

Explanatory Note on the “Fit for 55” National GHG Target Calculator

This tool enables the calculation of national greenhouse gas targets under an EU-wide ambition of 55 %. The calculations for the tool are based on the recently adopted [EU Climate Law](#) and the [impact assessment](#) accompanying the European Commission’s 2030 Climate Target Plan proposing the enhanced target.

Under EU legislation, there are no national targets for overall greenhouse gas emissions. Targets are set for the emission trading system (ETS) at the EU-level but not broken down to countries. For the sectors covered by the Effort Sharing Regulation (ESR) and for the land-use sector (LULUCF) national targets exist. The tool breaks the ETS target down to Member States and also includes emissions from extra-EU aviation and both intra- and extra-EU shipping, all of which is currently not included in the EU’s climate target.

The ‘National GHG Target Calculator’ was developed by Öko Institut as part of the Agora Energiewende Project [“Fit for 55” based on Environmental Integrity and Solidarity](#) and can be downloaded for free from the Agora Energiewende website.

1 Sheet “Calculations and Data”

National targets (columns D – I)

The first block (columns D – F) shows the national 2030 emission target by Member State under an overall ambition of 55 % at the EU-27. This target includes reported LULUCF removals/emissions and intra-EU aviation emissions. Extra-EU aviation and shipping is excluded on a Member State level. Intra-EU shipping is part of the overall 55 % but not attributed to Member States (see below).

The second block (columns G – I) is identical to the first but excludes LULUCF. This is similar to the scope of the 40% NDC and a reduction of 53 % compared to 1990.

Stationary ETS (columns J-L)

Emissions in the stationary ETS are distributed across Member States based on their share of the cap. The cap path starts with the average allocation (free allocation and units sold/auctioned) during the period 2008 to 2012. The Linear Reduction Factor which sets the ETS cap is applied to this value starting in 2010. The ETS cap for the year 2030 is attributed to Member States according to their share of the base value 2008-12.

2030 emissions/cap is based on the MIX-55-Scenario of the Commission Impact Assessment accompanying the Climate Target Plan (EC 2020).

Aviation ETS (columns M/N)

2030 aviation ETS emissions are based on the current scope (i.e. all flights within EU/EFTA). The aviation cap is distributed across Member States based on their share of auctioned aviation allowances in 2018.

The cap for the aviation ETS can be entered in cell N6.

Extra-EU aviation (columns UV)

Extra-EU aviation emissions are based on the MIX-55-Scope (EC 2020). The average growth factor of 18 % between 2005 and 2030 is applied to all Member States evenly.

Effort Sharing (columns O/P)

The 39 % ESR reduction target compared to 2005 is distributed purely based on a GDP/capita distribution. Bulgaria, the country with the lowest GDP/cap in the EU-27, is set to 20 %; Luxembourg and Ireland, the two countries with the highest GDP/capita in 2017, are set to 55 %. The other Member States receive targets based on their relative wealth.

For further details on the distribution mechanism and the reason for the spread between Bulgaria and Ireland/Luxembourg see Oeko-Institut and Agora Energiewende (2020).

Effort Sharing without Agriculture (columns Q-T)

These columns show an alternative climate architecture where Agriculture is taken out of the ESR. Agriculture Emissions by Member State are based on the with-additional-measures (WAM) scenario reported by Member States and compiled in the annual Trends and Projections-Report of the EEA (EEA 2020a). The ESR emission target is then calculated by deducting the agriculture emissions from the “normal” ESR target. Due to the lower reduction potential (or the less ambitious policies included in the WAM scenario for agriculture) the ESR target is then 44.7 % below 2005 for the other sectors (buildings, transport, small industry and waste). This target is then distributed across Member States based on the GDP/capita as above. The range is increased to 25 % below 2005 for Bulgaria and 60 % below 2005 for Ireland/Luxembourg; the increase of 5 percentage points for the range reflects the increase of the EU-wide ESR target due to removing agriculture.

LULUCF (column W)

LULUCF emissions in 2030 are taken from the WAM projections (see above). These are reported emissions without the application of accounting rules in line with the definition of the 55 % reduction target of the EU.

Historic and projected data (columns X – AU)

The values in these columns are used to calculate the reduction compared to 1990 and compare targets with projections. The data source is the EEA (EEA 2020a; EEA 2020c; 2020b).

International shipping (rows 38/39)

So far there is no European emission limit for international shipping. This applies both to intra-EU shipping and to extra-EU shipping. Emission targets versus 2005 for these two sub-sectors can be entered in the yellow cells. Due to a lack of data the intra-EU target cannot be attributed to Member States and is included separately in row 34.

Cyprus, Denmark, Germany and Netherlands

Due to the large differences between the WAM scenario for national greenhouse gas emissions and the projections reported under the National Energy and Climate Plans (NECPs) the more recent

NECP projections for total GHG emissions, stationary ETS, Effort Sharing, agriculture and LULUCF were used for these countries.

2 Sheet “Data Overview”

This sheet compares the national targets and different sub-targets (ETS, ESR in the different scopes with the projected emissions for each Member State.





The sheet also provides an overview of national economy-wide and ESR emissions-reduction targets as reported in Member State NECPs – with the exception of Germany, whose economy-wide target reflects the national target in the countries’ recently revised climate law.

3 Sheet “Gap Analysis”

This sheet compares the difference between the estimated national targets and the identified political targets, WAM projections and 2018 emissions for both economy-wide targets and the sub-targets (ETS, ESR) for each Member State.

The results are also colour coded according to a simple system highlighting the difference in percentage points between the estimated national target and the data being compared. A description for the colour code is provided below as well as in the sheet.

Legend for the colour coding:

-  The difference between the two categories is (-) and ≥ 10 percentage points
-  The difference between the two categories is (-) and < 10 percentage points
-  The difference between the two categories is (+) and < 10 percentage points
-  The difference between the two categories is (+) and ≥ 10 percentage points

4 References

- EC - European Commission (2020a): Impact Assessment Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Stepping up Europe's 2030 climate ambition. Investing in a climate-neutral future for the benefit of our people. Commission Staff Working Document (SWD(2020) 176 final Part 1/2). Brussels, 17 Sep 2020. Online available at https://eur-lex.europa.eu/resource.html?uri=cellar:749e04bb-f8c5-11ea-991b-01aa75ed71a1.0001.02/DOC_1&format=PDF, last accessed on 17 Feb 2021.
- EC (2020b): National Energy and Climate Plans (NECPs). Online available at https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans_en, last accessed on 15 June 2021.
- EEA - European Environment Agency (2020a): Trends and projections in Europe 2020, Tracking progress towards Europe's climate and energy targets, European Environment Agency. Online available at <https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2020>, last accessed on 11 Dec 2020.
- EEA (2020b): EEA greenhouse gas data viewer. European Environment Agency, 2020. Online available at <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>, last accessed on 14 Oct 2020.
- EEA (2020c): EU ETS data viewer, European Environment Agency. Online available at <https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1>, last updated on 7/2020.
- German Federal Government (2021): Climate Change Act 2021 - Intergenerational contract for the climate. Online available at <https://www.bundesregierung.de/breg-de/themen/klimaschutz/climate-change-act-2021-1936846>, last accessed on 1 July 2021.
- Oeko-Institut and Agora Energiewende (2020): How to Raise Europe's Climate Ambitions for 2030: Implementing a -55% Target in EU Policy Architecture. Berlin, 2020. Online available at <https://www.oeko.de/fileadmin/oekodoc/AGORA-EU-Ambition.pdf>, last accessed on 24 Aug 2020.