

Introduction

This document contains terms and definitions for terms used in the national data reporting tables for quantitative pan-European indicators collected through the FOREST EUROPE/UNECE/FAO enquiry on quantitative indicators. Definitions are only provided for those terms that are specified in the reporting tables.

Utmost importance was given to ensure the continuity of definitions to be applied exactly as in previous assessments in order to enable consistency of data over time wherever possible. However, for the sake of streamlining of international forest reporting several changes, compared to the 2007 edition, were introduced. These mainly included introduction of terms and definitions applied for "Global Forest Resources Assessment 2010". The main reference documents for the terms and definitions listed here are:

1. MCPFE "Relevant Definitions Used for the Improved Pan-European Indicators for Sustainable Forest Management", Vienna 2003
2. MCPFE/UNEC/FAO "State of Europe's Forests 2007"; Warsaw 2007
3. FAO "Global Forest Resources Assessment 2010", FAO Forestry Paper 163, Rome 2010

For some indicators, definitions developed by other processes, that have been already adopted or accepted by the international community were applied. Sources of the respective definition are given for each term.

Terms and definitions Sorted in order of SFM indicators, not in alphabetical order

Criterion 1: Forest Resources and their contribution to global carbon cycles

Broadleaved

All trees classified botanically as *Angiospermae*

They are sometimes referred to as "non-coniferous" or "hardwoods" (Source: TBFRA 2000).

Carbon Stock

The quantity of carbon in a "pool", meaning a reservoir or system which has the capacity to accumulate or release carbon. (FAO 2004, from IPCC, 2003. *Good Practice Guidance for LULUCF – Glossary*)

Carbon in above ground biomass

Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.

Explanatory note:

1. In cases where forest understorey is a relatively small component of the aboveground biomass carbon pool, it is acceptable to exclude it, provided this is done in a consistent manner throughout the time series. (Source: FRA 2010)

Carbon in below-ground biomass

Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter.

Explanatory notes:

1. Includes the below-ground part of the stump.
2. The country may use another threshold value than 2 mm for fine roots, but in such a case the threshold value used must be documented. (Source: FRA 2010)

Carbon in deadwood

Carbon in all non-living woody biomass not contained in the litter either standing, lying on the ground, or in the soil. Deadwood includes wood lying on the surface, dead roots, and stumps; larger than or equal to 10 cm in diameter or any other diameter used by the country.

Explanatory note:

1. The country may use another threshold value than 10 cm, but in such a case the threshold value used must be documented. (Source: FRA 2010)

Carbon in litter

Carbon in all non-living biomass with a diameter less than the minimum diameter for deadwood (e.g. 10 cm), lying dead in various states of decomposition above the mineral or organic soil.

Explanatory note:

1. Fine roots of less than 2 mm (or other value chosen by the country as diameter limit for below-ground biomass) above the mineral or organic soil are included in the litter because they cannot be distinguished from it empirically. (Source: FRA 2010)

Soil carbon

Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

Explanatory notes:

1. Fine roots of less than 2 mm (or other value chosen by the country as diameter limit for below-ground biomass) are included with soil organic matter because they cannot be distinguished from it empirically.

2. Includes carbon in dead roots below the chosen diameter limit for deadwood (e.g. 10 cm). (Source: FRA 2010)

Coniferous

All trees classified botanically as *Gymnospermae*. They are sometimes referred to as “softwoods” (Source: TBFRA 2000).

European Forest Types

Forest types are classified based on new European Forest Types scheme documented in Annex 1. The new European Forest Types is a system for the classification of “Forest” land, based on a two-level system of nomenclature: ca 80 forest types grouped into 14 main forest categories.

Explanatory notes:

1. The European Forest Type classification covers only “Forest” as defined above; it excludes tree stands in agricultural production systems (e.g. olive groves).

2. The 14 categories are applied for reporting by forest types for selected indicators.

3. The European Forest Types scheme classifies actual forest vegetation not potential forest communities; potential forest communities are not necessarily aligned with actual forest vegetation, as surveyed by forest inventory systems (e.g. national forest inventory, stand inventory, forest management plans). (Source: EEA 2006, modified)

Forest type classification applied for SoEF2007

Forest types are classified as follows, based on EUNIS Top Level and TBFRA 2000:

- predominantly broadleaved woodland: Forest/other wooded land on which more than 75 percent of the tree crown cover consists of broadleaved species
- predominantly coniferous woodland: Forest/other wooded land on which more than 75 percent of the tree crown cover consists of coniferous species
- mixed broadleaved and coniferous woodland: Forest/other wooded land on which neither coniferous, nor broadleaved species account for more than 75 percent of the tree crown cover.

Note: “*other wooded land*” is excluded from this definition for the SoEF 2010 reporting. (Source: MCPFE 2003)

Forest

Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use.

Explanatory notes:

1. Forest is determined both by the presence of trees and the absence of other predominant land uses. The trees should be able to reach a minimum height of 5 meters *in situ*.
2. Includes areas with young trees that have not yet reached but which are expected to reach a canopy cover of 10 percent and tree height of 5 meters. It also includes areas that are temporarily unstocked due to clearcutting as part of a forest management practice or natural disasters, and which are expected to be regenerated within 5 years. Local conditions may, in exceptional cases, justify that a longer time frame is used.
3. Includes forest roads, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas such as those of specific environmental, scientific, historical, cultural or spiritual interest.
4. Includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 hectares and width of more than 20 meters.
5. Includes abandoned shifting cultivation land with a regeneration of trees that have, or is expected to reach, a canopy cover of 10 percent and tree height of 5 meters.
6. Includes areas with mangroves in tidal zones, regardless whether this area is classified as land area or not.
7. Includes rubber-wood, cork oak, energy wood and Christmas tree plantations.
8. Includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.
9. Excludes tree stands in agricultural production systems, such as fruit tree plantations (incl. olive orchards) and agroforestry systems when crops are grown under tree cover. Note: Some agroforestry systems where crops are grown only during the first years of the forest rotation should be classified as forest. (Source: FRA 2010, modified)

Forest available for wood supply

Forest where any legal, economic, or specific environmental restrictions do not have a significant impact on the supply of wood.

Includes: areas where, although there are no such restrictions, harvesting is not taking place, for example areas included in long-term utilization plans or intentions (Source: MCPFE 2003, from TBFRA 2000).

Other wooded land

Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds *in situ*; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.

Explanatory notes:

1. The definition above has two options:

- The canopy cover of trees is between 5 and 10 percent; trees should be higher than 5 meters or able to reach 5 meters *in situ*. or
- The canopy cover of trees is less than 5 percent but the combined cover of shrubs, bushes and trees is more than 10 percent. Includes areas of shrubs and bushes where no trees are present.

2. Includes areas with trees that will not reach a height of 5 meters *in situ* and with a canopy cover of 10 percent or more, e.g. some alpine tree vegetation types, arid zone mangroves, etc.

3. Includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met. (Source: FRA 2010)

Other land

All land that is not classified as “*Forest*” or “*Other wooded land*”.

Explanatory notes:

1. Includes agricultural land, meadows and pastures, built-up areas, barren land, land under permanent ice, etc.

2. Includes all areas classified under the sub-category “*Other land with tree cover*”. (Source: FRA 2010)

Growing stock

The living tree component of the standing volume (MCPFE 2003, from TBFRA 2000). Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.

Explanatory notes:

1. Countries must indicate the three thresholds (X, Y, W in cm) and the parts of the tree that are not included in the volume. They must also indicate whether the reported figures refer to volume above ground or above stump. These specifications should be applied consistently through the time series.

2. Includes windfallen living trees.

3. Excludes smaller branches, twigs, foliage, flowers, seeds, and roots. (Source: FRA 2010)

Stand

A community of trees possessing sufficient uniformity in composition, age, arrangement or condition to be distinguishable from the forest or other growth on adjoining areas, thus forming a temporary silvicultural or management entity (Source: IUFRO, 2000).

Even-aged stand

A stand or forest type, in which no or relatively small age differences exist among individual trees within it, usually less than 20% of rotation length (Source: IUFRO, 2000).

Uneven-aged stand

Consisting of trees of a range of age classes, with age differences which are significant in relation to the stand structure management and rotation length (Source: IUFRO, 2000).

Criterion 2: Forest Ecosystem health and vitality

Damage to forest

Disturbance to the forest which may be caused by biotic or abiotic agents, resulting in death, or a significant loss of vitality, productivity or value of trees and other components of the forest ecosystem (Source: MCPFE 2003, TBFRA 2000).

Primarily damaged by fire

Forest and other wooded land, the vegetation on which, including the trees, has been wholly or largely destroyed by fire (*Source*: MCPFE 2003, TBFRA 2000).

Primarily human induced

Damage primarily human induced – Forest operations: these include damages incurred in the process of the road building and landings setting, or harvesting damage, incl. through skidding tracks, hauling and transport.

Damage primarily human induced - Other: these include e.g. damage from visitors to forests; vandalism, etc. Note that human induced fire is not to be reported in this class (*Source*: MCPFE 2003, TBFRA 2000).

Primarily damaged by insects and disease

Forest and other wooded land where insect attack or disease has been identified as the primary cause of damage (*Source*: MCPFE 2003, TBFRA 2000).

Primarily damaged by storm, wind, snow or other identifiable abiotic factors

Forest and other wooded land on which the trees have been felled or damaged by storm, wind, snow or other abiotic factors such as avalanches, landslides or flooding (*Source*: MCPFE 2003, TBFRA 2000).

Primarily damaged by wildlife and grazing

Forest and other wooded land where damage has been caused by wildlife or grazing by domestic animals. Includes: Grazing or browsing of young plants, preventing or delaying the establishment or regeneration of the stand (*Source*: MCPFE 2003, TBFRA 2000).

Defoliation

The crown condition is assessed in terms of defoliation. This parameter describes the lack of foliage for each sample tree (UNECE/EC, 2002)

The extent of visually assessed defoliation of trees, as developed by the International Co-operative Programme (ICP Forests) of the Executive Committee for the Convention on Long-range Transboundary Air Pollution in Europe.

Soil nutrification and acidity

Changes in nutrient balance and acidity over the past 10 years (pH/CEC/C/N ratio) in humus and top soil (-20 cm) level using ICP Forests and its definitions (Vanmechelen et al., 1998).

For dynamic soil models: critical loads (see indicator 2.1) do not provide any information on time scales. Dynamic models are needed to assess time delays of recovery in regions where critical loads cease being exceeded and time delays of damage in regions where critical loads continue to be exceeded. The VSD and the SAFE Model are defined in the ICP Modelling and Mapping Manual (www.icpmapping.org) Either of these to be calculated for ICP Forests Level II plots

Total atmospheric deposition on the forest

Wet-only + dry deposition to the canopy excluding internal ion exchange process. Only for sodium and sulphur throughfall+stemflow is considered to be equal to total deposition, in some cases also for nitrate (ICP Forests Submanual part VI: "Deposition", www.icp-forests.org).

Criterion 3: Productive functions of forests

Fellings (annual)

Average standing volume of all trees, living or dead, measured overbark to minimum diameters as defined for "Growing stock" that are felled during the given reference period, including the volume of trees or parts of trees that are not removed from the forest, other wooded land or other felling site. Includes: silvicultural and pre-commercial thinnings and cleanings left in the forest; and natural losses that are recovered (harvested) (*Source*: MCPFE 2003, from TBFRA 2000, modified).

Gross (annual) increment

Average annual volume of increment over the reference period of all trees measured to minimum diameters as defined for “*Growing stock*”

Explanatory note

1. Includes the increment on trees which have been felled or die during the reference period.

(*Source*: TBFRA 2000, modified).

Management plan or equivalent

A written, long-term (ten years or more) documented scheme of forest management, aiming at defined management goals, which is periodically revised. These include:

Forest management plans

Information (in the form of text, maps, tables and graphs) collected during (periodic) forest inventories at operational forest units level (stands, compartments), and operations planned for individual stands or compartments to reach the management goals.

Equivalents

Information collected on forest area, at forest management or aggregated forest management unit level (forest blocks, farms, enterprises, watersheds, municipalities, or wider units), and strategies/management activities planned to reach the management or development goals.

Explanatory note:

1. Includes forest area in protected areas with management plan. (*Source*: SoEF 2007, FRA 2010)

Marketed forest services

Marketed forest services comprise recreational, environmental and protective services that are forest-dependent or mainly forest-related, but are not necessarily marketed by forest owners.

Marketed amenity services

Amenity services include those related to spiritual, cultural and historical functions, e.g. sacred, religious, or other forms of spiritual inspiration, sites of worship, landscape features (mountains and waterfalls), “memories” in the landscape from past cultural ties, aesthetic enjoyment and inspiration, historic artefacts.

Marketed biospheric services

Marketed biospheric services include services related to indicator 4.6 (*in-situ* or *ex-situ* gene conservation of genetic resources) as well as indicator 4.9 (protected forest area) e.g. nature protection on a voluntary contractual basis with compensation or other payments from private or public bodies (this includes Natura 2000). This class also includes carbon-sequestration related afforestation projects in the context of the Kyoto Protocol – should such projects be included, please specify the amount under “country comments”.

Marketed ecological services

Marketed ecological services include those related to indicators 5.1 and 5.2 (soil, water and other environmental functions as well as infrastructure and managed natural resources) on a voluntary contractual basis with compensation or other payments from private or public bodies.

Marketed social services

Marketed social services include e.g. hunting or fishing licences, renting of huts and houses as well as forest-based leisure, sport and outdoor adventure activities and educational services that are not free of cost to consumers (the public, schools,..).

Other marketed services

Other marketed services include e.g. payments to woodland owners for licences for gravel extraction, telecommunication masts, wind farms and electricity distribution.

Note: the above terms & definitions were formulated in the process of the elaboration of the MCPFE 2007 Enquiry on the basis of existing definitions in different processes.

Natural (annual) losses

Average annual losses to the growing stock during the given reference period, measured to minimum diameters as defined for "Growing stock", due to mortality from causes other than cutting by man, e.g. natural mortality, diseases, insects attacks, fire, windthrow or other physical damage. (Source: TBFRA 2000, modified).

Net (annual) increment

Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock" (Source: TBFRA 2000, modified).

Non-wood goods

Goods derived from forests that are tangible and physical objects of biological origin other than wood.

Explanatory notes:

1. Generally includes non-wood plant and animal products collected from areas defined as forest (see definition of forest in table T1).
2. Specifically includes the following regardless of whether from natural forests or plantations:
 - gum arabic, rubber/latex and resin;
 - Christmas trees, cork, bamboo and rattan.
3. Generally excludes products collected in tree stands in agricultural production systems, such as fruit tree plantations and agroforestry systems when crops are grown under tree cover.
4. Specifically excludes the following:
 - woody raw materials and products, such as chips, charcoal, fuelwood and wood used for tools, household equipment and carvings;
 - grazing in the forest;
 - fish and shellfish.

(Source: FRA 2010, Non-wood forest products, modified)

Marketed non-wood goods

"Marketed" roundwood comprises all non-wood goods sold on markets. It excludes goods harvested for self-consumption (subsistence) and other forms of uses without market transaction. (*based on SoEF2007*). For the purpose of this table, value is defined as the market value at the site of collection or forest border.

Explanatory note:

1. If values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be subtracted whenever possible.

(Source: FRA 2010, Non-wood forest products)

Removals

Average annual of those fellings that are removed from the forest, other wooded land or other felling site during the given reference period.

Explanatory note:

Includes: Removals during the given reference period of trees felled during an earlier period and removal of trees killed or damaged by natural causes (natural losses), e.g. fire, wind-blow, insects and diseases. (Source: TBFRA 2000)

Roundwood

All roundwood felled or otherwise harvested and removed. It comprises all wood obtained from removals, i.e. the quantities removed from forests and from trees outside the forest, including wood recovered from natural, felling and logging losses during the period, calendar year or forest year. It includes all wood removed with or without bark, including wood removed in its round form, or split, roughly squared or in other form (e.g. branches, roots, stumps and burls (where these are harvested) and wood that is roughly shaped or pointed. It is an aggregate comprising wood fuel (including wood for charcoal) and industrial roundwood (wood in the rough). It is reported in cubic metres solid volume underbark (i.e. excluding bark) (*Source*: Joint UNECE/FAO/Eurostat/ITTO Forest Sector Questionnaire, 2001). For the purpose of this table, value is defined as the market value at the site of harvest or forest border. (*Source*: FRA 2010, modified)

Industrial roundwood

The wood removed (volume of roundwood under bark) for production of goods and services other than energy production (woodfuel).

Explanatory notes:

1. The term "*removal*" differs from "*felling*" as it excludes trees that were felled but not removed.
2. Includes removals from fellings in an earlier period and from trees killed or damaged by natural causes. (*Source*: FRA 2010)

Marketed roundwood

"*Marketed*" roundwood comprises all roundwood sold on markets. It excludes round wood harvested for self-consumption (subsistence) and other forms of uses without market transaction. (*Source*: SoEF2007). For the purpose of this table, value is defined as the market value at the site of harvest or forest border.

Explanatory note:

1. If values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be subtracted whenever possible. (*Source*: FRA 2010, Non-wood forest products, modified)

Woodfuel

The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

Explanatory notes:

1. Includes all wood collected or removed for energy purposes, such as fuelwood, wood for charcoal production, harvesting residues, stumps, etc.
2. Includes removals from fellings in an earlier period and from trees killed or damaged by natural causes.
3. Excludes woodfuel which is produced as a by-product or residual matter from industrial processing of roundwood. (*Source*: FRA 2010)

Criterion 4 : Biological diversity in forest ecosystem and Criterion 5 : Protective functions in forests management

Afforestation

Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.

Explanatory note:

1. Implies a transformation of land use from non-forest to forest. (*Source*: FRA 2010)

Deadwood

All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Deadwood includes wood lying on the surface, dead roots, and stumps larger than or equal to diameter defined by the country (*Source*: FAO 2004, modified).

Explanatory note:

1. It is up to the countries to define the threshold level for the minimum size of diameter to be reported. Thresholds used should be documented and reported.

Forest connectivity

Forest connectivity is based on forest availability and distance between patches; it refers to the degree to which the landscape facilitates or impedes species movement.

Forest fragmentation

Forest fragmentation relates to three main alterations in the landscape: insufficient total forest habitat area, isolation of forest habitat patches, and edges where forest habitat areas abut modified ecosystems.

Forest pattern

The key components in a pattern assessment are, firstly, the spatial structure of forest cover and, secondly, the landscape mosaic composition and interface zones of forest with adjacent habitats in a landscape.

Forest species

A forest species is a species that is dependent on a forest for part or all of its day to day living requirements, or for its reproductive requirements. Therefore, an animal species may be considered a forest species even if it does not live most of its life in a forest (*Source*: MCPFE 2003, from AD HOC Technical Expert Group on Forest Biological Diversity, convened by the Secretariat of the CBD to prepare a report for SBSTTA-7, 2001).

Gene conservation

Ex-situ conservation

The conservation of components of biological diversity outside their natural habitats (CBD, 1992).

In-situ conservation

In-situ conservation means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties (CBD, 1992).

Seed collection stand

Selected seed source that fulfils certain requirements. As a rule the stand should be autochthonous or its origin must be known, and above all it should be superior to average stands. On occasion, non-indigenous stands showing excellent features are also chosen. Seed collection stands are accepted and registered by the national authority (EFI Forest Glossary, 2001).

Genetic resources

Genetic resources means genetic material of actual or potential value (CBD, 1992)

Introduced tree species

(synonyms: non-indigenous species, exotic species, alien species)

A species, subspecies or lower taxon, occurring outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans) (*Source*: FRA 2010).

Invasive introduced tree species

Invasive introduced tree refers to an alien tree species whose introduction and spread threaten ecosystems, habitats or species with socio-cultural, economic and/or environmental harm, and/or harm to human health (*Source*: MCPFE 2003, definition of invasive alien species from UNEP/CBD/COP/6/18/Add.1/Rev.1; 2002. The word “tree” was added).

Alien or alien species refers to a species, subspecies or lower taxon, introduced outside its normal past or present normal distribution; includes any part, gametes, seeds, eggs, or propagates of such species that might survive and subsequently reproduce (*Source*: UNEP/CBD/COP/6/18/Add.1/Rev.1; 2002).

MCPFE Class

as defined by the MCPFE Assessment Guidelines for Protected and Protective Forest and Other Wooded Land in Europe

MCPFE Class 1.1: Main Management Objective Biodiversity “No Active Intervention”

- The main management objective is biodiversity
- No active, direct human intervention is taking place
- Activities other than limited public access and non-destructive research not detrimental to the management objective are prevented in the protected area

MCPFE Class 1.2: Main Management Objective Biodiversity “Minimum Intervention”

- The main management objective is biodiversity
- Human intervention is limited to a minimum
- Activities other than listed below are prevented in the protected area:
- Ungulate/game control
- Control of diseases/insect outbreaks^{1/}
- Public access
- Fire intervention
- Non-destructive research not detrimental to the management objective
- Subsistence resource use^{2/}

MCPFE Class 1.3: Main Management Objective Biodiversity “Conservation Through Active Management”

- The main management objective is biodiversity
- A management with active interventions directed to achieve the specific conservation goal of the protected area is taking place
- Any resource extraction, harvesting, silvicultural measures detrimental to the management objective as well as other activities negatively affecting the conservation goal are prevented in the protected area

^{1/} In case of expected large diseases/insect outbreaks control measures using biological methods are allowed provided that no other adequate control possibilities in buffer zones are feasible.

^{2/} Subsistence resource use to cover the needs of indigenous people and local communities, in so far as it will not adversely affect the objectives of management.

MCPFE Class 2: Main Management Objective “Protection of Landscapes and Specific Natural Elements”

- Interventions are clearly directed to achieve the management goals landscape diversity, cultural, aesthetic, spiritual and historical values, recreation, specific natural elements
- The use of forest resources is restricted
- A clear long-term commitment and an explicit designation as specific protection regime defining a limited area is existing
- Activities negatively affecting characteristics of landscapes or/and specific natural elements mentioned are prevented in the protected area

MCPFE Class 3: Main Management Objective “Protective Functions”

- The management is clearly directed to protect soil and its properties or water quality and quantity or other forest ecosystem functions, or to protect infrastructure and managed natural resources against natural hazards
- Forests and other wooded lands are explicitly designated to fulfil protective functions in management plans or other legally authorised equivalents
- Any operation negatively affecting soil or water or the ability to protect other ecosystem functions, or the ability to protect infrastructure and managed natural resources against natural hazards is prevented

(Source: MCPFE 2003)

Natural expansion of forest

Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).

Explanatory note:

1. Implies a transformation of land use from non-forest to forest. (Source: FRA 2010)

Naturalness

Naturalness is specified in the following classes:

Undisturbed by man (forest/other wooded land)

Forest/other wooded land which shows natural forest dynamics, such as natural tree composition, occurrence of deadwood, natural age structure and natural regeneration processes, the area of which is large enough to maintain its natural characteristics and where there has been no known significant human intervention or where the last significant human intervention was long enough ago to have allowed the natural species composition and processes to have become re-established (Source: MCPFE 2003, from TBFRA 2000).

Semi-natural forest/other wooded land

Forest/other wooded land which is neither “*forest/other wooded land undisturbed by man*” nor “*plantation*” as defined separately (Source: MCPFE 2003, from TBFRA 2000).

Plantation

Forest stands established by planting or/and seeding in the process of afforestation or reforestation. They are either:

- of introduced species (all planted stands), or
- intensively managed stands of indigenous species which meet all the following criteria: one or two species at plantation, even age class, regular spacing.

Excludes: Stands which were established as plantations but which have been without intensive management for a significant period of time. These should be considered semi-natural (Source: TBFRA 2000).

Regeneration (natural, by planting and/or seeding, coppice sprouting)

Regeneration

Re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, e.g. fire or storm (*Source*: TBFRA 2000).

Natural regeneration

Re-establishment of a forest stand by natural means, i.e. by natural seeding or vegetative regeneration. It may be assisted by human intervention, e.g. by scarification or fencing to protect against wildlife damage or domestic animal grazing (*Source*: TBFRA 2000).

Regeneration by planting and/or seeding

The act of establishing a forest stand (e.g. plantation) or re-establishing a forest stand by artificial means, either by planting of seedlings or by scattering seed. The material used may be of indigenous or introduced origin. Planting and seeding may take place on forest, other wooded land or other land (*Source*: TBFRA 2000).

Coppice sprouting

The re-growth from coppice stools after the previous stand has been cut (*Source*: TBFRA 2000).

Threatened species

Vulnerable

A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-near future, as defined by any of the criteria A to E of IUCN (1998) (*Source*: MCPFE 2003, from IUCN, 1998).

Endangered

A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the criteria A to E of IUCN (1998) (*Source*: MCPFE 2003, from IUCN, 1998).

Critically endangered

A taxon is critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E of IUCN (1998) (*Source*: MCPFE 2003, from IUCN, 1998).

Extinct in the wild

A taxon is extinct in the wild when it is known only to survive in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form (*Source*: MCPFE 2003, from IUCN, 1998).

Tree

A woody perennial with a single main stem or, in the case of coppice, with several stems, having a more or less definite crown.

Includes: Bamboos, palms and other woody plants meeting the above criterion. (*Source*: TBFRA 2000)

Criterion 6: Other socio-economic functions and conditions

Access for recreation

The area in category “*Area with access available to the public for recreational purposes*” comprises area with a legal right of access, as well as areas with no formal legal right, but with customary rights or other de-facto forms of access available to the public. Areas to be excluded are those where access is legally forbidden, and areas with no formal legal right that are also not accessible in practice.

Main management goal

The “*Area with recreational use as one main management goal*” should include areas managed primarily for recreation, and also with multiple management objectives where there is evidence (e.g. from management plans) that recreational use is an important aspect of its management.

Black liquor

Alkaline spent liquor obtained from digesters in the production of sulphate or soda pulp during the process of paper production, in which the energy content is mainly originating from the content of lignin removed from the wood in the pulping process. *Source:* UNECE/FAO Joint Wood Energy Enquiry 2007, Taken from FAO Unified Bioenergy Terminology (<http://timber.unece.org/fileadmin/DAM/meetings/jwee2-questionnaire-2009-03.zip>)

Briquettes

Densified biofuel made with or without pressing aids in the form of cubiform or cylindrical units, produced by compressing pulverized biomass. The raw material for briquettes can be woody biomass (...) are usually manufactured in a piston press. The total moisture of the biofuel briquette is usually less than 15 % of mass. (The JWEE 2008 assumes water content of 8 %). *Source:* UNECE/FAO Joint Wood Energy Enquiry 2007, Taken from FAO Unified Bioenergy Terminology (<http://timber.unece.org/fileadmin/DAM/meetings/jwee2-questionnaire-2009-03.zip>)

Charcoal

Wood carbonized by partial combustion or the application of heat from external sources. It includes charcoal used as a fuel or for other uses, e.g. as a reduction agent in metallurgy or as an absorption or filtration medium. It is reported in metric tonnes.” *Source:* UNECE/FAO/EUROSTAT/ITTO Joint Forest Sector Questionnaire (<http://timber.unece.org/fileadmin/DAM/other/definitions-e-2008a.doc>)

Chips and particles

Wood that has been reduced to small pieces and is suitable for pulping, for particle board and/or fibreboard production, for use as a fuel, or for other purposes. It excludes wood chips made directly in the forest from roundwood (i.e. already counted as pulpwood, round and split). It is reported in cubic metres solid volume excluding bark. *Source:* UNECE/FAO/EUROSTAT/ITTO Joint Forest Sector Questionnaire (<http://timber.unece.org/fileadmin/DAM/other/definitions-e-2008a.doc>)

Cultural and spiritual values

This category includes “*cultural heritage*”, “*forested landscapes*”, “*trees*” and “*other sites*” with recognized cultural and spiritual values. Cultural heritage sites can be either “*of the forest*”, and hence historically associated with its management, or “*in the forest*”, with no significant historical connection to the surrounding forest. Forested landscapes with cultural & spiritual values may also be termed ‘*cultural landscapes*’ where forest or other wooded land is the primary component. Trees with cultural and spiritual values include veteran and heritage trees. Other sites include contemporary artistic features, woodland burial sites, and sites of ceremonies and performances.

Cultural heritage

This category includes all recognized archaeological and historical sites and features. Archaeological sites and features may include those associated with human artefacts, usually as discovered by excavation, surveys, or through disturbance during forest operations. Historical sites and features may include the remains of old buildings and monuments, and also locations of historical importance (e.g. battle sites) even if no remains are present. There is no commonly agreed distinction between ‘*archaeological*’ and ‘*historical*’ and for this reason the two types of site are combined in the reporting form.

Cultural heritage sites can be considered in two categories: sites “*of the forest*” and sites “*in the forest*”. Sites “*of the forest*” include monuments, buildings or other historic artefacts associated with the past management of the forest (or its constituents). In the reporting form they are referred to as sites

“associated with historic forest management.” Examples may include: boundary banks and dykes, charcoal-burning platforms, saw pits, some bloomery and blast furnace sites, tar production sites, kilns, water mills and lades, features associated with game management and for transporting forest products. The forest was an essential component in their use, and they would not have been created if the forest had not existed. The kinds of historic forest management that these sites were associated with may include ancient wood pastures, historic planted forests, and stands of old industrial or pre-industrial coppice, coppice with standards, pollards, shredded or other ‘*working trees*’ for the production of acorns, fodder, tar, resins and other products. Evidence of such management may be found in “*organically evolved landscapes*” (see definition of “*Forested landscapes with cultural & spiritual values*”).

Sites “*in the forest*” include all other archaeological and historical sites, where the forest itself is not an important aspect of its heritage value. Often, such sites may predate the forest, which has subsequently grown up around it. Examples include: ancient settlements, fortifications, burial mounds, earthworks, field systems and other evidence of historic farming practices, standing stones, and military, funerary, industrial and domestic monuments, churchyards, crosses and memorials, battle sites, historic places of assembly or ceremony, castles, bridges, roads and transport structures.

Forested landscapes with cultural & spiritual values

Forested landscapes with cultural and spiritual values may also be termed ‘*cultural landscapes*’ where forest or other wooded land is the primary component. The term ‘*cultural landscape*’ embraces a diversity of manifestations of the interaction between humankind and its natural environment. Such landscapes fall into three main types:

- a) Landscape designed and created intentionally by humans, often for aesthetic reasons, including historic and contemporary designed forested landscapes;
- b) Organically evolved landscape, either ‘*relict*’ (or fossil), in which an evolutionary process came to an end at some point in the past, or ‘*continuing*’, which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress;
- c) Associative cultural landscape, which is recognized primarily for its religious, artistic or cultural associations with the natural element rather than any material cultural evidence (Source: UNESCO, 2008. Operational Guidelines for the Implementation of the World Heritage Convention, Annex 3).

All three types may be recognized for their contemporary aesthetic, amenity or recreational values. This category includes sites with geological and other non-biological natural elements such as mountains or waterfalls of recognized cultural and spiritual value. All the area reported under MCPFE Protected Forest Area Class 2 (Protection of Landscapes and Specific Natural Elements) should be recorded here as number of sites, as well as other sites recognized for similar values to those in Class 2 that are not protected.

Trees with cultural & spiritual values

This category includes individual veteran trees, heritage trees, champion trees and trees associated with religious and spiritual practices and beliefs. It also includes groups of trees that are too small to be classed as “*forested landscapes*” such as hedges, avenues and groves. Veteran (or ancient) trees can be defined as trees that are old relative to others of the same species, and are of interest biologically, aesthetically or culturally because of their age. For example, a birch tree may be considered to be a veteran at 200 years old, while a yew may have to survive for at least 1000 years before it can be considered ancient. Veteran ‘*working trees*’ include those that were coppiced, pollarded, shredded, etc, as part of historic management practices. Heritage trees can be defined as trees that are revered for their historical, cultural or botanical significance, for example because they are very old, have interesting historical associations such as ‘*witness trees*’ that were present at the scene of notable historic events, or are ‘*champion trees*’ of record dimensions (girth, height, amount of timber, etc).

Other sites with cultural & spiritual values

These include sites of contemporary cultural and spiritual importance, such as venues for cultural performances, ceremonies or gatherings, sites of sculptures and other installation art, and sites of recent woodland burial. Such sites may have historical associations, but they are recorded under this category rather than under “*Cultural heritage*” if the

Direct wood fibre sources

(...) any wood fibre that enters the energy production without any further treatment or conversion. It comprises removals from forests and outside. This comprises also any wood (...) from “*Other Wooded Land*” (OWL) and “*Trees Outside Forests*” (...). It comprises any woody biomass from any land use and covers amongst others infrastructure maintenance (roads, railway, power transmission lines, pipelines, etc.), hedgerows, agricultural residues from fruit tree orchards, wood from gardens and parks, etc. It comprises any form of woody biomass, such as green chips, roundwood or split, stacked or loose from any part of the trees such as roots, stemwood and branches, fruits and shells. *Source*: UNECE/FAO Joint Wood Energy Enquiry 2007 report. (<http://timber.unece.org/fileadmin/DAM/meetings/jwee2-data-report-24march.pdf>)

ir current use is recognized as more important than their historic use.

Energy from processed wood-based fuels

Secondary (processed) biofuels in the form of solids (e. g. charcoal), liquids (e. g. alcohol, vegetable oil), or gases (e. g. biogas as a mixture of methane and carbon dioxide), can be used for a wider range of applications with higher efficiency rates on average, including transport and high-temperature industrial processes. *Source*: UNECE/FAO Joint Wood Energy Enquiry 2007, Taken from FAO Unified Bioenergy Terminology (<http://timber.unece.org/fileadmin/DAM/meetings/jwee2-questionnaire-2009-03.zip>)

Factor income

Factor income measures the remuneration of all factors of production (land, capital, labour) and represents all the value generated by a unit engaged in a production activity. It can be derived from Gross Value Added (GVA) by deducting fixed capital consumption (depreciation) to get net value added, and then adjusting from basic prices to factor cost by subtracting any taxes on production and adding any subsidies on production.

Net entrepreneurial income

Net entrepreneurial income measures the return to the forestry business owner, and consists of the compensation of unpaid labour, remuneration from land belonging to units and the yield arising from the use of capital. It can be derived from factor income by subtracting compensation of employees to get operating surplus, and then adding any interest received by forestry units organized as companies and deducting any rent and interest payments.

Forms of ownership

Generally refers to the legal right to freely and exclusively use, control, transfer, or otherwise benefit from a forest. Ownership can be acquired through transfers such as sales, donations, and inheritance.

Explanatory note:

1. For this reporting table, forest ownership refers to the ownership of the trees growing on land classified as forest, regardless of whether or not the ownership of these trees coincides with the ownership of the land itself. (*Source*: FRA 2010)

Public ownership

Forest owned by the State; or administrative units of the Public Administration; or by institutions or corporations owned by the Public Administration.

Explanatory notes:

1. Includes all the hierarchical levels of Public Administration within a country, e.g. State, Province and Municipality.
2. Shareholder corporations that are partially State-owned, are considered as under public ownership when the State holds a majority of the shares.
3. Public ownership may exclude the possibility to transfer. (*Source*: FRA 2010)

Private ownership

Forest owned by individuals, families, communities, private cooperatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions. (*Source*: FRA 2010)

Other ownership

Forest ownership which cannot be classified as private or public.

Explanatory note:

1. Includes land where ownership is not defined, unknown or disputed.

Forest holding

One or more parcels of forest and other wooded land which constitute a single unit from the point of view of management or utilization. For State-owned forest and other wooded land a holding may be defined as the area forming a major management unit administered by a senior official, e.g. a Regional Forestry Officer. For forest and other wooded land that is owned publicly, other than by the State, or owned by large-scale forest owners, e.g. forest industries, a holding may constitute a number of separated properties which are, however, managed according to one corporate strategy. Under any category of ownership, other than State-owned, one holding may be the property of one or several owners (*Source*: TBFRA 2000, definition as published in SoEF 2007).

Government expenditures for long-term forest services

The reported expenditures should consist of government expenditures to provide or to stimulate others to provide long-term forest services. They should be limited to expenditures applied directly to forests, to enhance or to maintain the environmental capital. They should exclude any related expenditures on research or education, and should also exclude any current expenditures involved in delivering services (e.g. staff to look after visitors).

Gross Domestic Product

Gross Domestic Product (GDP) is the total market value of all final goods and services produced in a country in a given year. It is equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports. For the estimation of an industry's contribution to GDP, data on Gross Value Added (GVA) should be used. The link between GVA and GDP can be defined as: $GVA + \text{taxes on products} - \text{subsidies on products} = GDP$.

Gross Value Added

Gross Value Added (GVA) measures the contribution to the economy of each individual producer, industry or sector in the country, measured at basic prices. Data on GVA for each industrial sector should be available from the National Accounts prepared by the country's national statistical authority.

ISIC/NACE

ISIC is the International Standard Industrial Classification of All Economic Activities. NACE is the equivalent Statistical Classification of Economic Activities in the European Community.

In ISIC Rev 3.1 (2004) and NACE Rev 1.1 (2002), the following categories cover forest industries:

02: Forestry, logging and related service activities.

20: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials.

21: Manufacture of paper and paper products.

In ISIC Rev 4 (2008) and NACE Rev 2 (2008), the corresponding categories are: 02, 16 and 17 (with some minor additions / subtractions). They only start to be used for statistics in 2009, so all data for this reporting round use the previous classification.

Labour Force Survey

The Labour Force Survey (LFS) is a sample survey carried out in many European countries by interviewing individuals about their personal circumstances and work. Because the LFS is a sample survey, results are subject to sampling error, i.e. the actual proportion of the population in private households with a particular characteristic may differ from the proportion of the LFS sample with that characteristic.

The LFS provides information about people in unemployment and employment. The LFS defines employment as those people aged 16 and over who did at least one hour's paid work in the reference week (either as an employee or self-employed); those who had a job which they were temporarily away from (on holiday for example); those participating in government training and employment programmes; and those doing unpaid family work.

Education

The main levels of the International Standard Classification of Education (*Source*: ISCED 1997), applied from 1998 data onwards, are:

- ISCED 0 – pre-primary education
- ISCED 1 – primary education or first stage of basic education
- ISCED 2 – lower secondary education or second stage of basic education
- ISCED 3 - (upper) secondary education
- ISCED 4 – post-secondary non tertiary education
- ISCED 5 – first stage of tertiary education (not leading directly to an advanced research qualification)
- ISCED 6 – second stage of tertiary education (leading to an advanced research qualification)

For further information visit

http://www.unescobkk.org/fileadmin/user_upload/aims/ISCED_A.pdf

Gross inland (energy) consumption

Gross inland consumption represents the quantity of energy necessary to satisfy inland consumption of the geographical entity under consideration. Gross inland consumption is calculated as follows: primary production + recovered products + total imports + variations of stocks - total exports (Code 100500) - bunkers. It corresponds to the addition of consumption, distribution losses, transformation losses and statistical differences.

The difference between gross inland consumption and gross consumption is that in gross consumption the transformation output is included. Therefore, gross consumption is a product-specific consumption and does not express the demand for primary energy. *Source*: EUROSTAT concepts and definitions database (<http://circa.europa.eu/irc/dsis/coded/info/data/coded/en/gl013722.htm>)

Job characteristics

Those who own and operate their own business or professional practice, sometimes in conjunction with a partner, are considered as self-employed. The Labour Force Survey (LFS) asks a number of questions to establish a person's employment status; this is based on a respondent's own opinion of whether they are an employee or self-employed. If a different source is used, a relevant distinction is that employees work for wage or salary (in cash or kind) while the self-employed work for profit or family gain (in cash or kind). Family workers are persons doing unpaid work for a business they own or for a business that a relative owns.

Explanatory note:

1. For the purpose of this reporting unpaid family workers should be included in self-employed.

Occupational accident

An occurrence arising out of or in the course of work which results in:

- (a) fatal occupational injury;
- (b) non-fatal occupational injury (*Source*: ILO, 1998).

Occupational disease

A disease contracted as a result of an exposure to risk factors arising from work activity (*Source*: ILO, 1998).

Post consumer recovered wood

Used wood arising from construction of buildings or from civil engineering works.

Recovered wood from transport (pallets), private households, as well as used wood arising from construction or demolition of buildings or from civil engineering works. *Source*: UNECE/FAO Joint Wood Energy Enquiry 2007, Taken from FAO Unified Bioenergy Terminology (<http://timber.unece.org/fileadmin/DAM/meetings/jwee2-questionnaire-2009-03.zip>)

Total Primary (energy) production

Any kind of extraction of energy products from natural sources to a usable form is called primary production. Primary production takes place when the natural sources are exploited, for example in coal mines, crude oil fields, hydro power plants or fabrication of biofuels. Transformation of energy from one form to another, such as electricity or heat generation in thermal power plants, or coke production in coke ovens, is not primary production. More specific definitions by product are given below. *Source*: EUROSTAT concepts and definitions database (<http://circa.europa.eu/irc/dsis/coded/info/data/coded/en/gl013681.htm>) referring to: Joint IEA/ESTAT/UN annual questionnaire on solid fossil fuels and manufactured gases

Visit

A “*Visit*” is a visit for recreational purposes to any area of forest or other wooded land. There is no minimum duration and it is not necessary to undertake any specific activities. Visits for work purposes and travel through the forest for purposes other than recreation are excluded. Each individual participant, including children, counts as one visit. If several different forests are visited on one trip, then the trip only counts as one visit, but if an individual makes two or more separate trips to forests during one day, then each counts as a separate visit.

Wood residues

The volume of roundwood that is left over after the production of forest products in the forest processing industry (i.e. forest processing residues) and that has not been reduced to chips or particles. It includes sawmill rejects, slabs, edgings and trimmings, veneer log cores, veneer rejects, sawdust, residues from carpentry and joinery production, etc. It excludes wood chips made either directly in the forest from roundwood or made from residues (i.e. already counted as pulpwood, round and split or wood chips and particles). It is reported in cubic metres solid volume excluding bark. *Source*: UNECE/FAO/EUROSTAT/ITTO Joint Forest Sector Questionnaire (<http://timber.unece.org/fileadmin/DAM/other/definitions-e-2008a.doc>)

Wood-based biodiesel

Includes biodiesel (a methyl-ester produced from woody biomass, of diesel quality), biodimethylether (dimethylether produced from biomass), Fischer Tropsch (Fischer Tropsch produced from biomass), (...) and all other liquid biofuels which are added to, blended with or used straight as transport diesel. Biodiesel includes the amounts that are blended into the diesel - it does not include the total volume of diesel into which the biodiesel is blended. *Source*: IEA Balance Builder; <http://www.iea.org/textbase/stats/questionnaire/balance.xls>.

Wood-based ethanol

Biogasoline (IEA) - Includes bioethanol (ethanol produced from (woody) biomass (...), biomethanol (methanol produced from (woody) biomass (...), bioETBE (ethyl-tertio-butyl-ether produced on the basis of

bioethanol; the percentage by volume of bioETBE that is calculated as biofuel is 47%) and bioMTBE (methyl-tertio-butyl-ether produced on the basis of biomethanol: the percentage by volume of bioMTBE that is calculated as biofuel is 36%). Biogasoline includes the amounts that are blended into the gasoline - it does not include the total volume of gasoline into which the biogasoline is blended. Source: IEA Balance Builder; <http://www.iea.org/textbase/stats/questionnaire/balance.xls>

Wood pellets

Cylindrical products which have been agglomerated either directly by compression or by the addition of a small quantity of binder, having a diameter not exceeding 25 mm and a length not exceeding 45 mm.

Source: Combined Nomenclature 2009, subheading 4401 20 30; Commission regulation (EC) No 1031/2008 of 19 September 2008 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:291:0001:0894:EN:PDF>)