHG projections, they are provided further flexibility, e.g., with regards to the methodology used and how far they project into the future.

Whilst having the option not to report GHG projections can be helpful, countries should, nevertheless, carefully consider developing GHG projections as this information enables many decision-making processes. (PATPA, 2021)



Reporting projections under the ETF:

When reporting, it is important that countries not only identify the **quantitative aspects** associated with projections, but also properly **characterize the methodology** used to prepare such projections. Socioeconomic, physical and technical elements could influence the estimation of emissions and projections.

Reporting projections under the ETF:

Specific reporting requirements for projections include:

Scenarios: to report a “with measures” scenario and can also provide a “with additional measures” and a “without measures” scenario (Tables 7,8,9)

Starting and ending years: The most recent year covered in the national GHG inventory report and extend at least 15 years beyond the next year ending in zero or five.

Scope by sector and gas: For the national total, by sector, by gas and with and without LULUCF.

A common metric consistent with the Party’s national GHG inventory report has to be used (e.g., Gg CO₂-eq). (Table 10)

Projections must also be provided for **key indicators** (Table 11)

Methodologies and sensitivity analysis:

Parties have to provide information on the methodology used to develop the projections



CBIT-GSP
CLIMATE TRANSPARENCY



copenhagen
climate centre

Thank you for your attention!

Fernando FARIAS | Fernando.farias@un.org
UNEP-CCC



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