Annex 1 Requirements for climate standards 2nd draft

These requirements are based on the Climate Certification For Food standard. They are formulated as a standard for standards and may be used by a standards owner or certification body to develop or adopt their own climate standard.

They will also be used in the process of accepting a standard as equivalent to the Climate Certification For Food standard. They should not be used directly for certification.

In a standard assessed to these requirements there can be set up time limits for the introduction of certain requirements.

Products which are intended to be sold as certified to the Climate Certification for Food shall fulfil the requirements in chapter 13.6 of the Criteria for Mitigation of Climate Impact from Food Production and Distribution.

1 The farm

1.1 Energy consumption on the farm

The aims of these standards are to improve the efficiency of energy consumption and to replace fossil energy with renewable energy at farm level and thereby decrease the climate impact of the farm.

Standards shall require:

1.1.1 Energy mapping
An energy map of the energy consumption on the farm must be done and should be revised regularly.

1.1.2 Increasing energy efficiency
The farm must demonstrate continuous improvement regarding efficiency in the use of energy.

1.1.3 Decreasing the use of fossil energy
Possible ways of replacing fossil fuel with renewable fuel shall be listed.

1.1.4 Renewable electricity
Electricity must come from renewable energy sources, where available.

1.1.5 Investments
Energy efficiency must be taken into account when buying or renovating equipment or constructing or renovating a building.

1.1.6 Resource efficient driving
Driving must be done in a resource efficient way. Drivers must be trained regularly. Contractors must have a plan for training its drivers in resource efficient driving.

2 Crop production

The aim is to decrease the climate impact of crop production. One of the most important climate measures within crop production is to decrease the amount of nitrogen which may leach from soils during the production cycle. Effective measures to decrease the amount of excess nitrogen vary widely between farms and regions.

2.1 Nitrogen flows

Standards shall require:

2.1.1 Nitrogen balance on the farm
A nitrogen balance at farm level must be drawn up and updated regularly.

2.1.2 More efficient use of nitrogen in farm crop production
Estimations must be of the supply of new nitrogen (N) per ton of harvested product. The estimate should be the base for a plan for improving the use efficiency of new N per ton of harvested product and for decreasing the amount of excess new nitrogen in the production.

The estimations of supply of new nitrogen (N) must be updated when there are major changes in crops or fertilisation.

2.1.3 Fertilisation plan
A fertilisation plan must be done taking into account the nutrient content of farmyard manure, pre-crop effects and green manure/ley in the crop rotation.

2.2 Manure and purchased fertiliser

Standards shall require:

2.2.1 Timing of manure and fertiliser application
Mineral fertiliser, urine and manure shall be applied at a time and with a technique which give a maximal nutrient uptake in the crop and minimises losses.

2.2.2 Dried manure
Dried manure may only be used in field crops if the drying is carried out using 100% renewable energy sources.

2.2.3 Mineral fertiliser
Purchased mineral fertiliser used in the farm must not give rise to emissions exceeding 3 kg CO_2-equivalents per kg N.

For production outside the EU the use of purchased mineral fertilisers shall not exceed 4 kg CO_2-equivalents per kg N.

2.3 Feed production

2.3.1 Legumes in ley

At least 10% by weight of the seed mix in leys should consist of legume-seed.

3 Greenhouse production

3.1 Energy consumption

The aim is to decrease energy consumption and the use of non-renewable energy in greenhouse production and thereby decrease the negative climate impact.

Standards shall require:

3.1.1 Energy mapping

An energy map must be drawn up of energy consumption for heating, lighting, cooling, carbon dioxide production and the use of electricity. The energy mapping must be revised regularly.

3.1.2 Energy conversion

A plan must be drawn up for the use of renewable energy sources, for example environmentally labelled electricity, bio fuel or equivalent.

3.1.3 Use of non-renewable energy

One of the following two standards must be fulfilled:

- Combined energy consumption for heating, lighting, cooling and manufacture of carbon dioxide must consist to at least 80% of renewable energy sources on an annual basis, for example environmentally labelled electricity or equivalent.
- Fossil energy must not exceed an average of 2.5 kilowatt hours per square metre and cultivation week during the culture period.

3.1.4 Energy saving measures

Heated greenhouses must use energy wrap or bubble wrap when culture takes place in a period where using these materials would lead to considerable savings of energy. This does not apply to greenhouse with double material structure.

3.2 Use of refrigerants

The aim is to decrease the climate impact from storage of food products without compromising product quality or sustainability.

Standards shall require:

3.2.1 Use of refrigerants

A plan must be drawn up for phasing out synthetic refrigerants.

3.3 Transport and use of machinery within the business and in the sale of products

The aim is to decrease the climate impact from transport and use of machinery within the business and during transport of products from the farm.

Standards shall require:

3.3.1 Resource efficient driving.

Driving must be done in a resource efficient way. Drivers must be trained regularly. Contractors must have a plan for training its drivers in resource efficient driving.

4 Milk production

4.1 Animal health

The aim is to decrease the methane emissions from milk production.. Healthy and contented animals produce more milk and meat. The climate impact becomes less counted per amount of product produced.

Standards shall require:

4.1.1 **Animal health and welfare system**
The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

4.2 Feeding

The aim is to decrease the climate impact related with feeding. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from milk production. Locally grown feed give opportunities to use the manure more efficiently and reduce transport. In addition, the negative climate impact is decreased with decreased use of soya and other foodstuffs with large negative climate impact during cultivation.

Standards shall require:

4.2.1 Monitoring feeding
The nutrient content in feed must be known or otherwise analysed. Feeding must be reviewed annually. Possible feed waste and overfeeding must be dealt with.

4.2.2 Climate impact of purchased feed
It must be shown that the climate impact has been taken into account in the choice of purchased feed.

4.2.3 Purchased soya and/or palm kernel products
All feed that contains soya or palm kernel products must fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya or palm kernel products is used.
- A maximum of 100 kg soya or palm kernel expeller is used per cow and year. Soya and palm kernel products are certified to an internationally accepted sustainability system, e.g. RTRS, RSPO or ProTerra.

4.2.4 Locally produced feed
The following requirements must be fulfilled feed for dairy cows and recruitment heifers:

- The proportion of feed produced on the farm or in partnership with neighbouring farms is at least 60%.
- In areas where the distances between farms makes it difficult to cooperate with other farms the proportion of feed produced on the farm or in partnership with neighbouring farms is at least 50%.

5 Beef production

5.1 Basic requirements

Standards shall require:

5.1.2 Cull cows from dairy herds
Meat from dairy cows fulfilling the standards for Milk Production (chapter 4) can be certified without being certified to the standards for beef production.

5.2 Animal health

The aim is to decrease the climate gas emissions from beef production through prioritising animal health and good animal welfare. Healthy and contented animals have faster growth, which decreases the climate impact for the amount of meat produced.

Standards shall require:

5.2.1 **Animal health and welfare system**
The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

5.3 Production efficiency

Standards shall require:

5.3.1 Production efficiency
The production must be effective and among that in animals reaching slaughter ages and when animals are giving birth. An example of such requirement is requirements below which are developed for beef production in the Nordic countries. In other production systems and climate conditions the requirements can be different:

Slaughter age, average at herd level
The highest permissible slaughter age for bulls is 19 months.
The highest permissible slaughter age for steers and heifers is 25 months.

First calving age
For suckler herds, the age for the first calving should at most be 26 months, as a herd average. A plan to handle deviations must be drawn up in consultation with a veterinary or adviser.

Calving interval
For suckler herds, the calving interval should at most be 13 months as a herd average.

5.4 Feeding

The aim is to decrease the climate impact associated with feeding. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from production. A large proportion of high quality ley and grazing in the diet decreases the climate impact of the production. When food is grown locally there are more opportunities to use the manure and transport is decreased. An increase in grazing also promotes carbon storage in the soil.

Standards shall require:

5.4.1 Monitoring feeding

The nutrient content in feed must be known or otherwise analysed. Feeding must be reviewed annually. Possible feed waste and overfeeding must be dealt with.

5.4.2 Climate impact of purchased feed

It must be shown that the climate impact has been taken into account in the choice of purchased feed.

5.4.3 Purchased soya and/or palm kernel products

All feed that contains soya or palm kernel products must also fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya or palm kernel products is used.
- Soya and palm kernel products are certified to an internationally accepted sustainability system, e.g. RTRS, RSPO or ProTerra.

5.4.4 Roughage fraction

At least 70% of the diet during periods where there is no grazing must consist of roughage.

5.4.5 Grazing

The animals must be kept on grazing during the grazing season.

5.4.6 Locally produced feed

At least 70% of the feed must be produced on the farm or in partnership with neighbouring farms.

6 Lamb production

6.1 Animal health

The aim is to decrease the climate gas emissions from lamb production through prioritising animal health and good animal welfare. Healthy and content animals have faster growth and thus more efficient production, which decrease the climate impact for the amount of meat produced.

Standards shall require:

6.1.1 Animal health and welfare system

The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

6.2 Production efficiency

Standards shall require:

6.2.1 Slaughter age

The production must be effective and among that in animals reaching slaughter ages. An example of such requirement is requirements below which are developed for sheep production in the Nordic countries. In other production systems and climate conditions the requirements can be different:

The highest permissible slaughter age for lambs that are kept for at least 75% of the time on grazing is 190 days. 5% of these lambs may be exempted from the 190 day limit but must be slaughtered at max. 280 days of age. The highest permissible slaughter age for lambs that are kept for less than 75% of the time on grazing is 140 days as a herd average.

6.3 Feeding

The aim is to decrease the climate impact associated with feeding.. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from lamb production. High quality ley and grazing in the diet decreases the climate impact of the production. When feed is grown locally there are more opportunities to use the manure and transport is decreased. An increase in grazing also promotes carbon storage in the soil.

Standards shall require:

6.3.1 Monitoring feeding

The nutrient content in feed must be known or otherwise analysed. Feeding must be reviewed annually. Possible feed waste and overfeeding must be dealt with.

6.3.2 Climate impact of purchased feed

It must be shown that the climate impact has been taken into account in the choice of purchased feed.

6.3.3 Soya and/or palm kernel products

All feed that contains soya or palm kernel products must also fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya or palm kernel products are used.
- Soya and palm kernel products are certified to an internationally accepted sustainability system, e.g. RTRS, RSPO or ProTerra.

6.3.4 Roughage

At least 70% of the diet for ewes and rams during the period where there is no grazing and at least 50% of the diet for lambs after weaning must consist of roughage.

During the grazing period, 90% of the diet must consist of roughage, as a herd average.

The proportion of roughage for ewes near lambing or suckling must be at least 50%.

6.3.5 Grazing

The animals must have the possibility to graze during the grazing season.

6.3.6 Locally produced feed

The proportion of feed produced on the farm or in partnership with neighbouring farms must be at least 70% when the animals are housed.

7 Pig production

7.1 Animal health

The aim is to decrease the climate gas emissions from pig production through prioritising animal health and good animal welfare. Healthy and contented animals have faster growth, which decreases the climate impact for the amount of meat produced.

Standards shall require:

7.1.1 **Animal health and welfare system**
The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

7.2 Feeding

The aim is to decrease the climate impact associated with feeding. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from production. When food is grown locally there are opportunities to use the manure more efficiently and transport is decreased. In addition, the negative climate impact is decreased with decreased use of soya and other foodstuffs with large negative climate impact during cultivation

Standards shall require:

7.2.1 Nitrogen use efficiency
Quantification of the nitrogen balance for the animals (nitrogen in feed/nitrogen in slaughter animal) must be carried out and reviewed regularly.

7.2.2 Monitoring feeding
The nutrient content in feed must be known or otherwise analysed. Feeding must be reviewed annually. Possible feed waste and overfeeding must be dealt with.

7.2.3 Climate impact of purchased feed
It must be shown that the climate impact has been taken into account in the choice of purchased feed.

7.2.4 Locally produced feed
The proportion of feed that is possible to produce on the farm or in partnership with neighbouring farms must be at least 70%.

7.2.5 Soya
All feed that contains soya must also fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya is used.

- Soya is certified to an internationally accepted sustainability system, e.g. RTRS or ProTerra.

8 Egg production

8.1 Animal health

The aim is to decrease the climate emissions from egg production through prioritising bird health and good bird welfare.

Standards shall require:

8.1.1 **Animal health and welfare system**
The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

8.2 Production efficiency

Standards shall require:

8.2.1 Feed conversion efficiency
The production must be effective and among that in the use of feed per kg eggs. An example of such requirement is requirements below which are developed for egg production in the Nordic countries. In other production systems and climate conditions the requirements can be different:
A maximum of 2.1 kg feed per kg eggs may be used in cage systems, 2.3 kg feed per kg eggs in indoor floor systems and 2.4 kg feed per kg eggs in free-range systems with outdoor access.

8.2.2 Nitrogen use efficiency
A quantification of the nitrogen balance in the production (nitrogen in feed/nitrogen in eggs produced) must be carried out and reviewed per batch.

8.3 Feeding

The aim is to decrease the climate impact associated with feeding animals. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from production. Decreased use of soya in the feed is desirable since soya production has a huge climate impact. Through careful calculation of the content of amino acids in the feed, nitrogen use efficiency can be improved.

Standards shall require:

8.3.1 Monitoring feeding
The nutrient content in feed must be known or otherwise analysed. Feeding must be reviewed annually. Possible feed waste and overfeeding must be dealt with.

8.3.2 Climate impact of purchased feed
It must be shown that the climate impact has been taken into account in the choice of purchased feed.

8.3.3 Soya

The soya inclusion rate in the feed of production birds must not exceed 11% calculated for the production period.

All feed that contains soya must also fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya is used.
- Soya is certified to an internationally accepted sustainability system, e.g. RTRS or ProTerra.

8.3.4 Mineral fertiliser use in cultivation of purchased feed

At least 50% of purchased grain must be cultivated using mineral fertiliser with production emissions that have not exceeded 3 kg CO_2-equivalents per kg N, which must be demonstrated in an transparent calculation provided by the supplier.

For production outside the EU the production emissions must not exceed 4 kg CO_2-equivalents per kg N.

9 Chicken production

9.1 Animal health

Standards shall require:

9.1.1 Animal health and welfare system

The farm must have system for monitoring animal health and welfare. Deviations shall be analysed and managed. There must be at least one visit a year by a veterinarian monitoring animal health and welfare.

9.2 Production efficiency

Standards shall require:

9.2.1 Documentation of feed conversion efficiency

The production must be effective and among that in the use of feed per chicken. An example of such requirement is requirements below which are developed for chicken production in the Nordic countries. In other production systems and climate conditions the requirements can be different:

Feed conversion efficiency, expressed as amount of feed per chicken supplied (live weight) must be documented. If the feed conversion efficiency exceeds 1.8 kg feed/kg chicken when rearing to 35 days or 2.1 kg feed/kg chicken when rearing to more than 35 days of age, the measures must drawn up to improve the efficiency.

9.3 Feeding

The aim is to decrease the climate impact associated with feeding animals. How the feed is produced, choice of ingredients and efficient feed utilisation are important for climate gas emissions from production. Decreased use of soya in the feed is desirable since soya production has a huge climate impact. Through careful calculation of the content of amino acids in the feed, nitrogen use efficiency can be improved. When feed is grown locally there are more opportunities to use the manure and transport is decreased.

Standards shall require:

9.3.1 Monitoring feeding

The nutrient content regarding protein and metabolisable energy must be analysed in all feeds used. The feeding must be reviewed annually. Possible feed waste, general overfeeding and overfeeding with protein must be dealt with.

9.3.2 Climate impact of purchased feed

It must be shown that the climate impact has been taken into account in the choice of purchased feed.

9.3.3 Soya

Inclusion of soya in the feed must be maximum 15% for the entire rearing period.

All feed that contains soya must also fulfil one of the following requirements:

- The producer presents a guarantee from the manufacturer that the crops have been produced on land where High Conservation Value Areas have not been destroyed to create arable land after 1990.
- Organic soya used.
- Soya is certified to an internationally accepted sustainability system, e.g. RTRS or ProTerra.

9.3.3 Mineral fertiliser use in cultivation of purchased feed

At least 50% of purchased grain must be cultivated using mineral fertiliser that has not given rise to emissions of more than 3.6 kg CO_2-equivalents per kg N, which must be demonstrated in an transparent reported empirical model provided by the supplier.

For production outside the EU the production emissions must not exceed 4 kg CO_2-equivalents per kg N.

10 Fisheries

The aim is to reduce the climate impact of fisheries for fish and shellfish products.

10.1 Fishing

Standards shall require:

10.1.1 Stocks

The stocks must be certified in accordance with the MSC or KRAVs standard for stock assessment.

10.1.2 Fuel demand for fishing

When fishing for human consumption, the use of fuel must be less than 0.5 litres per kilo of landed fish, i.e. cleaned, mixed catch including heads but excluding intestines. With regard to industrial fishing, the use of fuel must be less than 0.07 litres per kilo of fish landed whole. Fuel use must be calculated as an annual average.

10.1.3 Refrigerants onboard

Synthetic refrigerants must not been used onboard.

11 Transport

Standards shall require:

11.1. Responsibility for calculating the emissions from transport
The standard shall cover the transport of products and raw materials for production and processing until the product is loaded for the final transport to the country where the product is intended to be sold as certified to the Climate Certification for Food. (The final transport and the transport in the country where the product is intended to be sold as certified shall fulfil the requirements in chapter 12 of the Criteria for Mitigation of Climate Impact from Food Production and Distribution.

11.2. How calculations are to be carried out
The calculations must encompass the food chain from farm gate to that the product is loaded for transport to the market where the product will be sold as certified to the Climate Certification for Food. Side-flows such as transport of packaging material do not have to be included. The calculations must be documented and supported by scientific data.

11.3. Maximum climate impact from transport
The climate impact from transport of a product may not exceed 0.25 kg CO_2-equivalents/kg food.

11.4. Exceptions for products with major potential for improvement
Products that do not fulfil 11.3, but where the climate impact from transport is less than 0.40 kg CO_2-equivalents/kg food, can be accepted if the climate impact from transport of the food is decreasing annually by at least 20% calculated as an average.

11.5. Exceptions for transport from weak economies
For transport from countries and areas with low HDI (Human Development Index), exceptions to standards 11.2-4 can be granted according to the following:

a. For areas with HDI under 0.650, there are no limit applies for carbon dioxide emissions during transport to a country or a region that has HDI 0.75 or higher.
b. For areas with HDI 0.651-0.749, the climate impact from transport to a region that has HDI above 0.75 may not exceed 1.0 kg CO_2-equivalents /kg food.

For transport after the product has arrived in a region with HDI over 0.75, standards 11.2-4 apply.

11.6. Resource efficient driving
Driving must be done in a resource efficient way. Drivers must be trained regularly. Contractors must have a plan for training its drivers in resource efficient driving.

This standard does not apply for transport covered by 11.5.

12 Food handling, processing and packaging

12.1 Knowledge of the climate impact

The aim is to raise the level of knowledge within the areas of product development, processing and/or packaging of food can decrease the climate impact of their operations.

Standards shall require:

12.1.1 Knowledge
Those working in product development, handling, processing and/or packaging of a product must have the knowledge how to decrease the climate impact of the production in a life cycle perspective.

12.2 Packaging

The aim is to decrease the climate impact of food packaging without compromising product quality or shelf-life. Important parameters include minimising the amount of packaging material without impairing its function and choosing and designing packaging in terms of function, transport efficiency, recycling and minimisation of losses.

Standards shall require:

12.2.1 Choice of packaging solution
Producers must justify the choice of packaging of consumer products from a climate perspective.

12.2.2 Sustainable forest materials
The forest raw materials used in packaging must be sustainability certified if available, for example FSC certification or equivalent. If non-certified material is used the reasons for this has to be explained.

12.3 Increasing energy efficiency

The aim is to increase energy use efficiency in processing and packaging of goods, during operations and in investments.

Standards shall require:

12.3.1 Analyse and increase energy efficiency
The efficiency of energy use must be analysed and increased the in production. Energy efficiency must be taken into account when making new investments.

12.4 Use of renewable fuels

The aim is to decrease the proportion of non-renewable fuels used in processing and packaging of goods.

Standards shall require:

12.4.1 Non-renewable fuels

There must be a plan for decreasing the reliance on non-renewable fuels per unit produced.

12.5 Renewable electricity

The aim is to decrease the climate impact through use of electricity from renewable energy sources.

Standards shall require:

12.5.1 Renewable energy

The electricity used must come from renewable energy sources when available.

12.6. Food waste

The aim is to decrease the climate impact of food through decreasing losses and waste in packaging and processing. Losses occur in all parts of the food chain, e.g. in rejection of faulty packages, logistics problems or quality problems. Some losses are unavoidable and will always arise as a direct result of food handling.

Standards shall require:

12.7.1 Unfinished and waste product

Losses and waste products must be recorded. There have to be efforts to decrease losses and utilise waste products as resources. Biological waste must be handled to minimize greenhouse gas emissions, eg. composting ponds must be managed properly.

Definitions and abbreviations

CO_2 - equivalent, Carbon dioxide equivalent (CO_2^e) is a unit to compare the climate impact of different gases, expressed in amount of carbon dioxide with the same climate impact.
Energy mapping is a systematic way to evaluate current energy consumption and to identify ways to reduce consumption.
Fertilisation plan is a tool for planning fertiliser use within the farm. The basis for the fertilisation plan is the amount of manure available on the farm, analytical data on the manure and soil mapping data for the individual fields. The fertilisation plan is a way of optimising fertiliser use with regard to environment and yield.
FSC stand for Forest Stewardship Council and is an international organisation for certification of responsibly managed forests www.fsc.org
HDI or Human Development Index is a measure of the development status of a country or region as calculated by the United Nations Development Programme (UNDP). It includes gross domestic product (GDP) and welfare parameters such as literacy, life expectancy, income, etc. HDI is given on a scale from 0 to 1. The index is updated annually.
ISO stands for International Organization for Standardization and is an international organisation that develops and publishes standards.
MSC stand for Marine Stewardship Council and is an international organisation for certification of sustainable fisheries, www.msc.org
Neighbouring farm is a farm lying within a distance such that recycling of manure can be relevant to create sustainable flows of plant nutrients and manure.
New nitrogen is nitrogen from mineral fertiliser, purchased manure and nitrogen fixed by N-fixing crops.
Organic includes all certified production fulfilling organic standards included in the IFOAM Family of Standards
ProTerra is an international standard for social responibility and environmental sustainability
Renewable energy sources include existing hydro power, solar energy and bio fuels. Waste heat is also included in this concept. Waste heat is defined as heat generated in a process, e.g. an industry, which can be utilised as a resource.
RSPO stands for Round Table on Sustainable Palm Oil and is an international organisation for devising standards for sustainable palm oil growing.
RTRS stands for Round Table on Responsible Soy Association and is an international organisation for devising standards for sustainable soybean growing.
Synthetic refrigerants include HFC (hydro fluorocarbon), CFC (chlorofluorocarbon) and HCFC (hydrochlorofluorocarbon), with a GWP value of 1 000-10 000 or even higher. CFC are referred to in everyday language as freons. GWP stands for Global Warming Potential and is a measure of the potential greenhouse effect of a gas in relation to the same amount of carbon dioxide. GWP is often given in a 100-year perspective.
Use efficiency is a measure of how efficiently a resource is used, i.e. it shows the proportion of the input resources that has actually been utilised.