

Manual for the European Environment Agency's Air Pollutant Emissions Data Viewer (NEC Directive)

This manual provides details on the scope, content and features of the European Environment Agency's (EEA) [air pollutant emissions data viewer \(NEC Directive\)](#).

This viewer is a user-friendly tool which allows visualising and downloading of emissions data submitted by EU Member States under the reporting requirements of the [National Emission Ceilings Directive \(2001/81/EC\)](#) (NEC Directive).

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1 General data viewer navigation

The diagram below represents some main elements and functionalities of the data viewer.

The toolbar includes the list of predefined views and different export, layout options

Predefined views: Latest year and NECD 2010 ceiling

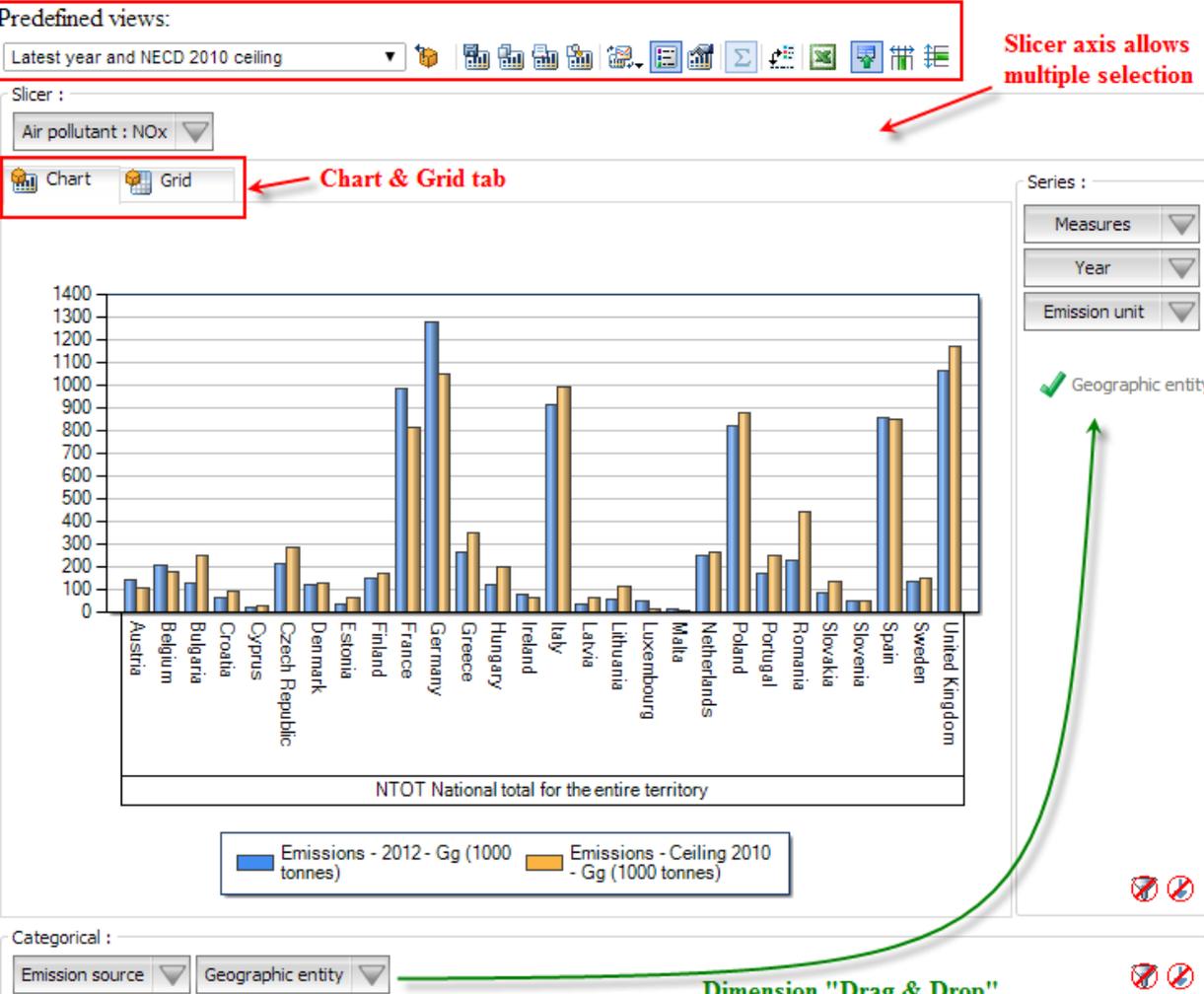
Slicer : Air pollutant : NOx

Chart & Grid tab

Series : Measures Year Emission unit

Geographic entity

Dimension "Drag & Drop"

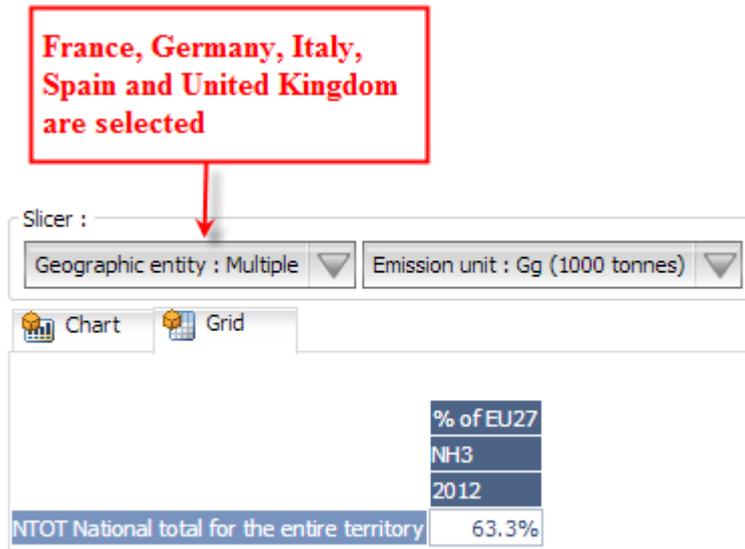


Country	Emissions - 2012 - Gg (1000 tonnes)	Emissions - Ceiling 2010 - Gg (1000 tonnes)
Austria	150	100
Belgium	200	150
Bulgaria	150	250
Croatia	100	100
Cyprus	50	50
Czech Republic	200	300
Denmark	150	150
Estonia	100	100
Finland	150	150
France	1000	800
Germany	1300	1050
Greece	250	350
Hungary	150	200
Ireland	100	100
Italy	900	1000
Latvia	100	100
Lithuania	100	100
Luxembourg	50	50
Malta	50	50
Netherlands	250	250
Poland	800	900
Portugal	150	250
Romania	200	450
Slovakia	150	150
Slovenia	100	100
Spain	850	850
Sweden	150	150
United Kingdom	1050	1150

- **Predefined views:**
The “Predefined views” drop down menu allows switching between defaults predefined views. Four “Predefined” views are available from the menu.
- **Dimensions:**
The data viewer counts six different dimensions: “Air pollutant”, “Emission unit”, “Year”, “Measures”, “Emission source” and “Geographic entity”. Each dimension can be arranged within each axis (drag and drop).
- **Axis:** three distinct axis “Filter/Slicer”, “Series” and “Categories”.

Note: the “Filter/Slicer” allows multiple member selection, and therefore offers many possibilities in terms of aggregation.

Example: The screen shot below can be read: “Emissions of NH₃ in France, Germany, Italy, Spain and United Kingdom accounts for 63.3% of total emissions in the EU-27 in 2012”.



- **Chart/Grid tabs:** the “Chart/Grid” tabs allow easy switch between chart view and grid view.

2 Scope of the viewer

2.1 Air pollutants

The table below lists the four air pollutants (as provided in the data viewer) for which data is reported under the NEC Directive.

Air pollutants	
Ammonia	NH ₃
Non-methane volatile organic compounds	NM VOC
Nitrogen oxides	NO _x
Sulphur dioxide	SO ₂

2.2 Geographic entities

Data are available for the EU-27 country group aggregation and for each Member State of the European Community (EU-28).

The EU-28 Member States are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Spain, Slovak Republic, Slovenia, Sweden and the United Kingdom.

2.3 Sectors

The Nomenclature for Reporting (NFR09) reporting format developed by EMEP/TFEIP as documented in the 2009 UNECE/EMEP Emission Reporting Guidelines ([ECE/EB.AIR/97](#)). Member States report emissions data using the NFR classification system. The NFR format uses around 100 categories to describe emission sources, and is consistent with the common reporting format (CRF) sector classification system developed by the UNFCCC/IPCCC for the reporting of greenhouse gases.

2.4 Total emissions

The “National Total for the entire territory” presented in the Data viewer comprises the aggregated NFR09 sectors (excluding memo items) reported by countries corresponding to anthropogenic (man-made) emissions. Natural emission sources (e.g. wind-blown dust) and re-suspension (e.g. the re-suspension of road-side particulates) are not included in the reported national totals.

2.5 Years

Emission data are reported annually. Under the NEC Directive, Member States are obliged each year (year X) to report preliminary emissions for the preceding year (i.e. X-1) and final emissions for the previous year but one (i.e. X-2). However, not every Member State has reported emissions of each pollutant for all years since the NEC Directive entered into force. Annual data for the majority of Member States is available for the year 2000 onwards; the latest year for which data is available is 2012.

2.6 Emissions ceiling for 2010

The viewer includes the respective Member State 2010 emissions ceilings for national totals (for NO_x, NMVOC, SO₂ and NH₃) as prescribed Annex I of the [NEC Directive](#).

2.7 Emission unit

Emissions can be visualized in 2 distinct scales:

- in megagrams (Mg) 1 Mg = 1 tonne = 1 000 kg;
- in gigagrams (Gg) 1 Gg = 1 000 tonnes = 1 000 tonnes;

This allows the user to adjust the unit relevant to displayed emission data. For example, the unit *Gg* is most relevant to view “National Totals” emissions, while selecting the unit *Mg* might be more relevant to view emissions for a specific sub-sector.

Note: As "Emission unit" entries are linked with the emissions data, selecting any measure other than absolute emissions statistics (for example: % change or index...) will not have any effect on the data displayed.

2.8 Measures

The viewer can display data of different types including emission trends (expressed in absolute values or indexed to 1990 emissions levels), and the absolute or relative change from one year to another (expressed as a percentage).

2.8.1 Emissions: air pollutants emissions and notation keys

Emissions can be displayed in two units (Mg or Gg), according to the "emission unit" selected (see **2.7 Emission unit**). When an emission for a certain sector has not been reported for various reasons, Member States use notation keys (see table below).

Notation key	Definition
C	Confidential: for emissions by sources of compounds which could lead to the disclosure of confidential information.
IE	Included elsewhere: for emissions by sources of compounds that are estimated but included elsewhere in the inventory instead of in the expected source category.
NA	Not applicable: is used for activities in a given source category which are believed not to result in significant emissions of a specific compound.
NE	Not estimated: for existing emissions by sources of compounds that have not been estimated.
NO	Not occurring: for emissions by sources of compounds that do not occur for a particular compound or source category within a country.
NR	Not reported: is introduced to ease the reporting where emissions for a specific Party are not strictly required by the different Protocols.

2.8.2 Percentage change

Five different percentage change statistics are available. In the formulas below, E_{year} represents the selected year emission.

Statistic	Definition	Formula (E_{year} = selected year emission)
% change compared to 1990	Percentage change between 1990 and selected year emissions	$((E_{\text{year}} - E_{1990}) / E_{1990}) * 100$
NTOT proximity with 2010 ceiling (%)	Distance from E_{year} to the 2010 ceilings in percent. Note1: a negative value implies that E_{year} is already below the respective ceiling. Note2: The emission source: "National Total (NTOT)" is used for this statistic.	$((E_{\text{year}} - E_{\text{ceiling 2010}}) / E_{\text{ceiling 2010}}) * 100$
Annual % change (Y vs. Y - 1)	Percentage change between previous year and selected year emissions	$((E_{\text{year}} - E_{\text{year} - 1}) / E_{\text{year} - 1}) * 100$
5-year % change (Y vs. Y - 5)	Percentage change in emissions during the 5-year period preceding the selected year	$((E_{\text{year}} - E_{\text{year} - 5}) / E_{\text{year} - 5}) * 100$
10-year % change (Y vs. Y - 10)	Percentage change in emissions during the 10-year period preceding the selected year	$((E_{\text{year}} - E_{\text{year} - 10}) / E_{\text{year} - 10}) * 100$

Examples:

The screen shot below can be interpreted: "In 2012, total SO₂ emissions in Austria were 30.3% lower than 5 years before (in 2007)".

5-year % change (Y vs. Y-5)	
Austria	
SO2	
NTOT National total for the entire territory	2012 -30.3%

The screen shot below can be interpreted: "Total emissions (NTOT) of NO_x in 2012 for United Kingdom stands 9.0% below the 2010 ceiling".

NTOT proximity with 2010 ceiling (%)	
United Kingdom	
NOx	
NTOT National total for the entire territory	2012 -9.0%

2.8.3 Index

One index measure is available.

Statistic	Definition	Formula (E_{year} = selected year emission)
Index (1990=100)	Index of current year emissions, with index 100 = 1990 emissions	$(E_{\text{year}} / E_{1990}) * 100$

Example: The screen shot below can be interpreted: “For France in 2012, the index of total NMVOC emissions with 100 being emissions for 1990 stands at 27.4, this represents an decrease of 72.6% compared to 1990”.

Index (1990=100)	
France	
NMVOC	
NTOT National total for the entire territory	2012 27.4

2.8.4 Emission change

Four different calculations of emissions change in absolute (tonnage) terms are available. In the formulas below, E_{year} represents the selected year emission. See also **2.7 Emission unit**.

Statistic	Definition	Formula (E_{year} = selected year emission)
Absolute change compared to 1990	Change in absolute emissions between 1990 and current year displayed	$E_{\text{year}} - E_{1990}$
Annual absolute change (Y vs. Y-1)	Change in absolute emissions between previous year and current year displayed	$E_{\text{year}} - E_{\text{year}-1}$
5-year absolute change (Y vs. Y-5)	Change in absolute emissions during the 5-year period preceding the selected year	$E_{\text{year}} - E_{\text{year}-5}$
10-year absolute change (Y vs. Y-10)	Change in absolute emissions during the 10-year period preceding the selected year	$E_{\text{year}} - E_{\text{year}-10}$

Example: The screen shot below can be interpreted: “For Germany, total SO₂ emissions increased by 3.242 Gg between 2011 and 2012”.

Annual absolute change (Y vs. Y-1)	
Germany	
SO ₂	
Gg (1000 tonnes)	
NTOT National total for the entire territory	2012 +3.242

Note: The "Emission unit" dimension is relevant for the “emission change statistics” - switching between the “Emission unit” options (Mg, Gg) will change the unit of the displayed emissions.

2.8.5 Percentage share

Two different percentage share statistics are available.

Statistic	Definition	Formula (E_{sector} = selected sector emission) (E_{country} = selected national total emission)
Share of National Total emissions (%)	Percentage share of selected sector emission in National Total emissions for the selected years(s)	$(E_{\text{sector}} / \text{National Total emissions}) * 100$
% of EU-27	percentage share of selected country emission in the EU-27 for the selected years(s)	$(E_{\text{country}} / E_{\text{EU-27}}) * 100$

Examples:

The screen shot below can be interpreted: *“Spain accounts for 9.8% of all EU-27 SO₂ emissions in 2012”.*

% of EU27	
Spain	
SO2	
NTOT National total for the entire territory	2012 9.8%

The screen shot below can be interpreted: *“The sector “1A3bi. Road Transport: Passenger cars” represents 5.4% of NMVOC emissions in the EU-27 in 2012”.*

Share of National Total emissions (%)	
EU27	
NMVOC	
1 A 3 b i Road transport: Passenger cars	2012 5.4%