Annex I Fact Sheets
Emissions, Targets and Projections for Annex I Parties
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This data compendium is an excerpt from the forthcoming book by Farhana Yamin and Joanna Depledge "The International Climate Change Regime: A Guide to Rules, Institutions and Procedures", Cambridge University Press. The presented fact sheets provide key information for all Annex I Parties with respect to their greenhouse gas emissions. Countries' emissions are compared to their quantified aims and commitments under the UNFCCC and the Kyoto Protocol.
Background information

Aggregated Fact Sheets

Annex I
Annex II
Economies in Transition (EIT)
European Union EU-15
European Union EU-25
JUSSCANNZ
Annex I without USA & Australia
Annex I without USA, Australia & Russia

Country Fact Sheets

Australia  Greece  Norway
Austria  Hungary  Poland
Belarus  Iceland  Portugal
Belgium  Ireland  Romania
Bulgaria  Italy  Russian Federation
Canada  Japan  Slovakia
Croatia  Kazakhstan  Slovenia
Czech Republic  LatviaLiechtenstein  Spain
Denmark  Lithuania  Sweden
Estonia  Luxembourg  Switzerland
Finland  Monaco  Turkey
France  Netherlands  Ukraine
Germany  New Zealand  United Kingdom
USA
Background information on the data presented in the fact sheets.

Past Emissions, Projections and Targets

Key data in relation to the Kyoto Protocol targets is compiled in this graph. Available inventory data of Annex A emissions is given from 1990 until the latest inventory year as percentage of base year emissions. Projections, if available, are displayed from 2000 to 2010 (‘with measures’ (orange dotted line); ‘with additional measures’ (orange dashed line)). Note that the projection base in the year 2000 might be inconsistent with year 2000 inventory data. Furthermore, the ‘allowed emissions’ are displayed for the period 2008-2012 as well as any categories of "Sink Allowances" and the "Single Project Exemption", if applicable. A linear interpolation between base year emissions (assumed in 1990) and 'Kyoto targets' (thin blue dotted line) puts the current emission trends into perspective and indicates whether countries' emissions are 'on track' to meet the Kyoto Protocol targets. The colour code of the bar chart is given in the table on the left. Since any net emissions from afforestation and deforestation activities (denoted by '-' in table on the left) can be fully compensated by removals related to forest management (see 'For.Mng.II'), both sink categories are consequently not displayed in the case of net emissions under Art. 3.3.

Base Year

Base years for emissions under the Kyoto Protocol for carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated gases (HFCs, PFCs and SF6).


b) HFCs, PFCs, SF6: 1990 (with the same exceptions as for CO2, CH4, N2O), or 1995 if a Party prefers (KP Article 3.8). In these fact sheets, it is assumed that 1995 is chosen, if (a) the GWP-weighted sum of fluorinated gas emissions was higher in 1995, or (b) no fluorinated gas emissions were reported for 1990. Parties must make their choice by 1 January 2007 (Decision 9/CP.2 and 11/CP.4).
Explanatory Notes

Emissions

Greenhouse gas emissions from gases and sources as in Annex A of the Kyoto Protocol. Not included in Annex A are emissions or removals from LULUCF activities (except some agricultural sources) and emissions from international marine transport and aviation (bunker fuels). Units: Million tonnes of carbon dioxide equivalent per year (MtCO2e/yr), using Global Warming Potentials in accordance with Decision 2/CP.3 (“1995 IPCC GWP values”). Emissions are also given as a percentage of base year (B.Yr.) emissions.

Emissions by Gas

The pie charts display the relative share of CO2, CH4, N2O and fluorinated gases (sum of HFCs, PFCs, and SF6 weighted by Global Warming Potentials) of Annex A emissions in the year 2000. In the trend chart, emissions of Annex A gases from 1990 until the latest inventory year are displayed as a percentage of their respective base year emissions.

Emissions by Sector

The pie charts display the relative share of total Annex A emissions in the year 2000, broken down by sector. The sectors are energy (without transport) (ENE), transport (TRA), industrial processes (IND), solvents and other product use (SOL), agriculture (AGR) and waste (WAS), according to the Revised 1996 IPCC Reporting Guidelines. In the trend chart, emissions by Annex A sectors from 1990 until the latest inventory year are displayed as a percentage of their respective base year emissions.

LULUCF

Net removals by Land Use, Land-Use Change and Forestry (LULUCF) for years 1990 and 2000. LULUCF emissions comprise the following emission categories: ‘Changes in Forest and Other Woody Biomass Stocks’, ‘Forest and Grassland Conversion’, ‘Abandonment of Managed Lands’ and CO2 Emissions and Removals from Soil’, as defined in the Revised 1996 IPCC Good Practice Guidelines. Note that these LULUCF categories overlap, but are not congruent with the categories that can or must be accounted for compliance purposes under the Kyoto Protocol (cp. ‘Sink Allowances’ below). Units: The net LULUCF emissions (+) or removals (-) for the years 1990 and 2000 are given in MtCO2e/yr and as a percentage of the respective years’ Annex A emissions (% Yr.).
Int. Bunker Fuels

Emissions by international transport (aviation and marine) for years 1990 and 2000. Units: MtCO2e/yr and as percentage of 1990 or 2000 Annex A emissions (% Yr.).

Projections

Projections of Annex A emissions until 2010 under the assumptions "with measures" and "with additional measures".

a) 2000 (projection base): Emissions for 2000 in the projections section of the 3rd National Communications are sometimes not fully consistent with the reported emissions for 2000 in the inventory submissions. This is generally due to different underlying assumptions (e.g. projections relying on older inventory data), or different coverage of sectors and gases.

b) 2010 "with measures": Projections that are classified 'with measures (WM)' incorporate the effects of policies and measures that are implemented or committed to in the national communication. 30 of the 32 3rd National Communications analyzed in FCCC/SB/2003/7/Add.3 provided "with measures" scenarios (orange dotted line).

c) 2010 "with additional measures": Projections 'with additional measures (WAM)' include the effects of additional measures under consideration and as specified by the Party. 21 of the 32 3rd National Communications analyzed in FCCC/SB/2003/7/Add.3 provided "with additional measures" scenarios (orange dashed line).

For detailed notes on the projection data, consult the document FCCC/SB/2003/7/Add.3 or the Parties' 3rd National Communications, available on http://unfccc.int/.

UNFCCC aim

Progress toward the UNFCCC objective to return to 1990 emission levels by 2000. Each individual country's performance under the UNFCCC objective (Art. 4.2 FCCC (a) and (b)) is indicated by the difference between its actual emissions in year 2000 ('Actual') and its 1990 emissions ('Allowed'). The emissions counted are those indicated under the section 'Emissions' (see above) plus bunker fuel emissions, if available. In cases where a country's emissions in 2000 were below 1990 levels, the indicator arrow points to the left (lower emissions; '-'). Units: MtCO2e/yr and percentage of 1990 emissions (% 1990).
Kyoto Target

*Emission targets under the Kyoto Protocol for 2008-2012.*

a) Allowed 2008-2012 (An.B)/(EU): The 'Allowed Emissions' are defined here as a country's base year emissions times the percentage listed in Annex B of the Kyoto Protocol (with the exception for the EU15 member countries, where the EU Burden Sharing Agreement serves as the basis for calculating the targets). Thus, the 'Allowed Emissions' as defined here are identical to the 'assigned amounts' as defined in the Marrakech Accords (paragraph 5 of Annex to -/CMP.1, Decision 19/CP.7, FCCC/CP/2001/13/Add.2, page 57/58) with the exception of those countries that account for deforestation in their baseline pursuant to KP Article 3.7 (see 'Sink Allowances' below).

b) Distance from year X: Necessary emission reductions below latest inventory data (e.g. 2001) in order to reach the 'Allowed Emissions' level. A positive (negative) value means that further emission reductions are (not) necessary in order to reach target.

c) Distance from WM: Necessary emission reductions below projected levels under the "with measures" scenario for 2010 (where WM projections are available).

d) Distance from WAM: Necessary emission reductions below projected levels under the "with additional measures" scenario for 2010 (where WAM projections are available).

Sink Allowances

Potential credits and debits for the first commitment period related to the accounting of LULUCF activities. This section attempts to quantify the magnitude of LULUCF-related credits that each Party could potentially claim. These LULUCF categories comprise those in the Kyoto Protocol (Art. 3.3) and additional categories or caps provided for in the Marrakech Accords (Art. 3.4). Units: MtCO2e/yr and percentage of base year emissions.

a) CDM sinks: Eligible LULUCF activities under the Clean Development Mechanism are afforestation and reforestation activities. The acquisition (addition to assigned amount) of these CDM sink credits is limited to 1% of a country's base year emissions (see paragraph 14, in Decision 11/CP.7, page 61 of FCCC/CP/2001/13/Add.1). For countries for which KP Art. 3.7 applies (deforestation in the base year - see above), the calculation of allowed CDM sink credits takes into account this change in the base year emissions.

b) For. Mng. I (AppZ): A country is allowed to account for forest management up to the country-specific limit given here (Appendix to Decision 11CP.7 and Decision 12/CP.7, FCCC/CP/2001/13/Add.1, page 55).

c) Agr. Mng.: This category comprises credits due to cropland management, grazing land management and revegetation. No caps apply to this category of credits, and estimates are uncertain due to incomplete and uncertain removal projections up to 2010.

c.1) Cropland Management: In order to derive a rough estimate of cropland management credits, the following assumptions have been made. A country's cropland area has been assumed to be equal to the 'arable land and permanent cropland' area as estimated by the FAO for the year 2001. The carbon uptake factor for cropland management activities was chosen to be 0.32 tC/ha/yr in accordance with an average estimate for Annex I countries (IPCC SP LULUCF). Furthermore, it has been assumed that 20% of the total cropland area might be carbon-managed in addition to 1990 management practices ('implementation factor'). Multiplication of the area, the implementation factor and the carbon uptake factor lead to the rough estimates presented here. Note that no emissions or removals from non-CO2 gases have been taken into account in this estimate, although N2O emissions can be assumed to increase and partially offset CO2 sequestration (see Table 4-4, IPCC Special Report on LULUCF, page 199). Source: FAO database available at http://apps.fao.org/page/collections; Carbon uptake factors taken from Table 4.1, page 184 in IPCC Special Report on LULUCF, available online at http://www.grida.no/climate/ipcc/land_use/158.htm

(continued on next page)
c.2) Grazing land Management: For cropland management, grazing land area has been assumed equal to the 'permanent pasture' area based on FAO estimates for 2001. The carbon uptake factor for grazing land management activities was chosen to be 0.53 tC/ha/yr in accordance with an average estimate for Annex I countries (see Table 4.1, IPCC Special Report on LULUCF, page 184). Furthermore, it has been assumed that 10% of the total cropland area might be carbon-managed ('implementation factor'). The implementation factor is assumed to be lower than for cropland management due to the less beneficial side effects of carbon management on grazing lands, such as acidification, erosion, increased energy use, and reduced biodiversity (see Table 4.4, IPCC Special Report on LULUCF, page 199). Note that, as for cropland management, no emissions from non-CO2 gases have been taken into account.

c.3) Revegetation: Credits for 'revegetation' were only assumed for Australia (+0.59 MtCO2e/yr) and Iceland (+0.014 MtCO2e/yr), the only two countries that presented estimates in their 1st August 2001 submissions (see FCCC/SBSTA/2000/9/Add.1 and FCCC/SBSTA/2000/MISC.6(Add.1)). For other countries, there are no official estimates for the 'revegetation' potential, partially due to a vague definition of 'revegetation' (see definition in Decision 11/CP.7, page 58 of FCCC/CP/2001/13/Add.1).

d) Aff & Def (est.): The estimates for Afforestation and Deforestation-related emissions (KP Art. 3.3) are from countries' own projections as provided in their submissions on 1st August 2001 under IPCC definitions (FCCC/SBSTA/2000/9/Add.1). Updated estimates that were subsequently provided by some countries (Austria, Netherlands, Portugal, Spain and United Kingdom) have been taken into account (European Environmental Agency, 2003 "Greenhouse gas emission trends and projections in Europe 2003", Environmental Issue Report No 36).

e) For.Mng II: Beyond the credits under 'For.Mng I (AppZ)', a country is allowed to account for forest management in order to offset any potential debits under Art. 3.3. A country's forest management potential is assumed to be sufficiently high to compensate any Art. 3.3. 'debits' beyond the allowances under 'For.Mng I (AppZ)'.

f) Defo in B.Yr.: The second part of Art. 3.7 (KP) requests Parties to include emissions and removals from deforestation activities in their base year emissions if all LULUCF activities (according to the revised 1996 IPCC Guidelines) were a net source in the base year. This provision is only applicable to a limited number of countries - with Australia's base year emissions likely to be the most affected (see country specific notes).
Explanatory Notes

Single Projects

The possible exemption of certain single project emissions is presented for Iceland and Monaco, which are the only two countries eligible to exclude up to 1.6 MtCO2e/yr. Units: MtCO2e/yr and percentage of base year emissions. Source: 3rd National Communication of Iceland, page 20-22, and Decision 14/CP.7

Per Capita Emissions

As one simple indicator to compare emissions across countries, the per capita emissions are given for 1990 and 2000 (or the latest available year). Per capita emissions are given in tCO2e per capita per year (tCO2e/per/yr) comprising 'Annex A' and bunker fuel emissions. Source: Population data from FAO, available on: http://apps.fao.org/page/collections.

Main Data Sources

If not stated otherwise, the data is drawn from the country's official inventory submissions to the UNFCCC.

a) "CRF 2003": The country's 2003 submission in the Common Reporting Format (CRF) was used, as available at http://unfccc.int/program/mis/ghg/submis2003.html

b) "ghg.unfccc.int": Since no 'CRF 2003' submission was available, data was drawn from the GHG online database as of 2002, available at ghg.unfccc.int.

Country specific notes

a) Australia: There is some uncertainty as to whether Australia qualifies for an inclusion of its deforestation emissions in the baseyear ('Defo in B.Yr.'). The 1990 net emissions due to LULUCF are uncertain, especially the contribution from "vegetation thickening", and could be negative. In this case, Australia's effective commitments would be about 30% lower.

b) Iceland: Note that special projections for Iceland "with add. measures I" (WAM I) and "with add. measures II" (WAM II) are displayed instead of WM and WAM. The scenarios are taken from Iceland's 3rd National Communication (pages 20-22) including emissions fulfilling 14/CP.7 (single projects).

c) Turkey: Due to a lack of UNFCCC data, Turkey's fact sheet is solely based on the EDGAR database.

d) Slovakia: Int. bunker fuel data for 2000 has been assumed equal to the latest available estimate in the EDGAR database (1995).

e) Netherlands: Int. bunker fuel data includes CO2 emissions only.

f) Ukraine, Russia, and Belarus: Transport related emissions were not reported separately and are therefore presented as part of the energy related emissions. This affects as well the relevant aggregated fact sheets - indicated by bracketed Transport emissions in the sectoral pie plot.

g) Russia: Russia inventory submission data has been updated by the information provided in its 3rd National Communications up to 1999. Projections SCEN II and SCEN III are based on Russia's own CO2 projections '2' and '3', as reported in Table V.4 of the 3rd National Communications, and the assumption that an equal growth rate applies for the non-CO2 gases.

Aggregated fact sheets

Individual country data has been aggregated for different groupings, namely Annex I, Annex II, EIT, EU-15, EU-25 and JUSSCANNZ. Some assumption had to be made in order to aggregate the official UNFCCC data. For those countries, categories and years, where UNFCCC data was missing, linear interpolation between the reported data points has been performed in order to fill data gaps. For the countries which did not report up until 2001, constant emissions have been assumed from the latest available data point onwards, except for Russia, where the CO2 energy growth rate according to the IEA statistics (IEA, 2003) has been assumed for all gases and sources after the most recent reported data, 1996.

a) Annex I: Aggregated data for all Annex I countries less Turkey, Belarus, Kazakhstan

b) Annex II: Aggregated data for all countries inscribed in Annex II of the UNFCCC. Turkey is excluded.

c) EIT: Aggregated data for countries with economies in transition (EIT), namely Russia, other Annex I states of the former Soviet Union and Eastern Europe. Belarus and Kazakhstan are not included. Note that Russia and Ukraine did not separately report transport related emissions. Thus, the presented transport emissions are only a subset of the overall transport emission in EIT countries.

d) EU-15: Aggregated data for European Union's 15 member states as given in EU's CRF submission 2003. Sink allowances represent net aggregates over all member country estimates which leads to net positive emission for the 'Defo in B.Yr.', 'Aff&Def' as well as the 'For.Mng. II' category.


f) JUSSCANNZ: Aggregated data for non EU developed countries, namely Japan, USA, Switzerland, Canada, Australia, and New Zealand.
Aggregated Fact Sheets

Annex I
Annex II
Economies in Transition (EIT)
European Union EU-15
European Union EU-25
JUSSCANNZ
Annex I w/o USA, AUS
Annex I w/o USA, AUS, RUS
Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Past Emissions, Projections and Targets

CO\textsubscript{2}, CH\textsubscript{4}, N\textsubscript{2}O: varied
HFCs, PFCs, SF\textsubscript{6} (est.): varied

Emissions

- 

\text{MtCO}_2/\text{yr} 

\% B.Yr.

Base Year (B.Yr.):

18253.99 100%

1990:

18042.71 98.8%

2000:

17237.58 94.4%

LULUCF

\text{MtCO}_2/\text{yr} 

\% Yr.

1990:

-1949.52 -10.8%

2000:

-2032.96 -11.8%

Int. Bunker Fuels

\text{MtCO}_2/\text{yr} 

\% Yr.

1990:

402.3 2.2%

2000:

425.86 2.5%

UNFCCC Aim

\text{MtCO}_2/\text{yr} 

\% 1990

Allowed 2000:

18445.01 100%

Actual 2000:

17663.44 95.8%

Distance to aim:

-781.57 -4.2%

Achieved?: Achieved

Kyoto Target

\text{MtCO}_2/\text{yr} 

\% B.Yr.

Allwd 2008-12:

17302.75 94.8%

Distance from 2001:

-160.42 -0.9%

Single Project

\text{MtCO}_2/\text{yr} 

\% B.Yr.

Allowance 2008-2012:

3.2 0%

Sink Allowances

\text{MtCO}_2/\text{yr} 

\% B.Yr.

CDM sinks:

183.88 1%

Agr.Mng. (est.):

309.22 1.7%

For.Mng. I (AppZ):

358.86 2%

Aff&Def.:

-64.59 -0.4%

For.Mng. II:

106.95 0.6%

Defo in B.Yr. (est.):

133.99 0.7%

Sink Allowances Total:

1028.31 5.6%

Per Capita Emissions

\text{tCO}_2/\text{per/yr}

1990:

16.56

2000:

15.27

Main Data Sources

Inventory data: CRF 2003, ghg.unfccc.int

Inventory data (red, solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

**EIT**

Countries with economies in transition
(Former Soviet Union and Eastern Europe)

**Base Year**
CO₂, CH₄, N₂O: varied
HFCs, PFCs, SF₆ (est.): varied

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂/yr</th>
<th>%B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Year (B.Yr.):</td>
<td>5446.99</td>
<td>100%</td>
</tr>
<tr>
<td>1990:</td>
<td>5304.47</td>
<td>97.4%</td>
</tr>
<tr>
<td>2000:</td>
<td>3357.7</td>
<td>61.6%</td>
</tr>
<tr>
<td>LULUCF</td>
<td>MtCO₂/yr</td>
<td>%Yr.</td>
</tr>
<tr>
<td>1990:</td>
<td>-544.86</td>
<td>-10.3%</td>
</tr>
<tr>
<td>2000:</td>
<td>-936.95</td>
<td>-27.9%</td>
</tr>
<tr>
<td>Int. Bunker Fuels</td>
<td>MtCO₂/yr</td>
<td>%Yr.</td>
</tr>
<tr>
<td>1990:</td>
<td>69.98</td>
<td>1.3%</td>
</tr>
<tr>
<td>2000:</td>
<td>26.43</td>
<td>0.8%</td>
</tr>
<tr>
<td>UNFCCC Aim</td>
<td>MtCO₂/yr</td>
<td>% B.Yr.</td>
</tr>
<tr>
<td>Allowed 2000:</td>
<td>5374.45</td>
<td>100%</td>
</tr>
<tr>
<td>Actual 2000:</td>
<td>3384.14</td>
<td>63%</td>
</tr>
<tr>
<td>Distance to aim:</td>
<td>-1990.31</td>
<td>-37%</td>
</tr>
<tr>
<td>Achieved?:</td>
<td>Achieved</td>
<td></td>
</tr>
</tbody>
</table>

**Kyoto Target**

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂/yr</th>
<th>%B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allwd 2008-12:</td>
<td>5342.88</td>
<td>98.1%</td>
</tr>
<tr>
<td>Distance from 2001:</td>
<td>-1977.95</td>
<td>-36.3%</td>
</tr>
<tr>
<td>Sink Allowances</td>
<td>MtCO₂/yr</td>
<td>%B.Yr.</td>
</tr>
<tr>
<td>CDM sinks:</td>
<td>54.47</td>
<td>1%</td>
</tr>
<tr>
<td>Agr.Mng.(est.):</td>
<td>70.63</td>
<td>1.3%</td>
</tr>
<tr>
<td>For.Mng. I (AppZ):</td>
<td>141.5</td>
<td>2.6%</td>
</tr>
<tr>
<td>Aff&amp;Def.:</td>
<td>-29.99</td>
<td>-0.6%</td>
</tr>
<tr>
<td>For.Mng. II:</td>
<td>29.99</td>
<td>0.6%</td>
</tr>
<tr>
<td>Defo in B.Yr.:</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Sink Allowances Total:</td>
<td>266.6</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

**Per Capita Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>tCO₂/pe/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:</td>
<td>17.27</td>
</tr>
<tr>
<td>2000:</td>
<td>11.14</td>
</tr>
</tbody>
</table>

**Main Data Sources**

- Inventory data: CRF 2003; ghg.unfccc.int

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**UNFCCC Aim (2000)**

-10% < lower emissions > higher emissions +10%


-30% +30%

**Emissions by Gas (Trend)**

-100% +100%


-60% +60%

**Emissions by Sector (Trend)**

-60% +60%

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

**UNFCCC Aim (2000)**

- **AIM**
  - \(-10\%\)  \(+10\%\)
  - \(-30\%\)  \(+30\%\)
- Difference between allowed and actual emissions in year 2000 in percent of 1990 emissions.


- **F-gases:** 1%
- **N\(_2\)O:** 9%
  - **CO\(_2\):** 82%


- **ENE:** 60%
- **TRA:** 21%
- **OTH:** 1%
- **AGR:** 10%
- **SOL:** < 1%
- **IND:** 6%
- **WAS:** 3%

**Distance to Kyoto Target**

- **TARGET**
  - \(-10\%\)  \(+10\%\)
  - \(-30\%\)  \(+30\%\)
- Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

**Emissions by Gas (Trend)**

- **CO\(_2\):** 82%
- **N\(_2\)O:** 9%
  - **F-gases:** 1%

**Emissions by Sector (Trend)**

- **ENE:** 60%
- **TRA:** 21%
- **OTH:** 1%
- **AGR:** 10%
- **SOL:** < 1%
- **IND:** 6%
- **WAS:** 3%

**Past Emissions, Projections and Targets**

  - **MtCO\(_2\) e/yr**
  - **% Yr.**
  - **Allwd 2000:** 4348.67  100%
  - **Actual 2000:** 4290.84  98.7%
  - **Distance to aim:** -57.83  -1.3%
  - **Achieved:** Achieved

- **Kyoto Target**
  - **MtCO\(_2\) e/yr**
  - **% Yr.**
  - **Allwd 2008-12 (An.B):**
  - **Distance from 2001:** 240.58  5.7%
  - **Distance from WM:** 321.33  7.6%
  - **Distance from WAM:** 82.33  2%

- **Sink Allowances**
  - **MtCO\(_2\) e/yr**
  - **% Yr.**
  - **CDM sinks:** 42.08  1%
  - **Agr.Mng.(est.):** 30.67  0.7%
  - **For.Mng. I (AppZ):** 18.96  0.5%
  - **Aff&Def.:** 6.84  0.2%
  - **For.Mng. II:** 7.08  0.2%
  - **Defo in B.Yr.(est.):** 3.99  0.1%
  - **Sink Allowances Total:** 109.61  2.6%

- **Per Capita Emissions**
  - **tCO\(_2\) e/peo/yr**
  - **1990:** 11.91
  - **2000:** 11.39

**Main Data Sources**

- **Inventory data:** CRF 2003

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

European Union EU-25
Enlarged European Union with 25 members

Base Year
CO₂, CH₄, N₂O: varied
HFCs, PFCs, SF₆ (est.): varied

Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂ (MtCO₂e/yr)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% B.Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>5293.53</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>4808.46</td>
<td></td>
<td></td>
<td>90.8%</td>
</tr>
</tbody>
</table>

LULUCF

<table>
<thead>
<tr>
<th>Year</th>
<th>LULUCF (MtCO₂e/yr)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-283.74</td>
<td></td>
<td></td>
<td>-5.5%</td>
</tr>
<tr>
<td>2000</td>
<td>-263.96</td>
<td></td>
<td></td>
<td>-5.5%</td>
</tr>
</tbody>
</table>

Int. Bunker Fuels

<table>
<thead>
<tr>
<th>Year</th>
<th>Int. Bunker Fuels (MtCO₂e/yr)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>168.07</td>
<td></td>
<td></td>
<td>3.3%</td>
</tr>
<tr>
<td>2000</td>
<td>240.12</td>
<td></td>
<td></td>
<td>5%</td>
</tr>
</tbody>
</table>

UNFCCC Aim

<table>
<thead>
<tr>
<th>Year</th>
<th>UNFCCC Aim (MtCO₂e/yr)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% B.Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5324.01</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Distance to Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance to Kyoto Target (MtCO₂e)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% B.Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-275.43</td>
<td></td>
<td></td>
<td>-5.2%</td>
</tr>
</tbody>
</table>

Achieved?: Achieved

Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>Kyoto Target (MtCO₂e/yr)</th>
<th>CH₄ (MtCH₄)</th>
<th>N₂O (MtN₂O)</th>
<th>CO₂ emission (% B.Yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-12</td>
<td>4883.49</td>
<td></td>
<td></td>
<td>92.3%</td>
</tr>
</tbody>
</table>

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

Per Capita Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Emissions (tCO₂e/pc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>12.12</td>
</tr>
<tr>
<td>2000</td>
<td>11.21</td>
</tr>
</tbody>
</table>

Main Data Sources

Inventory data: CRF 2003; ghg.unfccc.int
Past Emissions, Projections and Targets

**UNFCCC Aim (2000)**

- **AIM**
  - +10% for higher emissions
  - -10% for lower emissions

- **Distance to Kyoto Target**
  - From latest inventory data (2001) to Kyoto targets in percent of base year emissions.


- **F-gases:** 2%
- **N₂O:** 6%
- **CH₄:** 9%
- **CO₂:** 83%


- **ENE:** 60%
- **TRA:** 24%
- **WAS:** 3%
- **AGR:** 7%
- **SOL:** < 1%
- **IND:** 5%

**Emissions by Gas (Trend)**

- **CO₂:** +50% to +100%
- **N₂O:** +50% to +100%
- **CH₄:** -20% to -10%
- **F-gases:** +10% to +20%

**Emissions by Sector (Trend)**

- **ENE:** +50% to +100%
- **TRA:** +50% to +100%
- **WAS:** +50% to +100%
- **AGR:** +50% to +100%
- **SOL:** +50% to +100%
- **IND:** +50% to +100%

**Past Emissions, Projections and Targets**

- **Kyoto Target**
  - **Allowed 2008-12:** 8074.99 MtCO₂e/yr, 94.1% of base year emissions.
  - **Distance from 2001 Inventory:** 1583.83 MtCO₂e/yr, 18.4% of base year emissions.

- **Sink Allowances**
  - **CDM sinks:** 87.15 MtCO₂e/yr, 1% of base year emissions.
  - **Agr. Mng. (est.):** 207.28 MtCO₂e/yr, 2.4% of base year emissions.
  - **For. Mng. I (AppZ):** 198.37 MtCO₂e/yr, 2.3% of base year emissions.
  - **Aff. & Def.:** -41.52 MtCO₂e/yr, -0.5% of base year emissions.
  - **For. Mng. II:** 69.88 MtCO₂e/yr, 0.8% of base year emissions.
  - **Defo in B.Yr. (est.):** 130 MtCO₂e/yr, 1.5% of base year emissions.
  - **Sink Allowances Total:** 651.16 MtCO₂e/yr, 7.6% of base year emissions.

- **Per Capita Emissions**
  - **1990:** 19.89 tCO₂e/per/yr
  - **2000:** 20.95 tCO₂e/per/yr

**Inventory Data Sources**

- **Inventory data:** CRF 2003

03-Mar-2004 (c) malte.meinshausen@ethz.ch, ETH Zurich

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

### UNFCCC Aim (2000)

- **AIM**
  - -10%: Lower emissions
  - +10%: Higher emissions

Difference between allowed and actual emissions in year 2000 in percent of 1990 emissions.

### Emissions by Gas (2000)

- **F-gases**: 2%
- **N₂O**: 6%
- **CH₄**: 11%

### Distance to Kyoto Target

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

### Emissions by Sector (2000)

- **ENE**: 69%
- **TRA**: 15%
- **AGR**: 8%
- **WAS**: 3%
- **IND**: 3%

### Past Emissions, Projections and Targets

#### Inventory Data

- **+60%**
- **+50%**
- **+40%**
- **+30%**
- **+20%**
- **+10%**
- **base year**

#### Projections

- **-10%**
- **-20%**
- **-30%**
- **-40%**
- **-50%**
- **-60%**

#### Targets

- **+60%**
- **+50%**
- **+40%**
- **+30%**
- **+20%**
- **+10%**
- **base year**

### Emissions by Gas (Trend)

### Emissions by Sector (Trend)

#### Inventory Data

- **+20%**
- **+10%**
- **-10%**
- **-20%**
- **-30%**

#### Projections

- **+20%**
- **+40%**
- **+60%**

#### Targets

- **+30%**
- **+40%**
- **+50%**
- **+60%**

### Main Data Sources

- **Inventory data**: CRF 2003; ghg.unfccc.int
- **Projections**: CRF 2003; ghg.unfccc.int
- **Targets**: CRF 2003; ghg.unfccc.int

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Annex I w/o US, AUS, RUS

Annex I without United States, Australia & Russia

Base Year
- CO₂, CH₄, N₂O: varied
- HFCs, PFCs, SF₆ (est.): varied

Emissions
- MiCO₂e/yr %B.Yr.
  - Base Year (B.Yr.):
    - 1990: 8630.79 100%
    - 2000: 7753.97 89.8%
  - LULUCF MiCO₂e/yr %Yr.
    - 1990: -579.42 -6.9%
    - 2000: -455.63 -5.9%
  - Int. Bunker Fuels MiCO₂e/yr %Yr.
    - 1990: 224.17 2.7%
    - 2000: 304.53 3.9%

UNFCCC Aim MiCO₂e/yr %1990
- Allowed 2000: 8648.79 100%
- Actual 2000: 8058.5 93.2%
- Distance to aim: -590.29 -6.8%
- Achieved?: Achieved

Kyoto Target MiCO₂e/yr %B.Yr.
- Allwd 2008-12: 8075.24 93.6%
- Distance from 2001 -325.66 -3.8%
- Single Project MiCO₂e/yr %B.Yr.
- Allowance 2008-2012: 3.2 0%

Sink Allowances MiCO₂e/yr %B.Yr.
- CDM sinks: 86.35 1%
- Agr.Mng.(est.): 76.38 0.9%
- For.Mng. I (AppZ): 135.19 1.6%
- Aff&Def.: 16.74 0.2%
- For.Mng. II: 25.62 0.3%
- Defo in B.Yr.(est.): 3.99 0%
- Sink Allowances Total: 344.27 4%

Per Capita Emissions tCO₂e/per/yr
- 1990: 12.47
- 2000: 11.37

Main Data Sources
- Inventory data: crf 2003.ghg.unfccc.int

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Country Fact Sheets

Emission data for all countries listed in Annex I of the UNFCCC
### Australia

**Annex I; Annex B; Annex II**

**Ratification date Kyoto:**

**Base Year**
- CO$_2$, CH$_4$, N$_2$O: 1990
- HFCs, PFCs, SF$_6$ (est.): 1990

**Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>430.45</td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>512.21</td>
<td>119%</td>
</tr>
</tbody>
</table>

**LULUCF**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>85.37</td>
<td>19.8%</td>
</tr>
<tr>
<td>2000</td>
<td>16.54</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

**Int. Bunker Fuels**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>6.46</td>
<td>1.5%</td>
</tr>
<tr>
<td>2000</td>
<td>10.19</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Projections**

<table>
<thead>
<tr>
<th>Year (projection base)</th>
<th>CO$_2$ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>507.3</td>
<td>117.9%</td>
</tr>
<tr>
<td>2010 WM</td>
<td>540.7</td>
<td>125.6%</td>
</tr>
<tr>
<td>2010 WAM</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

**UNFCCC Aim (2000)**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ e/yr</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>436.91</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Distance to Kyoto Target**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ e/yr</th>
<th>%</th>
<th>Base Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>85.37</td>
<td>19.8%</td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>16.54</td>
<td>3.2%</td>
<td>119%</td>
</tr>
</tbody>
</table>

**Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.**

**Sink Allowances**

- CDM sinks: 5.6 1.3%
- Agr.Mng.(est.): 98.56 22.9%
- For.Mng. I (AppZ): 0 0%
- Aff&Def.: -24.93 -5.8%
- For.Mng. II: 24.93 5.8%
- Defo in B.Yr.(est.): 130 30.2%
- Sink Allowances Total: 234.16 54.4%

**Per Capita Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>tCO$_2$/per/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>25.87</td>
</tr>
<tr>
<td>2000</td>
<td>27.3</td>
</tr>
</tbody>
</table>

**Main Data Sources**

- Inventory data: CRF 2003

---

**Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.**

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

**UNFCCC Aim (2000)**

![Diagram showing UNFCCC Aim (2000)]


- CO$_2$: 79%
- N$_2$O: 8%
- CH$_4$: 11%
- F-gases: 2%

![Diagram showing Emissions by Gas (2000)]


- ENE: 44%
- SOL: < 1%
- AGR: 9%
- IND: 18%
- TRA: 22%

![Diagram showing Emissions by Sector (2000)]

**Distance to Kyoto Target**

- Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

**Past Emissions, Projections and Targets**

- **Inventory Data**
- **Projections**
- **Targets**

03-Mar-2004 (c) malte.meinshausen@ethz.ch, ETH Zurich

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Belarus

Annex I (no Kyoto target); EIT

Base Year

CO₂, CH₄, N₂O:
1990

No reported F-gases emissions

Emissions

\(\text{MtCO}_2\text{e/yr} \%\text{Yr.}\)

Base Year (B.Yr.):
126.57 100%
1990:
68.64 54.2%
2000:

LULUCF

\(\text{MtCO}_2\text{e/yr} \%\text{Yr.}\)

1990:
-12.72 -10%
2000:
-18.98 -27.7%

Int. Bunker Fuels

\(\text{MtCO}_2\text{e/yr} \%\text{Yr.}\)

1990:
0 0%
2000:
0 0%

Projections

\(\text{MtCO}_2\text{e/yr} \%\text{B.Yr.}\)

2000 (projection base):
data unavailable
2010 WM:
data unavailable
2010 WAM:
data unavailable

UNFCCC Aim

\(\text{MtCO}_2\text{e/yr} \%\text{ 1990}\)

Allowed 2000:
126.57 100%
Actual 2000:
68.64 54.2%
Distance to aim:
-57.93 -45.8%
Achieved?:
Achieved

Kyoto Target

\(\text{MtCO}_2\text{e/yr} \%\text{B.Yr.}\)

Allwd 2008-12 (An.B):
data unavailable
Distance from 2001:
data unavailable

Sink Allowances

\(\text{MtCO}_2\text{e/yr} \%\text{B.Yr.}\)

CDM sinks:
1.27 1%
Agr.Mng.(est.):
2.05 1.6%
For.Mng. I (AppZ):
not yet determined
Aff&Def.:
data unavailable
For.Mng. II:
data unavailable
Defo in B.Yr.:
not applicable
Sink Allowances Total:
3.32 2.6%

Per Capita Emissions

\(\text{tCO}_2\text{e/yr}\)

1990:
12.27
2000:
6.74

Main Data Sources

Inventory data:
CRF 2003

Past Emissions, Projections and Targets

Emissions by Gas (2000)

\(\text{CH}_4:15\%
\text{N}_2\text{O}:9\%
\text{CO}_2:76\%

Distance to Kyoto Target

As by COP9, 2003, no Kyoto-target had been determined for Belarus.

Emissions by Sector (2000)

ENE:74%
AGR:19%
IND:2%
WAS:4%

Emissions by Gas (Trend)

1990
1995
2000

Emissions by Sector (Trend)

ENE
AGR
IND
WAS

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Belgium

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Bulgaria

Annex I; Annex B; EIT

Ratification date Kyoto: 15/08/02 (R)

Base Year

CO₂, CH₄, N₂O: 1988
HFCs, PFCs, SF₆ (est.): 1995

Emissions

<table>
<thead>
<tr>
<th>Gas</th>
<th>MtCO₂e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>144.45</td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>64.5</td>
<td>44.6%</td>
</tr>
<tr>
<td>LULUCF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>-5.8</td>
<td>-4.7%</td>
</tr>
<tr>
<td>2000</td>
<td>-8.98</td>
<td>-13.9%</td>
</tr>
<tr>
<td>Int. Bunker Fuels</td>
<td>MtCO₂e/yr</td>
<td>% Yr.</td>
</tr>
<tr>
<td>1990</td>
<td>1.77</td>
<td>1.4%</td>
</tr>
<tr>
<td>2000</td>
<td>0.48</td>
<td>0.7%</td>
</tr>
<tr>
<td>Projections</td>
<td>MtCO₂e/yr</td>
<td>% B.Yr.</td>
</tr>
<tr>
<td>2000 (projection base):</td>
<td>77.49</td>
<td>53.6%</td>
</tr>
<tr>
<td>2010 WM:</td>
<td>133.81</td>
<td>92.6%</td>
</tr>
<tr>
<td>2010 WAM:</td>
<td>125.45</td>
<td>86.8%</td>
</tr>
</tbody>
</table>

UNFCCC Aim (2000)

<table>
<thead>
<tr>
<th>Gas</th>
<th>MtCO₂e/yr</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allwd 2008-12 (An.B):</td>
<td>132.89</td>
<td>92%</td>
</tr>
<tr>
<td>Distance from 2001</td>
<td>-67.1</td>
<td>-46.5%</td>
</tr>
<tr>
<td>Distance from WM:</td>
<td>0.92</td>
<td>0.6%</td>
</tr>
<tr>
<td>Distance from WAM:</td>
<td>-7.44</td>
<td>-5.2%</td>
</tr>
</tbody>
</table>

Sink Allowances

<table>
<thead>
<tr>
<th>Source</th>
<th>MtCO₂e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM sinks:</td>
<td>1.44</td>
<td>1%</td>
</tr>
<tr>
<td>Agr.Mng.(est.):</td>
<td>1.4</td>
<td>1%</td>
</tr>
<tr>
<td>For.Mng. I (AppZ):</td>
<td>1.36</td>
<td>0.9%</td>
</tr>
<tr>
<td>Aff&amp;Def.:</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>For.Mng. II:</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>Defo in B.Yr.:</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Per Capita Emissions</td>
<td>tCO₂e/per/yr</td>
<td></td>
</tr>
<tr>
<td>1990:</td>
<td>14.5</td>
<td></td>
</tr>
<tr>
<td>2000:</td>
<td>8.17</td>
<td></td>
</tr>
</tbody>
</table>

Past Emissions, Projections and Targets

- Inventory Data
- Projections
- Targets

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Canada

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Past Emissions, Projections and Targets

Inventory Data

Projections

Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Croatia

Annex I; Annex B; EIT

Ratification date Kyoto: 1990

Emissions

<table>
<thead>
<tr>
<th>Gas</th>
<th>Base Year (MtCO₂ e/yr)</th>
<th>% B.Yr.</th>
<th>Projections (MtCO₂ e/yr)</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>31.61</td>
<td>100%</td>
<td>28.9</td>
<td>100%</td>
</tr>
<tr>
<td>CH₄</td>
<td>0.31</td>
<td>1%</td>
<td>0.17</td>
<td>0.7%</td>
</tr>
<tr>
<td>N₂O</td>
<td>0.17</td>
<td>0.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HFCs, PFCs, SF₆</td>
<td>est.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LULUCF

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-6.51</td>
<td>-20.6%</td>
</tr>
<tr>
<td>2000</td>
<td>-8.07</td>
<td>-30.9%</td>
</tr>
</tbody>
</table>

Inter. Bunker Fuels

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>0.31</td>
<td>1%</td>
</tr>
<tr>
<td>2000</td>
<td>0.17</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Projections

<table>
<thead>
<tr>
<th>Year (projection base)</th>
<th>MtCO₂ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>28.9</td>
<td>91.4%</td>
</tr>
<tr>
<td>2010 WM</td>
<td>38</td>
<td>120.2%</td>
</tr>
<tr>
<td>2010 WAM</td>
<td>31.7</td>
<td>100.3%</td>
</tr>
</tbody>
</table>

UNFCCC Aim

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>31.92</td>
<td>100%</td>
</tr>
</tbody>
</table>

Distance to Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance to AIM (MtCO₂ e/yr)</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-5.65</td>
<td>-17.7%</td>
</tr>
</tbody>
</table>

Achieved?

- Achieved

Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>31.92</td>
<td>100%</td>
</tr>
</tbody>
</table>

Allow ed 2000: 31.92 100%
Actual 2000: 26.27 82.3%
Distance to aim: -5.65 -17.7%
Achieved?: Achieved

Sink Allowances

<table>
<thead>
<tr>
<th>Source</th>
<th>MtCO₂ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM sinks</td>
<td>0.32</td>
<td>1%</td>
</tr>
<tr>
<td>Agr.Mng.(est.)</td>
<td>0.68</td>
<td>2.1%</td>
</tr>
<tr>
<td>For.Mng. I (AppZ):</td>
<td>not yet determined</td>
<td></td>
</tr>
<tr>
<td>Aff&amp;Def.:</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>For.Mng. II:</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>Defo in B.Yr.:</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Sink Allowances Total:</td>
<td>0.99</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

Per Capita Emissions (tCO₂ e/per/yr)

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>7</td>
</tr>
<tr>
<td>2000</td>
<td>5.64</td>
</tr>
</tbody>
</table>

Main Data Sources

- Inventory data: CRF 2003

Past Emissions, Projections and Targets

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
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<td></td>
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<tr>
<td>1994</td>
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<td>1996</td>
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<tr>
<td>1998</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance from 2001</th>
<th>Distance from WM</th>
<th>Distance from WAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distance to Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance from AIM (MtCO₂ e/yr)</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-3.17</td>
<td>-10%</td>
</tr>
</tbody>
</table>

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance from AIM (MtCO₂ e/yr)</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-3.17</td>
<td>-10%</td>
</tr>
</tbody>
</table>

Distance from WAM: 7.97 25.2%
Distance from WAM: 1.67 5.3%

Sink Allowances Total: 0.99 3.1%

Per Capita Emissions (tCO₂ e/per/yr)

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Emissions</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2000</td>
<td>5.64</td>
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</table>

Main Data Sources

- Inventory data: CRF 2003

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Czech Republic

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

Emissions by Gas (Trend)

Emissions by Sector (Trend)

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Past Emissions, Projections and Targets

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Past Emissions, Projections and Targets

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Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

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UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.
Denmark

Annex I; Annex B; Annex II; EU-15
Ratification date Kyoto: 31/05/02 (R)

Base Year
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1995

Emissions
MtCO₂/yr % B.Yr.
Base Year (B.Yr.):
1990: 69.22 99.6%
2000: 68.18 98.1%

LULUCF
MtCO₂/yr %Yr.
1990: -3.12 -4.5%
2000: -3.52 -6.2%

Int. Bunker Fuels
MtCO₂/yr %Yr.
1990: 4.94 7.1%
2000: 6.74 9.9%

Projections
MtCO₂/yr % B.Yr.
2000 (projection base): data unavailable
2010 WM: data unavailable
2010 WAM: data unavailable

UNFCCC Aim
MtCO₂/yr % 1990
Allowed 2000: 74.15 100%
Actual 2000: 74.92 101%
Distance to aim: 0.77 1%
Achieved?: Missed

Kyoto Target
MtCO₂/yr % B.Yr.
Allwd 2008-12 (EU): 54.92 79%
Distance from 2001: 14.49 20.8%

Sink Allowances
MtCO₂/yr % B.Yr.
CDM sinks: 0.7 1%
Agr.Mng. (est.): 0.61 0.9%
For.Mng. I (AppZ): 0.18 0.3%
Aff&Def.: 0.35 0.5%
For.Mng. II: not applicable
Defo in B.Yr.: not applicable
Sink Allowances Total: 1.84 2.6%

Per Capita Emissions tCO₂/yr/per/yr
1990: 14.43
2000: 14.08

Main Data Sources
Inventory data: CRF 2003

Past Emissions, Projections and Targets

UNFCCC Aim (2000)
Emissions by Gas (2000)
Emissions by Sector (2000)

Emissions by Gas (Trend)
Emissions by Sector (Trend)

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.
See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Estonia

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.

Past Emissions, Projections and Targets
### Finland

#### Past Emissions, Projections and Targets

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emissions</strong></td>
<td>MtCO$_2$e/yr %</td>
</tr>
<tr>
<td><strong>LULUCF</strong></td>
<td>MtCO$_2$e/yr</td>
</tr>
<tr>
<td><strong>Int. Bunker Fuels</strong></td>
<td>MtCO$_2$e/yr %</td>
</tr>
<tr>
<td><strong>Projections</strong></td>
<td>MtCO$_2$e/yr B.Yr.</td>
</tr>
<tr>
<td><strong>UNFCCC Aim</strong></td>
<td>MtCO$_2$e/yr % 1990</td>
</tr>
<tr>
<td><strong>Sink Allowances</strong></td>
<td>MtCO$_2$e/yr B.Yr.</td>
</tr>
<tr>
<td><strong>Per Capita Emissions</strong></td>
<td>tCO$_2$e/per/yr</td>
</tr>
</tbody>
</table>

#### UNFCCC Aim (2000)

**AIM**

-10% **AIM** +10%

-30% < lower emissions > higher emissions > +30%

**Distance to Kyoto Target**

-10% **TARGET** +10%

-30% < lower emissions > higher emissions > +30%

**Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.**

### Emissions by Gas (2000)

- **F-gases**: < 1% **N$_2$O**: 9%
- **CH$_4$**: 7%
- **CO$_2$**: 83%

### Emissions by Sector (2000)

- **ENE**: 63% **OTH**: < 1% **AGR**: 10% **SOL**: < 1% **WAS**: 4%

### Emissions by Gas (Trend)

- **CO$_2$**: +50% -20% +10% +20% +100%
- **CH$_4$**: -100% -50% -50%
- **N$_2$O**: +50% +100% +200%
- **F-gases**: +30% +40% +50% +60%

### Emissions by Sector (Trend)

- **ENE**
- **OTH**
- **AGR**
- **SOL**
- **WAS**
- **TRA**
- **IND**
- **TRA**

### Per Capita Emissions

- 1990: 16.12
- 2000: 15.19

### Main Data Sources

- Inventory data: CRF 2003

---

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Inventory Data

Projections

Targets

France

Annex I; Annex B; Annex II; EU-15

Ratification date Kyoto: 31/05/02 (Ap)

Base Year

CO₂, CH₄, N₂O: 1990

HFCs, PFCs, SF₆ (est.): 1990

Emissions MtCO₂e/yr %B.Yr.

Base Year (B.Yr.):

1990: 568.15 100%

2000: 565.31 99.5%

LULUCF MtCO₂e/yr %Yr.

1990: -55.7 -9.8%

2000: -63.1 -11.2%

Internal Bunker Fuels MtCO₂e/yr %B.Yr.

1990: 16.84 3%

2000: 24.08 4.3%

Projections MtCO₂e/yr %B.Yr.

2000 (projection base): 537.03 94.5%

2010 WM: 582.5 102.5%

2010 WAM: 524 92.2%

UNFCCC Aim MtCO₂e/yr % 1990

Allowed 2000: 584.99 100%

Actual 2000: 589.39 100.8%

Distance to aim: 4.41 0.8%

Achieved?: Missed

Kyoto Target MtCO₂e/yr % B.Yr.

Allowed 2008-12 (EU): 568.15 100%

Distance from 2001 0.01 0%

Distance from WM: 14.35 2.5%

Distance from WAM: -44.15 -7.8%

Sink Allowances MtCO₂e/yr %B.Yr.

CDM sinks: 5.68 1%

Agr.Mng.(est.): 6.55 1.2%

For.Mng. I (AppZ): 3.23 0.6%

Aff&Dif.: -2.28 -0.4%

For.Mng. II: 2.28 0.4%

Defo in B.Yr.: not applicable

Sink Allowances Total: 15.46 2.7%

Per Capita Emissions tCO₂e/yr

1990: 10.31

2000: 9.95

Main Data Sources

Inventory data: CRF 2003

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Germany

Annex I; Annex B; Annex II; EU-15

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Greece

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Inventory data: ghg.unfccc.int

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Hungary

Annex I; Annex B; EIT; EU-25

Ratification date Kyoto: 21/08/02 (Ac)

Base Year

CO₂, CH₄, N₂O 1985-1987

No reported F-gases emissions

Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>101.63</td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>77.22</td>
<td>76%</td>
</tr>
</tbody>
</table>

LULUCF

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-4.47</td>
<td>-6.2%</td>
</tr>
<tr>
<td>2000</td>
<td>-4.38</td>
<td>-6.7%</td>
</tr>
</tbody>
</table>

Int. Bunker Fuels

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2000</td>
<td>0.63</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>59.48</td>
<td>58.5%</td>
</tr>
<tr>
<td>2010 WM</td>
<td>65.91</td>
<td>64.9%</td>
</tr>
<tr>
<td>2010 WAM</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

UNFCCC Aim (2000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Allowd</th>
<th>Actual</th>
<th>Distance to aim</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>86.63</td>
<td>77.85</td>
<td>-8.78</td>
<td>Achieved</td>
</tr>
</tbody>
</table>

Distance to Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂ e/yr</th>
<th>% B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
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<tr>
<td>2010 WAM</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

Past Emissions, Projections and Targets

Emissions by Gas (Trend)

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>F-gases</th>
<th>CO₂</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>F-gases</th>
<th>CO₂</th>
<th>CH₄</th>
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<th>F-gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>&lt; 1%</td>
<td>76%</td>
<td>13%</td>
<td>10%</td>
<td>&lt; 1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emissions by Sector (Trend)

<table>
<thead>
<tr>
<th>Year</th>
<th>ENE</th>
<th>TRA</th>
<th>IND</th>
<th>SOL</th>
<th>AGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>63%</td>
<td>11%</td>
<td>5%</td>
<td>&lt; 1%</td>
<td>17%</td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Per Capita Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>tCO₂ e/per/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>8.36</td>
</tr>
<tr>
<td>2000</td>
<td>7.81</td>
</tr>
</tbody>
</table>

Inventory data: CRF 2003
Iceland

**Annex I; Annex B; Annex II**

**Ratification date Kyoto:** 23/05/02 (Ac)

**Base Year**

- CO₂, CH₄, N₂O: 1990
- HFCs, PFCs, SF₆ (est.): 1990

**Emissions**

- **Base Year (B.Yr.):**
  - 1990: 2.84 100%
  - 2000: 2.86 100.7%

- **LULUCF**
  - 1990: -0.01 -0.2%
  - 2000: 0.32 11.3%

- **Projections**
  - 2000 (projection base): 3.14 110.6%
  - 2010 WAM II: 4.59 161.6%
  - 2010 WAM I: 3.19 112.4%

**UNFCCC Aim**

- **Allowed 2000:** 3.16 100%
- **Actual 2000:** 3.49 110.5%

**Distance to Kyoto Target**

- **Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.**

**Past Emissions, Projections and Targets**

- **Inventory Data**
  - **1990**
  - **1995**
  - **2000**
  - **2002**
  - **2004**
  - **2006**
  - **2008**
  - **2010**
  - **2012**

- **Projections**
  - **1990**
  - **1992**
  - **1994**
  - **1996**
  - **1998**
  - **2000**
  - **2002**
  - **2004**
  - **2006**
  - **2008**
  - **2010**
  - **2012**

**Targets**

- **1990**
- **1992**
- **1994**
- **1996**
- **1998**
- **2000**
- **2002**
- **2004**
- **2006**
- **2008**
- **2010**
- **2012**

Inventory data (red, solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Ireland

Annex I; Annex B; Annex II; EU-15

Ratification date Kyoto: 31/05/02 (R)

Base Year

- CO₂, CH₄, N₂O: 1990
- HFCs, PFCs, SF₆ est.: 1995

Emissions

- Inventory data: CRF 2003
- Projections:
- Targets:

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Per Capita Emissions

- 1990: 15.47
- 2000: 18.49

Main Data Sources

- Inventory data: CRF 2003

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
### Italy

- **Annex I; Annex B; Annex II; EU-15**
- **Ratification date Kyoto:** 31/05/02 (R)

#### Base Year
- **CO\(_2\), CH\(_4\), N\(_2\)O:** 1990
- **HFCs, PFCs, SF\(_6\) (est.):** 1995

### Emissions

<table>
<thead>
<tr>
<th>Gas</th>
<th>Base Year (B.Yr.)</th>
<th>1990</th>
<th>2000</th>
<th>LULUCF</th>
<th>Int. Bunker Fuels</th>
<th>Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\text{CO}_2), (\text{CH}_4), (\text{N}_2)O</td>
<td>1990</td>
<td>509.25</td>
<td>508.63</td>
<td>543.75</td>
<td>1990</td>
<td>546.9</td>
</tr>
<tr>
<td></td>
<td>(B.Yr.)</td>
<td>100%</td>
<td>99.9%</td>
<td>106.8%</td>
<td>100%</td>
<td>107.4%</td>
</tr>
</tbody>
</table>

#### Emissions

<table>
<thead>
<tr>
<th>Gas</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions Mt(\text{CO}_2)e/yr</td>
<td>509.25</td>
<td>543.75</td>
</tr>
<tr>
<td>%B.Yr.</td>
<td>100%</td>
<td>106.8%</td>
</tr>
</tbody>
</table>

#### LULUCF

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-23.53</td>
<td>-4.6%</td>
</tr>
<tr>
<td>2000</td>
<td>15.63</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

#### Int. Bunker Fuels

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>8.65</td>
<td>1.7%</td>
</tr>
<tr>
<td>2000</td>
<td>12.52</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

#### Projections

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (projection base)</td>
<td>546.9</td>
<td>107.4%</td>
</tr>
<tr>
<td>2010 WM:</td>
<td>540.1</td>
<td>106.1%</td>
</tr>
<tr>
<td>2010 WAM:</td>
<td>496.25</td>
<td>97.4%</td>
</tr>
</tbody>
</table>

#### UNFCCC Aim (2000)

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed 2000:</td>
<td>517.28</td>
<td>100%</td>
</tr>
<tr>
<td>Actual 2000:</td>
<td>556.27</td>
<td>107.5%</td>
</tr>
</tbody>
</table>

#### Distance to Kyoto Target

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to aim:</td>
<td>38.99</td>
<td>7.5%</td>
</tr>
<tr>
<td>Achieved?:</td>
<td>Missed</td>
<td></td>
</tr>
</tbody>
</table>

#### Emissions by Gas (Trend)

<table>
<thead>
<tr>
<th>Gas</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions Mt(\text{CO}_2)e/yr</td>
<td>509.25</td>
<td>543.75</td>
</tr>
<tr>
<td>%B.Yr.</td>
<td>100%</td>
<td>106.8%</td>
</tr>
</tbody>
</table>

#### Emissions by Sector (Trend)

<table>
<thead>
<tr>
<th>Sector</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions Mt(\text{CO}_2)e/yr</td>
<td>509.25</td>
<td>543.75</td>
</tr>
<tr>
<td>%B.Yr.</td>
<td>100%</td>
<td>106.8%</td>
</tr>
</tbody>
</table>

### Past Emissions, Projections and Targets

  - AIM: -10% to +10%
  - TARGET: +10%
  - F-gases: < 1%
  - N\(_2\)O: 8%
  - CH\(_4\): 7%
  - CO\(_2\): 85%
  - ENE: 61%
  - TRA: 23%
  - WAS: 2%
  - AGR: 8%

- **Past Emissions by Gas**
  - CO\(_2\): 85%
  - CH\(_4\): 7%
  - N\(_2\)O: 8%
  - F-gases: < 1%

- **Past Emissions by Sector**
  - ENE: 61%
  - TRA: 23%
  - WAS: 2%
  - AGR: 8%

#### Sink Allowances

<table>
<thead>
<tr>
<th></th>
<th>Mt(\text{CO}_2)e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM sinks:</td>
<td>5.09</td>
<td>1%</td>
</tr>
<tr>
<td>Agr.Mng. (est.):</td>
<td>3.43</td>
<td>0.7%</td>
</tr>
<tr>
<td>For.Mng. I (AppZ):</td>
<td>0.66</td>
<td>0.1%</td>
</tr>
<tr>
<td>Aff&amp;Def.:</td>
<td>1.73</td>
<td>0.3%</td>
</tr>
<tr>
<td>For.Mng. II:</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Defo in B.Yr.:</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Sink Allowances Total:</td>
<td>10.91</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

#### Per Capita Emissions

<table>
<thead>
<tr>
<th></th>
<th>t(\text{CO}_2)e/per/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>9.12</td>
</tr>
<tr>
<td>2000</td>
<td>9.67</td>
</tr>
</tbody>
</table>

### Main Data Sources

- **Inventory data:** CRF 2003

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Japan

Annex I; Annex B; Annex II

Ratification date Kyoto: 04/06/02 (At)

Base Year
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1995

Emissions
MtCO₂ e/yr % B.Yr.
Base Year (B.Yr.): 1235.37 100%
1990: 1187.11 96.1%
2000: 1332.95 107.9%

LULUCF
MtCO₂ e/yr % Yr.
1990: -83.9 -7.1%
2000: data unavailable

Distance to Kyoto Target
Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

UNFCCC Aim (2000)
Allowed 2000: 1218.36 100%
Actual 2000: 1367 112.2%
Distance to aim: 148.84 12.2%
Achieved?: Missed

Kyoto Target
MtCO₂ e/yr % B.Yr.
Allowed 2008-12 (An.B): 1161.25 94%
Distance from 2001: 138.19 11.2%
Distance from WM: 156.15 12.6%
Distance from WAM: 60.15 4.9%

Sink Allowances
MtCO₂ e/yr % B.Yr.
CDM sinks: 12.35 1%
Agr.Mng. (est.): 1.2 0.1%
For.Mng. I (AppZ): 47.67 3.9%
Aff&Def.: -2.74 -0.2%
For. Mng. II: 2.74 0.2%
Defo in B.Yr.: not applicable
Sink Allowances Total: 61.22 5%

Per Capita Emissions
tCO₂ e/per/yr
1990: 9.86
2000: 10.76

Main Data Sources
Inventory data: CRF 2003

Past Emissions, Projections and Targets

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Kazakhstan

As by COP9, 2003, no Kyoto-target had been determined for Kazakhstan.

Past Emissions, Projections and Targets

<table>
<thead>
<tr>
<th>Inventory Data</th>
<th>Projections</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Emissions by Gas (1994)

UNFCCC Aim (1994)

Emissions by Sector (1994)

Inventory data: ghh.unfccc.int; *EDGAR
Latvia

**Annex I; Annex B; EIT; EU-25**

Ratification date Kyoto: 05/07/02 (R)

**Base Year**

- CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O: 1990
- HFCs, PFCs, SF<sub>6</sub> (est.): 1995

**Emissions**

- CO<sub>2</sub> e/yr %Yr.
  - Base Year (B.Yr.): 29.11 100%
  - 1990: 29.11 100%
  - 2000: 9.86 33.9%

- HFCs, PFCs, SF<sub>6</sub> (est.) 1995

- Emissions MtCO<sub>2</sub>e/yr %B.Yr.
  - Base Year (B.Yr.): 29.11 100%
  - 1990: 29.11 100%
  - 2000: 9.86 33.9%

- LULUCF MtCO<sub>2</sub>e/yr %Yr.
  - Base Year (B.Yr.): 29.11 100%
  - 1990: -18.95 -65.1%
  - 2000: -8.22 -83.4%

- Int. Bunker Fuels MtCO<sub>2</sub>e/yr %Yr.
  - 1990: 0.2 0.7%
  - 2000: 0.24 2.4%

- Projections MtCO<sub>2</sub>e/yr %B.Yr.
  - 2000 (projection base): 10.68 36.7%
  - 2010 WM: 12.81 44%
  - 2010 WAM: data unavailable

**UNFCCC Aim (2000)**

- Allowed 2000: 29.3 100%
- Actual 2000: 10.1 34.5%
- Distance to aim: -19.21 -65.5%
- Achieved?: Achieved

**Distance to Kyoto Target**

- CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O: 1990
- HFCs, PFCs, SF<sub>6</sub>: 1995

**Past Emissions, Projections and Targets**

- Inventory data: CRF 2003

---

**Inventory Data**

- Per Capita Emissions tCO<sub>2</sub> e/yr
  - 1990: 11.16
  - 2000: 4.17

**Projections**

- Emissions by Gas (Trend)
  - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, F-gases

- Emissions by Sector (Trend)
  - ENE, AGR, IND, SOL, WAS

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Liechtenstein

Annex I; Annex B
Ratification date Kyoto:

Base Year
CO\textsubscript{2}, CH\textsubscript{4}, N\textsubscript{2}O: 1990
No reported F-gases emissions

Emissions \(\text{MtCO}_2/\text{yr}\) %B.Yr.
Base Year (B.Yr.):
1990: 0.22 100%
1999: 0.22 99.7%

LULUCF \(\text{MtCO}_2/\text{yr}\) %Yr.
1990: data unavailable
1999: data unavailable

Int. Bunker Fuels \(\text{MtCO}_2/\text{yr}\) %Yr.
1990: 0 0%
1999: 0 0%

Projections \(\text{MtCO}_2/\text{yr}\) %B.Yr.
2000 (projection base): 0.22 101%
2010 WM: 0.22 101%
2010 WAM: data unavailable

UNFCCC Aim \(\text{MtCO}_2/\text{yr}\) % 1990
Allowed 2000: 0.22 100%
Actual 2000: data unavailable

Distance to aim from 1999: 0 -0.3%
Achieved?: data unavailable

Kyoto Target \(\text{MtCO}_2/\text{yr}\) %B.Yr.

Allwd 2008-12 (An.B.): 0.22 92%
Distance from 1999: 0.02 7.7%
Distance from WM: 0.02 9%

Sink Allowances \(\text{MtCO}_2/\text{yr}\) %B.Yr.

CDM sinks: 0 1%
Agr. Mng. (est.): 0 0.9%
For. Mng. I (AppZ): 0.04 16.8%
Aff&Def.: data unavailable
For. Mng. II: data unavailable
Defo in B.Yr.: not applicable
Sink Allowances Total: 0.04 18.7%

Per Capita Emissions \(\text{tCO}_2/\text{per/yr}\)
1990: 7.51
1999: 6.78

Main Data Sources
Inventory data: ghg.unfccc.int; *EDGAR

Past Emissions, Projections and Targets

UNFCCC Aim (1999)

Emissions by Gas (1999)

Emissions by Sector (1999)

Emissions by Gas (Trend)

Emissions by Sector (Trend)


Distance from latest inventory data (1999) to Kyoto targets in percent of base year emissions.

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Lithuania

**Annex I; Annex B; EIT; EU-25**

**Ratification date Kyoto:** 03/01/03 (R)

**Base Year**

- **CO\(_2\), CH\(_4\), N\(_2\)O:** 1990
- No reported F-gases emissions

**Emissions**

- **MtCO\(_2\)/yr %B.Yr.:**
  - 1990: 51.55 100%
  - 1998: 23.85 46.3%

**LULUCF**

- **MtCO\(_2\)/yr %Yr.:**
  - 1990: -8.85 -17.2%
  - 1998: -7.71 -32.3%

**Int. Bunker Fuels**

- **MtCO\(_2\)/yr %Yr.:**
  - 1990*: 1.4 2.7%
  - 1998: 0.16 0.7%

**Projections**

- **MtCO\(_2\)/yr %B.Yr.:**
  - 2000 (projection base): data unavailable
  - 2010 WM: data unavailable
  - 2010 WAM: data unavailable

**UNFCCC Aim**

- **MtCO\(_2\)/yr % 1990**
  - Allowed 2000: 52.95 100%
  - Actual 2000: data unavailable
  - Distance to aim from 1998: -28.94 -54.7%
  - Achieved?: data unavailable

**Kyoto Target**

- **MtCO\(_2\)/yr %B.Yr.:**
  - Allowed 2008-12 (An.B): 47.42 92%
  - Distance from 1998: -23.57 -45.7%

**Sink Allowances**

- **MtCO\(_2\)/yr %B.Yr.:**
  - CDM sinks: 0.52 1%
  - Agr.Mng.(est.): 0.8 1.5%
  - For.Mng. I (AppZ): 1.03 2%
  - Aff&Def.: data unavailable
  - For.Mng. II: data unavailable
  - Defo in B.Yr.: not applicable
  - Sink Allowances Total: 2.34 4.5%

**Emissions by Gas (1998)**

- **CO\(_2\):** 67%  
- **CH\(_4\):** 16%  
- **N\(_2\)O:** 14%

**Emissions by Sector (1998)**

- **ENE:** 45%  
- **TRA:** 16%  
- **IND:** 23%

**Past Emissions, Projections and Targets**

**UNFCCC Aim (1998)**

- **AIM**
  - CO\(_2\): -10%  +10%
  - CH\(_4\): +10%  -20%
  - N\(_2\)O: -30%  +30%

**Emissions by Gas (Trend)**

- **CO\(_2\):** +50%  +100%  -20% -10% +10% +20% +30% +50% +100%
- **CH\(_4\):** +50%  +100% +20% +10% +50% +100% +20% +10%
- **N\(_2\)O:** +50%  +100% +20% +10% +50% +100% +20% +10%

**Emissions by Sector (Trend)**

- **ENE:** +50%  +100%  -20% -10% +10% +20% +30% +50% +100%
- **TRA:**  
- **IND:**  

**Per Capita Emissions tCO\(_2\)/per/yr**

- **1990:** 14.17
- **1998:** 6.48

**Main Data Sources**

- Inventory data: ghg.unfccc.int; *EDGAR

---

Inventory data (red, solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Luxembourg

Annex I; Annex B; Annex II; EU-15
Ratification date Kyoto: 31/05/02 (R)

Base Year
CO₂, CH₄, N₂O: 1990

No reported F-gases emissions

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>B.Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Year</td>
<td>13.45</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1990:</td>
<td>13.45</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>2000:</td>
<td>5.97</td>
<td>44.4</td>
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</tr>
</tbody>
</table>

LULUCF

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:</td>
<td>-0.29</td>
<td>-2.1</td>
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</tr>
<tr>
<td>2000:</td>
<td>-0.27</td>
<td>-4.6</td>
<td></td>
</tr>
</tbody>
</table>

Int. Bunker Fuels

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:</td>
<td>0.41</td>
<td>3</td>
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<tr>
<td>2000:</td>
<td>0.97</td>
<td>16.3</td>
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</table>

Projections

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (projection base):</td>
<td>data unavailable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010 WM:</td>
<td>data unavailable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010 WAM:</td>
<td>data unavailable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UNFCCC Aim (2000)

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed 2000:</td>
<td>13.85</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Actual 2000:</td>
<td>6.94</td>
<td>50.1</td>
<td></td>
</tr>
</tbody>
</table>

Distance to Kyoto Target

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:</td>
<td>-6.91</td>
<td>-49.9</td>
<td></td>
</tr>
</tbody>
</table>

UNFCCC Aim (2008-12 (EU))

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allwd 2008-12 (EU):</td>
<td>9.68</td>
<td>72</td>
<td></td>
</tr>
</tbody>
</table>

Distance from latest inventory data (2000) to Kyoto targets in percent of base year emissions.

<table>
<thead>
<tr>
<th>Emissions</th>
<th>MtCO₂e/yr</th>
<th>%</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000:</td>
<td>-3.71</td>
<td>-27.6</td>
<td></td>
</tr>
</tbody>
</table>

Past Emissions, Projections and Targets

Inventory data: ghg.unfccc.int; *EDGAR

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>Per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:</td>
<td>36.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000:</td>
<td>15.88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monaco

Annex I; Annex B
Ratification date Kyoto: 2001

Base Year
CO₂: 1990

No reported F-gases emissions

Emissions (MtCO₂ e/yr) % B.Yr.
- Base Year (B.Yr.): 0.1 100%
- 1990: 0.1 100%
- 2000: 0.14 135.7%

LULUCF (MtCO₂ e/yr) % B.Yr.
- 1990: data unavailable
- 2000: data unavailable

Int. Bunker Fuels (MtCO₂ e/yr) % B.Yr.
- 1990: 0 0%
- 2000: 0 0%

Projections
- 2000 (projection base): data unavailable
- 2010 WM: data unavailable
- 2010 WAM: data unavailable

UNFCCC Aim (MtCO₂ e/yr) % 1990
- Allowed 2000: 0.1 100%
- Actual 2000: 0.14 135.7%
- Distance to aim: 0.04 35.7%
- Achieved?: Missed

UNFCCC Aim (MtCO₂ e/yr) % B.Yr.
- Allwd 2008-12 (An.B): 0.09 92%
- Distance from 2001: 0.05 48.5%

Single Project
- Allowance 2008-2012: 1.61603.5%

Sink Allowances (MtCO₂ e/yr) % B.Yr.
- CDM sinks: 0 1%
- Agr.Mng. (est.): 0 0%
- For.Mng. I (AppZ): 0 0%
- Aff&Def.: data unavailable
- For.Mng. II: data unavailable
- Defo in B.Yr.: not applicable
- Sink Allowances Total: 0 1%

Per Capita Emissions (tCO₂ e/yr)
- 1990: 3.33
- 2000: 4.1

Main Data Sources
Inventory data: CRF 2003

Past Emissions, Projections and Targets

Inventory data (red, solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
### Netherlands

**Annex I; Annex B; Annex II; EU-15**

**Ratification date Kyoto:** 31/05/02 (Ac)

**Base Year**
- \( \text{CO}_2 \), \( \text{CH}_4 \), \( \text{N}_2\text{O} \): 1990
- HFCs, PFCs, SF\(_6\) (est.): 1995

**Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{MtCO}_2\text{e/yr} )</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>211.11</td>
<td>100%</td>
</tr>
<tr>
<td>2000</td>
<td>216.82</td>
<td>102.7%</td>
</tr>
</tbody>
</table>

**LULUCF**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{MtCO}_2\text{e/yr} )</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-1.42</td>
<td>-0.7%</td>
</tr>
<tr>
<td>2000</td>
<td>-1.41</td>
<td>-0.7%</td>
</tr>
</tbody>
</table>

**Int. Bunker Fuels**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{MtCO}_2\text{e/yr} )</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>39.76</td>
<td>18.9%</td>
</tr>
<tr>
<td>2000</td>
<td>53.5</td>
<td>24.7%</td>
</tr>
</tbody>
</table>

**Projections**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{MtCO}_2\text{e/yr} )</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>242</td>
<td>114.6%</td>
</tr>
<tr>
<td>2010 WM</td>
<td>256</td>
<td>121.3%</td>
</tr>
<tr>
<td>2010 WAM</td>
<td>230</td>
<td>108.9%</td>
</tr>
</tbody>
</table>

**UNFCCC Aim (2000)**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{MtCO}_2\text{e/yr} )</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed</td>
<td>249.77</td>
<td>100%</td>
</tr>
<tr>
<td>Actual</td>
<td>270.31</td>
<td>108.2%</td>
</tr>
</tbody>
</table>

**Distance to Kyoto Target**

Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

**Sink Allowances**

- CDM sinks: 2.11 1%
- Agr. Mng. (est.): 0.41 0.2%
- For. Mng. I (AppZ): 0.04 0%
- Aff & Def.: 0.11 0.1%
- For. Mng. II: not applicable
- Defo in B.Yr.: not applicable

**Per Capita Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>( \text{tCO}_2\text{e/per/yr} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>16.7</td>
</tr>
<tr>
<td>2000</td>
<td>17.04</td>
</tr>
</tbody>
</table>

**Main Data Sources**

- Inventory data: CRF 2003

---

**Past Emissions, Projections and Targets**

**UNFCCC Aim (2000)**


- F-gases: 3%
- \( \text{N}_2\text{O} \): 8%
- \( \text{CH}_4 \): 10%


- **ENE**: 65%
- **TRA**: 17%
- **IND**: 6%
- **WAS**: 4%
- **AGR**: 7%
- **SOL**: < 1%
- **OTH**: < 1%

---

**Emissions by Gas (Trend)**

- \( \text{CO}_2 \): 80%
- \( \text{CH}_4 \): 10%
- \( \text{N}_2\text{O} \): 8%
- F-gases: 3%

---

**Emissions by Sector (Trend)**

- **ENE**: 65%
- **TRA**: 17%
- **IND**: 6%
- **WAS**: 4%
- **AGR**: 7%
- **SOL**: < 1%
- **OTH**: < 1%
New Zealand

Ratification date Kyoto: 19/12/02 (R)

Base Year
- CO₂, CH₄, N₂O: 1990
- HFCs, PFCs, SF₆ (est.): 1990

Emissions MtCO₂e/yr % B.Yr.
- Base Year (B.Yr.):
  1990: 61.75 100%
  2000: 70.35 113.9%
- LULUCF MtCO₂e/yr % Yr.
  1990: -21.77 -35.3%
  2000: 23.71 -33.7%
- Int. Bunker Fuels MtCO₂e/yr % Yr.
  1990: 2.41 3.9%
  2000: 2.55 3.6%
- Projections MtCO₂e/yr % B.Yr.
  2000 (projection base): 76.95 124.6%
  2010 WM: 88.09 142.6%
  2010 WAM: 84.14 136.3%

UNFCCC Aim MtCO₂e/yr % 1990
- Allowed 2000: 64.16 100%
- Actual 2000: 72.9 113.6%
- Distance to aim: 8.73 13.6%
- Achieved?: Missed

Kyoto Target MtCO₂e/yr % B.Yr.
- Allowed 2008-12 (An.B): 61.75 100%
- Distance from 2001: 10.63 17.2%
- Distance from WM: 26.34 42.6%
- Distance from WAM: 22.39 36.3%

Sink Allowances MtCO₂e/yr % B.Yr.
- CDM sinks: 0.62 1%
- Agr.Mng. (est.): 3.49 5.6%
- For.Mng. I (AppZ): 0.73 1.2%
- Aff&Def.: 28.29 45.8%
- For.Mng. II: not applicable
- Defo in B.Yr.: not applicable
- Sink Allowances Total: 33.13 53.6%

Per Capita Emissions tCO₂e/yr
- 1990: 19.1
- 2000: 19.29

Main Data Sources
- Inventory data: CRF 2003

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Norway

Annex I; Annex B; Annex II

Ratification date Kyoto: 30/05/02 (R)

Base Year
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1990

Emissions MtCO₂/yr %B.Yr.
Base Year (B.Yr.): 52.01 100%
1990: 52.01 100%
2000: 55.66 107%

LULUCF MtCO₂/yr %Yr.
1990: +9.77 +18.8%
2000: +18.74 +33.7%

Int. Bunker Fuels MtCO₂/yr %B.Yr.
1990: 2.12 4.1%
2000: 3.66 6.6%

Projections MtCO₂/yr %B.Yr.
2000 (projection base): 55.25 106.2%
2010 WM: 63.2 121.5%
2010 WAM: 57.9 111.3%

UNFCCC Aim MtCO₂/yr % 1990
Allowed 2000: 54.13 100%
Actual 2000: 59.32 109.6%

Distance to Kyoto Target

Emissions by Gas (2000)

Past Emissions, Projections and Targets

Per Capita Emissions tCO₂/pc/yr
1990: 12.76
2000: 13.27

Main Data Sources
Inventory data: CRF 2003
### Past Emissions, Projections and Targets

#### Annex I; Annex B; EIT; EU-25

**Ratification date Kyoto:** 13/12/02 (R)

**Base Year**
- CO\(_2\), CH\(_4\), N\(_2\)O : 1988
- HFCs, PFCs, SF\(_6\) (est.): 1988

#### Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>CO(_2) MtCO(_2)e/yr</th>
<th>CH(_4) MtCH(_4)e/yr</th>
<th>N(_2)O MtN(_2)Oe/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>564.42</td>
<td>458.95</td>
<td>386.19</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LULUCF MtCO\(_2\)e/yr**
- 1990: -44.66 - 9.7%
- 2000: 43.09 - 11.2%

**Int. Bunker Fuels MtCO\(_2\)e/yr**
- 1990: 0 0%
- 2000: 1.66 0.4%

#### Projections

- 2000 (projection base): 370 65.6%
- 2010 WM: 394 69.8%
- 2010 WAM: data unavailable

#### UNFCCC Aim MtCO\(_2\)e/yr

- Allowed 2000: 458.95 100%
- Actual 2000: 387.85 84.5%
- Distance to aim: -71.1 -15.5%
- Achieved?: Achieved

**Kyoto Target MtCO\(_2\)e/yr**
- Allwd 2008-12 (Ann.B): 530.55 94%
- Distance from 2001: -147.76 -26.2%
- Distance from WM: -136.55 -24.2%

#### Sink Allowances MtCO\(_2\)e/yr

- CDM sinks: 5.64 1%
- Agr.Mng.(est.): 4.15 0.7%
- For.Mng. I (AppZ): 3.01 0.5%
- Aff&Def.: data unavailable
- For.Mng. II: data unavailable
- Defo in B.Yr.: not applicable
- Sink Allowances Total: 12.8 2.3%

#### Per Capita Emissions tCO\(_2\)e/yr per Capita

- 1990: 12.04
- 2000: 10.05

**Inventory Data**

- **Inventory data:** CRF 2003
Portugal

Annex I; Annex B; Annex II; EU-15

Ratification date Kyoto: 31/05/02 (Ap)

Base Year
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1995

Emissions MtCO₂e/yr %B.Yr.
Base Year (B.Yr.): 61.6 100%
1990: 61.44 99.7%
2000: 82.37 133.7%

LULUCF MtCO₂e/yr %Yr.
1990: 0 0%
2000: -2.15 -2.6%

Int. Bunker Fuels MtCO₂e/yr %Yr.
1990: 2.1 3.4%
2000: 2.62 3.2%

Projections MtCO₂e/yr %B.Yr.
2000 (projection base): data unavailable
2010 WM: data unavailable
2010 WAM: data unavailable

UNFCCC Aim MtCO₂e/yr % 1990
Allowed 2000: 63.54 100%
Actual 2000: 84.99 133.8%

Distance to Kyoto Target MtCO₂e/yr %B.Yr.
2000: data unavailable
2010 WM: data unavailable
2010 WAM: data unavailable

UNFCCC Aim (2000) MtCO₂e/yr % 1990
Allowed 2008-12 (EU): 78.23 127%
Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

Past Emissions, Projections and Targets

Inventory Data

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂e/yr</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>61.44</td>
<td>99.7%</td>
</tr>
<tr>
<td>2000</td>
<td>82.37</td>
<td>133.7%</td>
</tr>
</tbody>
</table>

Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂e/yr</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>2010 WM</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>2010 WAM</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO₂e/yr</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>63.54</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>84.99</td>
<td>133.8%</td>
</tr>
</tbody>
</table>

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.
See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Romania

**Annex I; Annex B; EIT**

**Ratification date Kyoto:** 19/03/01 (R)

**Base Year**
- CO\(_2\), CH\(_4\), N\(_2\)O : 1989
- HFCs, PFCs, SF\(_6\) (est.): 1995

**Emissions**
- **CO\(_2\)e/yr %B.Yr.**
  - Base Year (B.Yr.): 229.04 100%
  - 1990: 228.51 99.8%
  - 2000: 155.75 68%

**LULUCF**
- **CO\(_2\)e/yr %Yr.**
  - 1990: -5.65 -2.5%
  - 2000: -8.17 -5.2%

**Int. Bunker Fuels**
- **CO\(_2\)e/yr %Yr.**
  - 1990*: 0.71 0.3%
  - 2000*: 0.59 0.4%

**Projections**
- **CO\(_2\)e/yr %B.Yr.**
  - 2000 (projection base): data unavailable
  - 2010 WM: data unavailable
  - 2010 WAM: data unavailable

**UNFCCC Aim (2000)**
- **Allwd 2000:** 229.22 100%
- **Actual 2000:** 156.34 68.2%
- **Distance to aim:** -72.88 -31.8%
  - Achieved?
    - Achieved

**Kyoto Target**
- **CO\(_2\)e/yr %B.Yr.**
  - Allwd 2008-12 (An.B): 210.72 92%
  - Distance from 2001: -62.52 -27.3%

**Sink Allowances**
- **CO\(_2\)e/yr %B.Yr.**
  - CDM sinks: 2.29 1%
  - Agr.Mng.(est.): 3.29 1.4%
  - For.Mng. I (AppZ): 4.03 1.8%
  - Aff&Def.: data unavailable
  - For.Mng. II: data unavailable
  - Defo in B.Yr.: not applicable

**Per Capita Emissions**
- **CO\(_2\)e/per/yr**
  - 1990: 9.88
  - 2000: 6.97

**Main Data Sources**
- Inventory data: CRF 2003; *EDGAR

**Past Emissions, Projections and Targets**
Past Emissions, Projections and Targets

**Russian Federation**

**UNFCCC Aim (1999)**

- **AIM**
  - -10% < lower emissions higher emissions > +10%

**Emissions by Gas (1999)**

- **F-gases**: 2%
- **N₂O**: 2%
- **CH₄**: 15%
- **CO₂**: 80%

**Emissions by Sector (1999)**

- **ENE**: 90%
- **IND**: 3%
- **SOL**: < 1%
- **AGR**: 5%
- **WAS**: 2%

**Emissions by Gas (Trend)**

- **CO₂**, **N₂O**, **CH₄**, **F-gases**

**Emissions by Sector (Trend)**

- **ENE**, **IND**, **AGR**

**Past Emissions, Projections and Targets**

<table>
<thead>
<tr>
<th>Inventory Data</th>
<th>Projections</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>+60%</strong></td>
<td><strong>+50%</strong></td>
<td><strong>+40%</strong></td>
</tr>
<tr>
<td><strong>+30%</strong></td>
<td><strong>+30%</strong></td>
<td><strong>+20%</strong></td>
</tr>
<tr>
<td><strong>+10%</strong></td>
<td><strong>+10%</strong></td>
<td><strong>+10%</strong></td>
</tr>
<tr>
<td><strong>-10%</strong></td>
<td><strong>-10%</strong></td>
<td><strong>-10%</strong></td>
</tr>
<tr>
<td><strong>-20%</strong></td>
<td><strong>-20%</strong></td>
<td><strong>-20%</strong></td>
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<tr>
<td><strong>-30%</strong></td>
<td><strong>-30%</strong></td>
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<tr>
<td><strong>-40%</strong></td>
<td><strong>-40%</strong></td>
<td><strong>-40%</strong></td>
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<tr>
<td><strong>-50%</strong></td>
<td><strong>-50%</strong></td>
<td><strong>-50%</strong></td>
</tr>
<tr>
<td><strong>-60%</strong></td>
<td><strong>-60%</strong></td>
<td><strong>-60%</strong></td>
</tr>
</tbody>
</table>

**Emissions by Gas (1999)**

- **CO₂**: 80%
- **N₂O**: 2%
- **CH₄**: 15%
- **F-gases**: 2%

**Distances**

- Distance from latest inventory data (1999) to Kyoto targets in percent of base year emissions.

**Main Data Sources**

- Inventory data: ghg.unfccc.int; *EDGAR*

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Slovakia

Annex I; Annex B; EIT; EU-25
Ratification date Kyoto: 31/05/02 (R)

**Base Year**
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1990

**Emissions**: MtCO₂/yr %/Yr.
- **Base Year (B.Yr.):**
  - 1990: 72.18 100%
  - 2000: 47.9 66.4%
- **International Bunker Fuels**,
  - Int. Bunker Fuels: MtCO₂/yr %/Yr.
    - 1990: -2.43 -3.4%
    - 2000: -2.44 -5.1%
- **Projections**
  - Projections MtCO₂/yr %/Yr.
    - 2000 (projection base): 49.17 68.1%
    - 2010 WM: 53.19 73.7%
    - 2010 WAM: 48.14 66.7%

**UNFCCC Aim (2000)**
Allowed 2000: 72.18 100%
Actual 2000: 47.98 66.5%
Distance to aim: -24.2 -33.5%
Achieved?:实现了

**Kyoto Target**
MtCO₂/yr %/Yr.
- Allwd 2008-12 (An.B): 66.41 92%
- Distance from 2001: -16.28 -22.6%
- Distance from WM: -13.22 -18.3%
- Distance from WAM: -18.27 -25.3%
- Sink Allowances
  - CDM sinks: 0.72 1%
  - Agr.Mng. (est.): 0.54 0.7%
  - For.Mng. I (AppZ): 1.83 2.5%
  - Aff&Def.: data unavailable
  - For.Mng. II: data unavailable
  - Defo in B.Yr.: data unavailable
  - Sink Allowances Total: 3.09 4.3%

**Per Capita Emissions**
tCO₂/yr/yr
- 1990: 13.55
- 2000: 8.89

**Main Data Sources**
Inventory data: CRF 2003; *EDGAR

---

**Past Emissions, Projections and Targets**

  - F-gases: < 1%
  - N₂O: 7%
  - CO₂: 84%
  - CH₄: 9%

  - ENE: 71%
  - TRA: 9%
  - IND: 7%
  - WAS: 4%

- **Distances**
  - Distance to Kyoto Target
  - Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.
  - Distance from UNFCCC Aim (2000)
    - Allowed 2000: 72.18 100%
    - Actual 2000: 47.98 66.5%
    - Distance to aim: -24.2 -33.5%
    - Achieved?:实现了

---

**Inventory Data**
See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
### Slovenia

**Annex I; Annex B; EIT; EU-25**

**Ratification date Kyoto:** 02/08/02 (R)

**Base Year**
- CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O: 1986
- HFCs, PFCs, SF<sub>6</sub> (est.): 1995

**Emissions**
- MtCO<sub>2</sub>e/yr %B.Yr.
  - Base Year (B.Yr.):
    - 1990: 18.54 92.2%
    - 1996: 19.96 99.3%
  - LULUCF:
    - 1990: -4.33 -23.4%
    - 1996: -5.56 -27.9%
  - Int. Bunker Fuels:
    - 1990: 0.08 0.4%
    - 1996: 0.05 0.3%
  - Projections:
    - 2000 (projection base): 20.75 103.2%
    - 2010 WM: 22.15 110.2%
    - 2010 WAM: 19.9 99%
- UNFCCC Aim
  - Allowed 2000: 18.61 100%
  - Actual 2000: data unavailable
  - Distance to aim from 1996: 1.4 7.5%
  - Achieved?: data unavailable
- Kyoto Target
  - Allwd 2008-12 (An.B.):
    - 18.49 92%
  - Distance from 1996: 1.46 7.3%
  - Distance from WM: 3.66 18.2%
  - Distance from WAM: 1.41 7%
  - Sink Allowances
    - CDM sinks: 0.2 1%
    - Agr.Mng.(est.): 0.11 0.5%
    - For.Mng. I (AppZ): 1.32 6.6%
    - Aff&Def.: data unavailable
    - For.Mng. II: data unavailable
    - Defo in B.Yr.: not applicable
    - Sink Allowances Total: 1.63 8.1%
- Per Capita Emissions
  - tCO<sub>2</sub>e/per/yr
    - 1990: 9.56
    - 1996: 10.03

**Main Data Sources**
- Inventory data: CRF 2003

### Past Emissions, Projections and Targets

**UNFCCC Aim (1996)**
- Allowed 2000: 18.61 100%
- Actual 2000: data unavailable
- Distance to aim from 1996: 1.4 7.5%
- Achieved?: data unavailable

**Kyoto Target**
- Allwd 2008-12 (An.B.): 18.49 92%
- Distance from 1996: 1.46 7.3%
- Distance from WM: 3.66 18.2%
- Distance from WAM: 1.41 7%

**Sink Allowances**
- CDM sinks: 0.2 1%
- Agr.Mng.(est.): 0.11 0.5%
- For.Mng. I (AppZ): 1.32 6.6%
- Aff&Def.: data unavailable
- For.Mng. II: data unavailable
- Defo in B.Yr.: not applicable
- Sink Allowances Total: 1.63 8.1%

**Per Capita Emissions**
- tCO<sub>2</sub>e/per/yr
  - 1990: 9.56
  - 1996: 10.03

**Main Data Sources**
- Inventory data: CRF 2003

---

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Spain

Annex I; Annex B; Annex II; EU-15

Ratification date Kyoto: 31/05/02 (R)

Base Year

CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1995

Emissions MtCO₂/yr %B.Yr.

Base Year (B.Yr.): 289.85 100%
1990: 287.61 99.2%
2000: 387.1 133.6%

LULUCF MtCO₂/yr %Yr.

1990: -29.25 -10.2%
2000: -29.25 -7.6%

Int. Bunker Fuels MtCO₂/yr %B.Yr.

2000 (projection base): 285.26 98.4%
2010 WM: 307.4 106.1%
2010 WAM: 265.4 91.6%

UNFCCC Aim MtCO₂/yr % 1990

Allowed 2000: 302.96 100%
Actual 2000: 415.17 137%
Distance to aim: 112.21 37%
Achieved?: Missed

Kyoto Target MtCO₂/yr %B.Yr.

Allowed 2008-12 (EU): 333.33 115%
Distance from 2001: 49.46 17.1%
Distance from WM: -25.93 -8.9%
Distance from WAM: -67.93 -23.4%

Sink Allowances MtCO₂/yr %B.Yr.

CDM sinks: 2.9 1%
Agr.Mng. (est.): 6.44 2.2%
For.Mng. I (AppZ): 2.46 0.8%
Aff&Def.: 6.82 2.4%
For.Mng. II: not applicable
Defo in B.Yr.: not applicable
Sink Allowances Total: 18.61 6.4%

Per Capita Emissions tCO₂/per/yr

1990: 7.71
2000: 10.4

Main Data Sources

Inventory data: CRF 2003

Past Emissions, Projections and Targets

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Distance to Kyoto Target

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Sweden

Annex I; Annex B; Annex II; EU-15

Ratification date Kyoto: 31/05/02 (R)

Base Year

\[ \text{CO}_2, \text{CH}_4, \text{N}_2\text{O}; \] 1990

HFCs, PFCs, SF\(_6\) (est.): 1995

Emissions \( \text{MtCO}_2\text{e/yr} \) % B.Yr.

Base Year (B.Yr.):
1990: 72.76 99.8%
2000: 68.95 94.6%

LULUCF \( \text{MtCO}_2\text{e/yr} \) % Yr.

1990: -20.29 -27.9%
2000: 3.54 4.9%

Int. Bunker Fuels \( \text{MtCO}_2\text{e/yr} \) % Yr.

2000 (projection base): 69.36 95.2%
2010 WM: 70.88 97.3%
2010 WAM: data unavailable

UNFCCC Aim \( \text{MtCO}_2\text{e/yr} \) % B.Yr.

Allowed 2000: 76.3 100%
Actual 2000: 75.59 99.1%
Distance to aim: -0.72 -0.9%
Achieved?: Achieved
Kyoto Target \( \text{MtCO}_2\text{e/yr} \) % B.Yr.

- Allwd 2008-12 (EU): 75.78 104%
- Distance from 2001 WM: -5.37 -7.3%
- Distance from WM: -4.97 -6.7%

Sink Allowances \( \text{MtCO}_2\text{e/yr} \) % B.Yr.

- CDM sinks: 0.73 1%
- Agr.Mng.(est.): 0.72 1%
- For.Mng. I (AppZ): 2.13 2.9%
- Aff&Def.: -0.33 -0.5%
- For.Mng. II: 0.33 0.5%
- Defo in B.Yr.: not applicable
- Sink Allowances Total: 3.58 4.9%

Per Capita Emissions \( \text{tCO}_2\text{e/per/yr} \)

1990: 8.91
2000: 8.55

Main Data Sources

Inventory data: CRF 2003
Switzerland

Annex I; Annex B; Annex II

Ratification date Kyoto: 09/07/03 (R)

Base Year
- CO₂, CH₄, N₂O: 1990
- HFCs, PFCs, SF₆ (est.): 1990

Emissions

| Gas    | MtCO₂e/yr | % B.Yr.
|--------|-----------|----------
| Base Year (B.Yr.): |
| 1990:  | 53.06     | 100%     |
| 2000:  | 52.41     | 98.8%    |

LULUCF
- MtCO₂e/yr | % Yr.
- 1990: -3.19 -6% |
- 2000: -1.82 -3.5% |

Int. Bunker Fuels
- MtCO₂e/yr | % Yr. |
- 1990: 3.25 6.1% |
- 2000: 4.8 9.2% |

Projections
- MtCO₂e/yr | % B.Yr. |
- 2000 (projection base): 52.74 99.4% |
- 2010 WM: 52.69 99.3% |
- 2010 WAM: 50.09 94.4% |

UNFCCC Aim
- MtCO₂e/yr | % 1990
- Allowed 2000: 56.3 100% |
- Actual 2000: 57.21 101.6% |
- Distance to aim: 0.9 1.6% |
- Achieved? Missed |

Kyoto Target
- MtCO₂e/yr | % B.Yr.
- Distance from 2001: 4.64 8.7% |
- Distance from WM: 3.88 7.3% |
- Distance from WAM: 1.28 2.4% |

Sink Allowances
- MtCO₂e/yr | % B.Yr. |
- CDM sinks: 0.53 1% |
- Agr.Mng.(est.): 0.32 0.6% |
- For.Mng. I (AppZ): 1.83 3.5% |
- Aff&Def.: -0.04 -0.1% |
- For.Mng. II: 0.04 0.1% |
- Defo in B.Yr.: not applicable |
- Sink Allowances Total: 2.69 5.1% |

Per Capita Emissions
tCO₂e/periyr
- 1990: 8.24 |
- 2000: 7.98 |

Main Data Sources
- Inventory data: CRF 2003

UNFCCC Aim (2000)

Emissions by Gas (2000)

Emissions by Sector (2000)

Emissions by Gas (Trend)

Emissions by Sector (Trend)

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Turkey

**Annex I (no Kyoto target)**

**Ratification date Kyoto:**

**Base Year**
- CO$_2$, CH$_4$, N$_2$O: 1990
- HFCs, PFCs, SF$_6$ (est.): 1990

**Emissions**
- MtCO$_2$/yr % B.Yr.
- Base Year (B.Yr.):
  - 1990: 227.9 100%
  - 1995: 248.87 109.2%

**LULUCF**
- MtCO$_2$/yr % Yr.
  - 1990: data unavailable
  - 1995: data unavailable

**International Bunker Fuels**
- MtCO$_2$/yr % Yr.
  - 1990: 1.87 0.8%
  - 1995: 4.16 1.7%

**Projections**
- MtCO$_2$/yr % B.Yr.
  - 2000 (projection base): data unavailable
  - 2010 WM: data unavailable
  - 2010 WAM: data unavailable

**UNFCCC Aim**
- MtCO$_2$/yr % 1990
  - Allowed 2000: 229.77 100%
  - Actual 2000: data unavailable
  - Distance to aim from 1995: 23.26 10.1%
  - Achieved?: data unavailable

**Kyoto Target**
- MtCO$_2$/yr % B.Yr.
  - Agr. Mng. (est.): 8.59 3.8%

**Sink Allowances**
- MtCO$_2$/yr % B.Yr.
  - CDM sinks: 2.28 1%
  - Agr. Mng. (est.): 8.59 3.8%
  - For. Mng. I (AppZ): not yet determined
  - Aff&Def.: data unavailable
  - For. Mng. II: data unavailable
  - Defo in B.Yr.: not applicable
  - Sink Allowances Total: 10.87 4.8%

**Per Capita Emissions**
- tCO$_2$/per/yr
  - 1990: 4.1
  - 1995: 4.11

**Main Data Sources**
- Inventory data: EDGAR

---

**Past Emissions, Projections and Targets**

**UNFCCC Aim (1995)**

**Emissions by Gas (1995)**

**Emissions by Sector (1995)**

**Emissions by Gas (Trend)**

**Emissions by Sector (Trend)**

---

**Distance to Kyoto Target**

As by COP9, 2003, no Kyoto-target had been determined for Turkey.

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Ukraine

Annex I; Annex B; EIT
Ratification date Kyoto: 03/04
Base Year
CO\(_2\), CH\(_4\), N\(_2\)O: 1990
No reported F-gases emissions

Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Year</td>
<td>919.22</td>
<td>100%</td>
</tr>
<tr>
<td>1990</td>
<td>919.22</td>
<td>100%</td>
</tr>
<tr>
<td>1998</td>
<td>454.33</td>
<td>49.5%</td>
</tr>
</tbody>
</table>

LULUCF

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-52.11</td>
<td>-5.7%</td>
</tr>
<tr>
<td>1998</td>
<td>-68.71</td>
<td>-15.1%</td>
</tr>
</tbody>
</table>

Int. Bunker Fuels

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>8.05</td>
<td>0.9%</td>
</tr>
<tr>
<td>1998</td>
<td>10.81</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (proj)</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>2010 WM</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>2010 WAM</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

UNFCCC Aim

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed</td>
<td>927.27</td>
<td>100%</td>
</tr>
<tr>
<td>Actual</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

Distance to aim from 1998:

-461.52 -49.8%

Achieved:

data unavailable

Kyoto Target

<table>
<thead>
<tr>
<th>Year</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allwd 2008-12 (Ann.B):</td>
<td>919.22</td>
<td>100%</td>
</tr>
</tbody>
</table>

Distance from 1998

-464.29 -50.5%

Sink Allowances

<table>
<thead>
<tr>
<th>Source</th>
<th>MtCO(_2) e/yr</th>
<th>%Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM sinks</td>
<td>9.19</td>
<td>1%</td>
</tr>
<tr>
<td>Agr.Mng.(est.)</td>
<td>9.4</td>
<td>1%</td>
</tr>
<tr>
<td>For.Mng. I (AppZ)</td>
<td>4.07</td>
<td>0.4%</td>
</tr>
<tr>
<td>Aff&amp;Def.</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>For.Mng. II</td>
<td>data unavailable</td>
<td></td>
</tr>
<tr>
<td>Defo in Yr.</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Sink Allowances Total</td>
<td>22.66</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Per Capita Emissions

tCO\(_2\) e/per/yr

<table>
<thead>
<tr>
<th>Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>17.85</td>
</tr>
<tr>
<td>1998</td>
<td>9.23</td>
</tr>
</tbody>
</table>

Main Data Sources

| Source         | ghg.unfccc.int, *EDGAR |

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available.
See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
United Kingdom

Annex I; Annex B; Annex II; EU-15
Ratification date Kyoto: 31/05/02 (R)

Base Year
CO₂, CH₄, N₂O: 1990
HFCs, PFCs, SF₆ (est.): 1995

Emissions
Unit: MtCO₂e/yr % B.Yr.
Base Year (B.Yr.):
1990: 747.19 100%
2000: 648.37 86.2%

LULUCF
Unit: MtCO₂e/yr % Yr.
1990: 8.79 1.2%
2000: 3.38 0.5%

Int. Bunker Fuels
Unit: MtCO₂e/yr % Yr.
1990: 21.69 2.9%
2000: 35.5 5.5%

Projections
Unit: MtCO₂e/yr % B.Yr.
2000 (projection base): 649.11 86.9%
2010 WM: 630.67 84.4%
2010 WAM: 564.85 75.6%

UNFCCC Aim
Unit: MtCO₂e/yr % 1990
Allowed 2000: 765.83 100%
Actual 2000: 683.88 89.3%
Distance to aim: -81.95 -10.7%
Achieved?: Achieved

Kyoto Target
Unit: MtCO₂e/yr % B.Yr.
Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.

Sink Allowances
Unit: MtCO₂e/yr % B.Yr.
CDM sinks: 7.47 1%
Agr.Mng.(est.): 3.52 0.5%
For.Mng. I (AppZ): 1.36 0.2%
Aff&Def.: -2.2 -0.3%
For.Mng. II: 2.2 0.3%
Defo in B.Yr.(est.): 0 0%
Sink Allowances Total: 12.35 1.7%

Per Capita Emissions
Unit: tCO₂e/per/yr
1990: 13.26
2000: 11.47

Main Data Sources
Inventory data: CRF 2003

Past Emissions, Projections and Targets

Inventory data (red; solid) and projections (orange; dashed/dotted) for Annex A gases and sources, if available. See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.
Past Emissions, Projections and Targets

**USA**

**Annex I; Annex B; Annex II**

**Ratification date Kyoto:**

**Base Year**

- CO₂, CH₄, N₂O: 1990
- HFCs, PFCs, SF₆ (est.): 1995

**Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MtCO₂ e/yr)</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>6144.75</td>
<td>100%</td>
</tr>
<tr>
<td>1995</td>
<td>6139.64</td>
<td>99.9%</td>
</tr>
<tr>
<td>2010</td>
<td>7047.36</td>
<td>114.7%</td>
</tr>
</tbody>
</table>

**LULUCF**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MtCO₂ e/yr)</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-1072.81</td>
<td>-17.5%</td>
</tr>
<tr>
<td>2000</td>
<td>-634.54</td>
<td>-11.8%</td>
</tr>
</tbody>
</table>

**Int. Bunker Fuels**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MtCO₂ e/yr)</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>115</td>
<td>1.9%</td>
</tr>
<tr>
<td>2000</td>
<td>100.27</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

**Projections**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MtCO₂ e/yr)</th>
<th>% Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (projection base):</td>
<td>7001.22</td>
<td>113.9%</td>
</tr>
<tr>
<td>2010 WM:</td>
<td>8115</td>
<td>132.1%</td>
</tr>
<tr>
<td>2010 WAM:</td>
<td>data unavailable</td>
<td></td>
</tr>
</tbody>
</table>

**UNFCCC Aim**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MtCO₂ e/yr)</th>
<th>% 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6254.63</td>
<td>100%</td>
</tr>
<tr>
<td>Actual 2000</td>
<td>7147.84</td>
<td>114.3%</td>
</tr>
</tbody>
</table>

**Distance to Kyoto Target**

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance from latest inventory data (2001) to Kyoto targets in percent of base year emissions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-100%</td>
</tr>
<tr>
<td>1995</td>
<td>-50%</td>
</tr>
<tr>
<td>2000</td>
<td>-60%</td>
</tr>
</tbody>
</table>

**Emissions by Gas (Trend)**

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂: 83%</th>
<th>CH₄: 9%</th>
<th>N₂O: 6%</th>
<th>F-gases: 2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Emissions by Sector (Trend)**

<table>
<thead>
<tr>
<th>Year</th>
<th>ENE: 59%</th>
<th>TRA: 26%</th>
<th>WAS: 4%</th>
<th>IND: 7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Past Emissions, Projections and Targets**

  - CO₂: 83%
  - CH₄: 9%
  - N₂O: 6%
  - F-gases: 2%

  - ENE: 59%
  - TRA: 26%
  - WAS: 4%
  - IND: 7%

**Sink Allowances**

- CDM sinks: 61.45 1%
- Agr.Mng.(est.): 87.07 1.4%
- For.Mng. I (AppZ): 102.67 1.7%
- Aff&Def.: -26.4 -0.4%
- For.Mng. II: 26.4 0.4%

**Defo in B.Yr.**

- not applicable

**Sink Allowances Total:** 251.18 4.1%

**Per Capita Emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>tCO₂ e/per/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>24.55</td>
</tr>
<tr>
<td>2000</td>
<td>25.24</td>
</tr>
</tbody>
</table>

**Inventory Data**

- CRF 2003

**Projections**

- UNFCCC Aim (2000)
- Emissions by Gas (2000)
- Emissions by Sector (2000)

**Targets**

- Distance from 2001
- Distance from WM

**Achieved?**

- Missed

See left table for color codes of Kyoto targets and potential additional emission allowances, if applicable.

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