

Questions and answers on... key facts about Kyoto targets

* * * Achieving Kyoto targets in 10 key points * * *

1. Under the Kyoto Protocol, 25 EU Member States have individual targets while Malta and Cyprus have no Kyoto targets. The EU-15 (i.e. the pre-2004 EU) has a single common target to be achieved by its Member States. The burden-sharing agreement sets the contribution of each individual Member State towards reaching this common target. The EU-27 has no common target under the Kyoto Protocol.
2. A Kyoto target, expressed as a percentage, corresponds in practise to an emission budget, i.e. a quantity of emissions that a country is allowed to emit during a certain period. Current Kyoto targets and corresponding emission budgets concern the 5-year period 2008–2012, which is the first commitment period of the Kyoto Protocol. An emission budget is constituted of Kyoto units, where one Kyoto unit corresponds to one tonne of permissible greenhouse gas emissions. The initial emission budget corresponding to a Kyoto target is defined as follows:

$$\text{Initial Kyoto emission budget for 2008–2012} = [\text{base-year emissions}] \times [\text{percentage}] \times 5 \text{ (years of the commitment period)}.$$

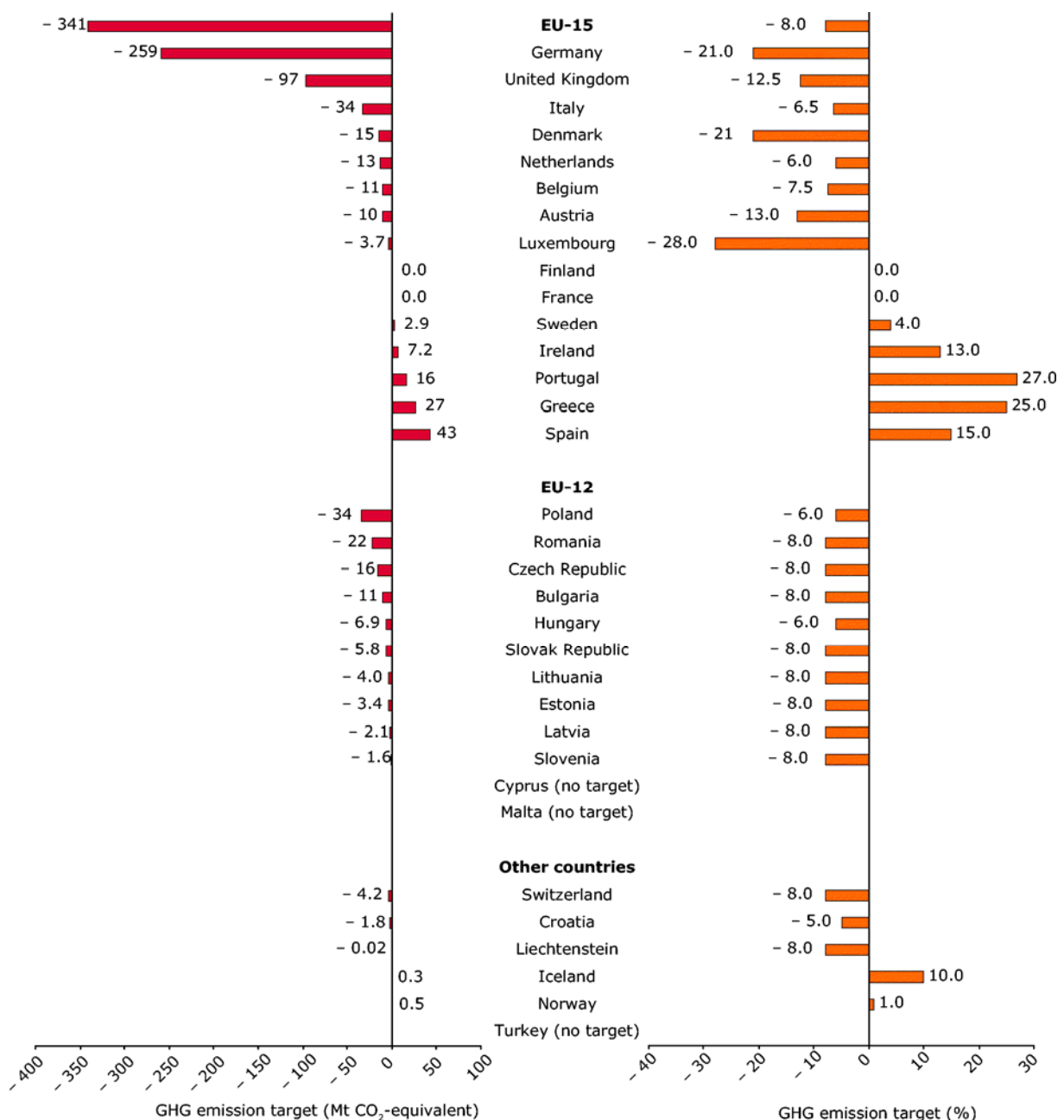
3. To achieve its Kyoto target, a country should reduce or limit its emissions during the commitment period so that they do not exceed its emission budget. A country can also adjust its emission budget by adding or subtracting Kyoto units, through the use of the Kyoto Protocol flexible mechanisms. Kyoto units may come from other countries' emission budgets (AAUs), be generated from carbon sink activities (RMUs) or from emission-reducing projects in other countries (CERs, ERUs).
4. The use of Kyoto flexible mechanisms must remain supplemental to domestic efforts. Countries are also limited in the amount of Kyoto units they can transfer out of their overall emission budget.
5. Surplus Kyoto units stemming from the over-delivery of a Kyoto target can be transferred or sold to other countries, cancelled or banked for a subsequent commitment period (if decided upon by Parties to the UNFCCC).
6. The EU emission trading scheme (EU ETS) is influencing the way European countries will achieve their Kyoto targets. Under this 'cap-and-trade' system, large industrial installations must meet a certain emission budget by reducing their emissions and/or by adjusting their budget through the trading of EU carbon allowances. The trading of EU ETS allowances is mirrored by an equivalent transfer of Kyoto units. Therefore when Member States set national emission caps (and thereby emission budgets) for the period 2008–2012, Member States allocated *de facto* part of their Kyoto emission budget to the EU ETS sectors. In so doing, they fixed the overall contribution of the EU ETS towards reaching Kyoto targets at national level.
7. To ensure compliance with their Kyoto targets, Member States also need to address emissions in the sectors not covered by the EU ETS (for example the transport, residential and agriculture sectors).
8. Success in reducing emissions from sectors not covered by the EU ETS will determine the extent to which governments will need to use the Kyoto flexible mechanisms, if at all, to achieve their targets.
9. To assess a country's situation with regards to its Kyoto target, one must account for the effect of the EU ETS on the overall emission budget: the balance "emissions against emission budget" to be checked is:

$$[\text{total emissions} - \text{EU ETS emissions}] \text{ vs. } [\text{Kyoto emission budget} - \text{national EU ETS cap for 2008–2012 (allocated allowances)}]$$

10. In order for the EU-15 to achieve its Kyoto target for 2008–2012, all EU-15 Member States must achieve individually their own burden-sharing target (assuming no use of surplus Kyoto units within the EU-15).

1. What Kyoto targets does the EU have?

Under the Kyoto Protocol, the pre-2004 EU-15 group of Member States has taken on a common commitment to reducing emissions by 8 % on average between 2008 and 2012, compared to formally-agreed 'base-year' emissions. Within this overall target, differentiated emission limitation or reduction targets have been agreed for each of the 15 pre-2004 Member States under an EU accord known as the 'burden-sharing agreement'. Ten of the newer EU-12 Member States (all except Cyprus and Malta) also have individual targets under the Kyoto Protocol. Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Romania, the Slovak Republic and Slovenia have reduction targets of 8 % from the base year, while Hungary and Poland have reduction targets of 6 %. The EU-27 does not have a Kyoto target.



Of the additional EEA member countries, Norway and Iceland are allowed to increase emissions under the Kyoto Protocol by 1 % and 10 %, respectively, from their base-year emissions. Switzerland and Liechtenstein have reduction targets of 8 %. Turkey has no target under the Kyoto Protocol. Croatia, which is an EEA cooperating country and started accession negotiations with the EU in 2005, has a reduction target of 5 %.

Under the Kyoto Protocol, 25 EU Member States have individual targets while Malta and Cyprus have no targets. The EU-15 (i.e. the pre-2004 EU) has a single target to be achieved in common by its Member States. The burden-sharing agreement sets the contribution of each individual Member State towards reaching this common target. The EU-27 has no common target under the Kyoto Protocol.

2. What is a Kyoto target?

A Kyoto target is often expressed as a percentage of the emissions of a country during a specifically agreed base year. This percentage can correspond to a decrease or an increase of emissions compared to the base-year emissions; it is inscribed in Annex B of the Kyoto Protocol. In most cases, emissions for the base year are close or equal to 1990 emissions.

In practice, a Kyoto target corresponds to a certain quantity of greenhouse gases that a country (or group of countries, in the case of the European Union) is allowed to emit during a certain period. This quantity is formally called the ‘**assigned amount**’, which can be represented as an ‘**emission budget**’. Such Kyoto emission budgets represent a certain quantity of units of permissible greenhouse gas emissions called ‘**assigned amount units**’, which are generically called Kyoto units. Each Kyoto unit corresponds to one tonne of permissible emissions of greenhouse gases. The period to which the budget corresponds is called a ‘**commitment period**’. The first commitment period of the Kyoto Protocol is the five-year period 2008–2012.

The initial emission budget corresponding to a Kyoto target for 2008–2012 is defined as follows:

$$\text{Initial Kyoto emission budget for 2008–2012} = [\text{base-year emissions}] \times [\text{percentage}] \times 5 \text{ (years of the commitment period)}.$$

A Kyoto target, expressed as a percentage, corresponds in practice to an emission budget, i.e. a quantity of emissions that a country is allowed to emit during a certain period. Current Kyoto targets and corresponding emission budgets concern the 5-year period 2008–2012, which is the first commitment period of the Kyoto Protocol. An emission budget is constituted of Kyoto units, where one Kyoto unit corresponds to one tonne of permissible greenhouse gas emissions.

For example, the EU-15 Kyoto target corresponds to an 8% decrease compared to base-year emissions. Its emission budget is therefore:

$$[\text{EU-15 emission budget}]_{2008-2012} = [\text{Base year emissions}]_{\text{EU-15}} \times \frac{92}{100} \times 5$$

The EU-15 emission budget is 19 .621 billion tonnes CO₂-equivalent for 2008–2012.

3. How can a country achieve its target?

To achieve its Kyoto target, a country must keep the sum of its greenhouse gas emissions during the commitment period 2008–2012 below its emission budget for that period. This can be accomplished through two complementary methods:

1. managing its emissions; and/or
2. managing its emission budget.

Reducing or limiting its own emissions is one way for a country to achieve a Kyoto target. The objective is then to bring emissions during the period 2008–2012 to a level so that they remain below the corresponding emission budget. This can be achieved by implementing adequate policies and measures addressing the main sources of greenhouse gases in that country (e.g. promoting energy efficiency and renewable energy sources, improving vehicle efficiency, improving waste management practices, etc.).

Emissions will vary during the commitment period and sometimes may even be higher than an average annual emission budget: what matters is that the balance between emissions and emission budget will only be checked at the end of the commitment period to determine if a country has complied with its (legally-binding) commitment.

Acting on its emission budget is another option for a country to achieve its Kyoto target. In particular, a country can increase its emission budget so that it becomes large enough by the end of the commitment period to cover the sum of the emissions. An emission budget can also be reduced through selling if a country foresees that its emissions will remain well below their target. Modifying a carbon budget is done by transferring in or out a certain number of **Kyoto units**.

Kyoto units can take different forms but all units correspond to one permissible tonne of CO₂-equivalent. Such units may be:

- **assigned amount units (AAUs)**, which constitute every party's initial emission budget. These units can, to a certain extent, be traded between countries under one of the three Kyoto flexible mechanisms called "**international emission trading**";
- **certified emission reductions (CERs)**, issued for emission reductions from certain emission-reducing projects in developing countries (which have themselves no target under the Kyoto Protocol). These units correspond to one of the three Kyoto flexible mechanisms called "**clean development mechanism**";
- **emission reduction units (ERUs)**, issued for additional emission reductions or emission removals from certain emission-reducing projects in other industrialised countries (which have themselves a target under the Kyoto Protocol). These units are issued by converting an equivalent quantity of existing Kyoto units of the project's host country. They correspond to one of the three Kyoto flexible mechanisms called "**joint implementation**";
- **removal units (RMUs)**, issued when specific activities (related to land use and forestry and often referred to as **carbon sink activities**) contribute to removing carbon dioxide (CO₂) from the atmosphere.

To achieve its Kyoto target, a country should reduce or limit its emissions so that they do not exceed its emission budget. A country can also adjust its emission budget by adding or subtracting Kyoto units, through the use of the Kyoto Protocol flexible mechanisms. Kyoto units may come from other countries' emission budgets (AUs), be generated from carbon sink activities (RMs) or from emission-reducing projects in other countries (CERS, ERUs).

4. How many additional Kyoto units can a country use to meet its Kyoto target?

There are principal limits to how many Kyoto units can be transferred to or out of an emission budget. The Kyoto Protocol states that the use of flexible mechanisms to achieve a target must be **supplemental** to domestic effort (although no quantified definition is provided).

In addition, each country must maintain its emission budget to a minimum level of Kyoto units at all times. This minimum quantity of Kyoto units is called the **commitment period reserve**; it is intended to prevent countries from over-transferring units and thus jeopardize their ability to reach their emission target.

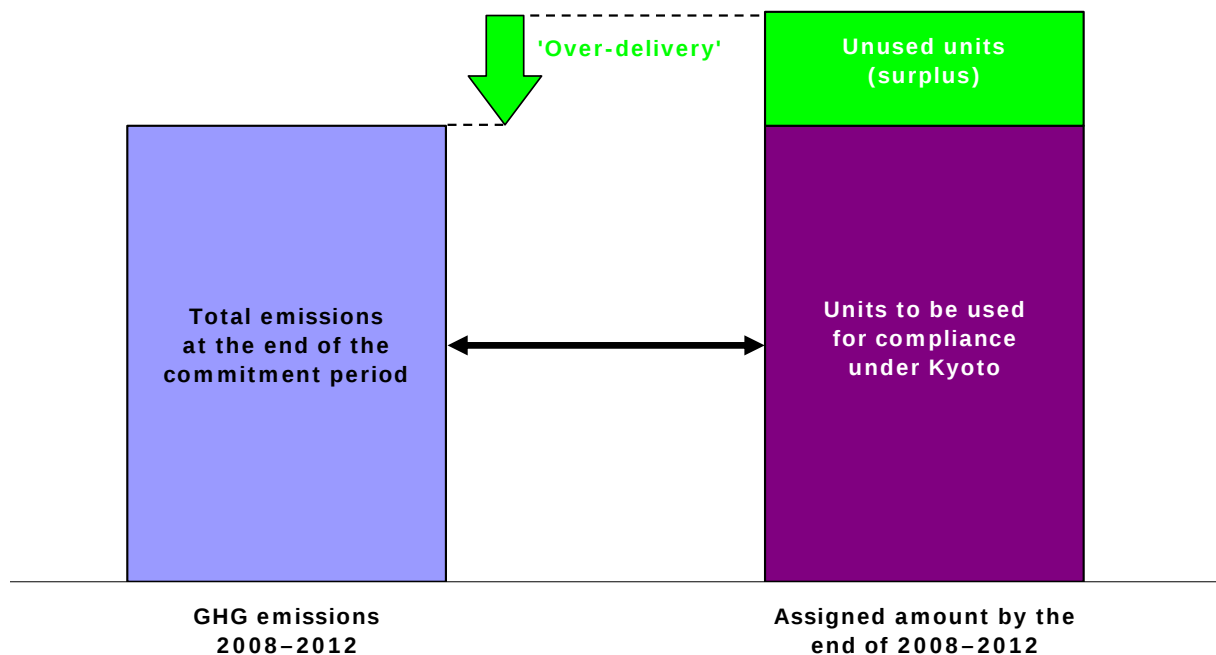
The use of Kyoto flexible mechanisms must remain supplemental to domestic efforts. Countries are also limited in the amount of Kyoto units they can transfer out of their overall emission budget.

5. What happens if a country "over delivers" on its target?

If by the end of the commitment period a country has reduced its emissions to a level lower than its emission budget, it will dispose of a surplus of Kyoto units. The Kyoto Protocol currently allows that country to:

- sell these units to another country (provided that the commitment period reserve is not affected);
- cancel these units;
- "carry over" these units to a subsequent commitment period (subject to applicable rules if such period is decided).

Therefore, any surplus unit held by a Member State will not be automatically transferred to other countries which might need it, or to a common EU pot. Some countries have even already decided to forbid such options, in order to prevent these surplus units to offset emissions in other countries. In particular, the United Kingdom – which plans to have reduced emission well beyond its Kyoto target by the end of the commitment period – has passed legislation (the Carbon Accounting Regulations) that ensures that any carbon units in excess of the budget are cancelled and therefore not used to offset greenhouse gas emissions in the United Kingdom or elsewhere during the period 2008–2012.

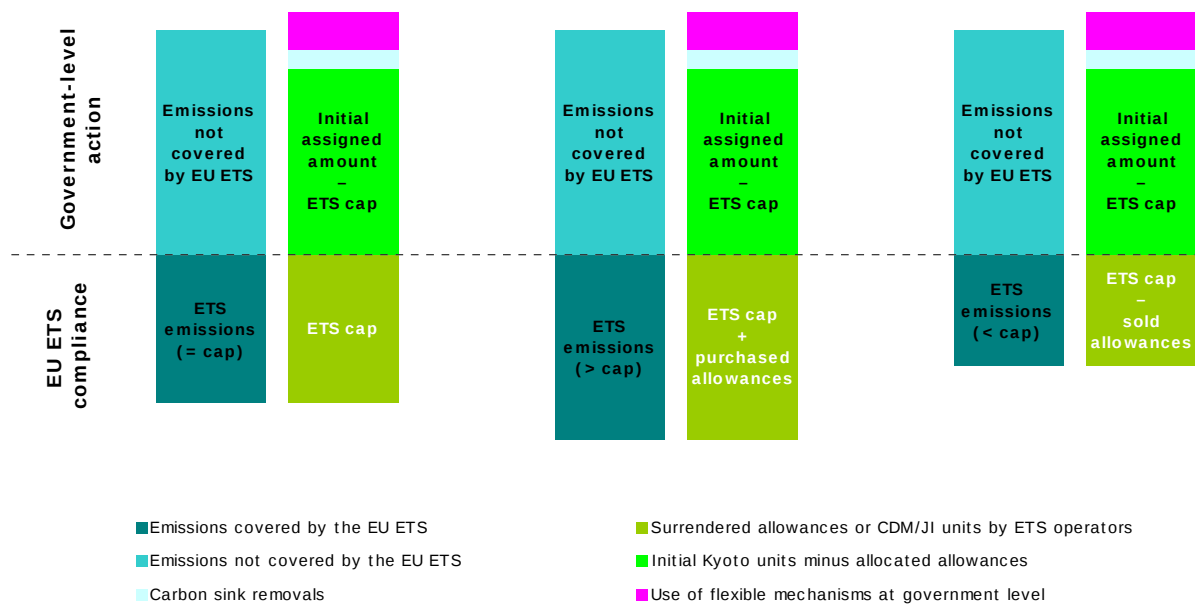


Surplus Kyoto units stemming from the overdelivery of a Kyoto target can be transferred or sold to other countries, cancelled or banked for a subsequent commitment period (if decided).

6. How does the EU emission trading scheme (EU ETS) help Member States in reaching their Kyoto target?

The EU emission trading scheme (EU ETS) is a major EU climate policy aimed to help Member States achieving their greenhouse gas targets. It is a 'cap-and-trade' system covering around 11 000 industrial installations, which represent about 43 % of EU total emissions in 2008. The principle of the EU ETS is similar to the principle of Kyoto compliance: large industrial installations have been allocated a certain emission budget (a certain amount of emission allowances) by their government for the period 2008–2012, which they have to meet by either reducing emissions and/or by adjusting their budget through the acquisition of emission allowances on the carbon market. Operators are also free to sell unused allowances.

Any transfer of EU ETS allowances is mirrored by the transfer of an equivalent number of AAUs. Therefore, by establishing a national allocation plan for the period 2008–2012 (which defines an emission budget for the sectors covered by the EU ETS), each Member State has allocated a certain portion of its Kyoto emission budget to operators covered by the EU ETS, with the legal obligation for them to give back ("surrender") as many allowances as they will have emitted greenhouse gases during the period 2008–2012. In so doing, they fixed the overall contribution of the EU ETS towards reaching Kyoto targets at national level: at EU level, the EU ETS provides certainty that around 40 % of EU total emissions will be matched by an equivalent number of Kyoto units.



The EU emission trading scheme (EU ETS) is influencing the way European countries will achieve their Kyoto targets. Under this 'cap-and-trade' system, industrial installations must meet a certain emission budget by reducing their emissions and/or by adjusting their budget through the trading of EU carbon allowances. The trading of EU ETS allowances is mirrored by an equivalent transfer of Kyoto units.

Therefore when they set national emission caps (and thereby emission budgets) for the period 2008–2012 for the sectors covered by the EU ETS, Member States allocated de facto part of their Kyoto emission budget to the EU ETS sectors. In so doing, they fixed the overall contribution of the EU ETS towards reaching Kyoto targets at national level.

7. What should governments focus on to reach their Kyoto or burden-sharing targets?

The link between Kyoto units and EU ETS allowances and the implied transfer of Kyoto units to EU ETS operators through the allocation process have further implications as regards the achievement of compliance under the Kyoto Protocol. In particular, emission reductions in the EU ETS beyond the limits set under the EU ETS will not help further governments in reaching their Kyoto target, since operators do not have to give back their surplus allowances.

Consequently, Member States need to address emissions in the sectors not covered by the EU ETS (for example the transport, residential and agriculture sectors) in order to ensure compliance with their Kyoto or burden-sharing targets.

To ensure compliance with their Kyoto or burden-sharing targets, Member States need to reduce emissions in the sectors not covered by the EU ETS (for example the transport, residential and agriculture sectors).

8. What will determine a country's need to use the Kyoto flexible mechanisms?

Member States need to address emissions in the sectors not covered by the EU ETS. Success here will determine the extent to which governments will need to increase their emission budget through the use of the Kyoto flexible mechanisms (acquisition of Kyoto units from other parties to the Kyoto Protocol or through support to project-based credits), if at all, to achieve targets.

Success in managing emissions in the non-ETS sectors will determine the extent to which governments will need to use the Kyoto flexible mechanisms, if at all, to achieve their targets.

9. To see if my country "is on track", can I simply compare its emissions reductions with its Kyoto target?

No, for the reasons explained in the previous paragraph: one must take into account the role of the EU ETS and in particular its effect on the number of Kyoto units available to countries at the end of the commitment period. The status of a country can be checked by comparing emissions in non-ETS sectors with the non-ETS emission budget:

*[Total emissions] – [EU ETS emissions]
vs. [Kyoto emission budget] – [national EU ETS cap for 2008–2012 (allowances allocated)]*

To assess a country's situation with regards to its Kyoto target, one must take into account for the effect of the EU ETS on the overall emission budget.

10. Is the EU-15 situation the sum of each individual Member State's situation?

The EU-15 emission target under the Kyoto Protocol reflects the individual objectives that the 15 Member States agreed under the "burden-sharing agreement". However, when assessing the situation of the EU-15, it is not possible to add all EU-15 Member States' emissions and compare them with the sum of these countries' emission budgets. This is because some of the Kyoto units may be surplus units, which governments have the possibility to dispose at will. In particular, such surplus units might not be available to other countries or to the EU-15 for compliance since there is no guaranteed "permeability" between the emission budgets of different Member States. Any assessment of the EU situation must therefore take into account the uncertainty affecting the use of potential surplus Kyoto units by governments. One should therefore not make assumptions on the use of surplus Kyoto units within the EU-15. As result, in order for the EU-15 to achieve its target, emissions should not exceed emission budgets in all EU-15 Member States.

In order to achieve the EU-15 Kyoto target for 2008–2012, all EU-15 Member States must achieve individually their own burden-sharing target.