

# Glossary

There is as yet no consistent international usage of bioenergy terminology. In this paper the terms used have the following meanings.

## **Agro-energy**

Energy derived from purposely-grown crops, and from agricultural and livestock by-products, residues and wastes.

## **Biodiesel**

Biofuel produced from various feedstocks including vegetable oils (such as palm oil, oilseed, rapeseed, jatropha and soybean), animal fats or algae.

## **Bioenergy**

All types of energy derived from biofuels including wood energy and agro-energy.

## **Bioethanol**

Biofuel produced from sugar-rich plants (such as sugar cane, maize, beet, cassava, wheat, sorghum) or starch.

## **Biofuel**

Any solid, liquid or gaseous fuel produced from biomass.

## **Biomass**

Organic material both above and below ground and both living and dead, such as trees, crops, grasses, tree litter, and roots.

## **Biorefineries**

A new generation of refineries expected to produce not only power and heat, but also transportation fuels and industrial products.

## **Black liquor**

A liquid woodfuel, a by-product of the pulp industry.

## **Cellulose**

Principal organic constituent in land plants, found in wood in association with hemicellulose and lignin.

## **Energy crop**

A plant grown to produce biofuels, or directly exploited for its energy content.

Commercial energy crops are typically densely planted, high yielding crop species such as *Miscanthus*, *Salix* or *Populus*.

### **Feedstock**

Any biomass destined for conversion to energy or biofuel. For example, corn is a feedstock for ethanol production and soybean oil is a feedstock for biodiesel. Cellulosic biomass has the potential to become a significant feedstock source for biofuels.

### **First-generation biofuel**

Fuel produced from purposely grown crops.

### **Forest biomass**

Any biomass found in forests including trees, leaves, branches, roots. Specific types of biomass targeted for use in energy systems include: tops and branches of trees left after timber harvests, poor quality trees in managed forests, trees removed during land clearing operations, wood waste from urban areas, and wood residues produced by sawmills.

### **Forest cover**

Percentage of land within a specific area covered by forests.

### **Fossil fuel**

A non-renewable energy source produced by the remains of living organisms that built up underground over geological periods in liquid (oil), solid (coal, peat) and gaseous (natural gas) forms.

### **Fuel crop**

See Energy crop.

### **Fuelwood**

Wood in the rough (such as chips, sawdust and pellets) used for energy generation.

### **Gaseous woodfuel**

Gas produced from the gasification of solid and liquid woodfuels.

### **Greenhouse gas**

Chemical compounds in the atmosphere that trap sun radiation and heat.

### **Jatropha**

Mainly *Jatropha curcas*, an evergreen shrub found in Asia, Africa and the West Indies. Its non-edible seeds contain a high proportion of oil which can be used to produce biodiesel.

**Liquid biofuel**

Fuel of biological origin that is used in liquid form, such as biodiesel and bioethanol, currently manufactured predominantly from food crops including oil-palm, sugar cane, maize, rapeseed, soybeans, and wheat.

**Liquid woodfuel**

Black liquor and ethanol, methanol and pyrolytic oil.

**Municipal by-products**

Waste products such as sewage sludge and landfill gas, as well as municipal solid wastes.

**Non-renewable fuel**

Fuel from a finite resource that will eventually dwindle and become too expensive or too environmentally damaging to retrieve. Includes fossil fuel from coal, petroleum and natural gas and nuclear energy.

**Pulpwood**

Wood assortments used in making paper.

**Pyrolysis**

The chemical decomposition of organic materials by heating in the absence of oxygen; a method of converting biomass into biodiesel.

**Renewable energy**

Energy produced from sources that can be renewed indefinitely, for example, hydro-, solar, geothermal, and wind power, as well as sustainably produced biomass.

**Roundwood**

Wood in its natural state as felled, with or without bark.

**Sawnwood**

Wood in sawn form.

**Second-generation biofuel**

Fuels produced from cellulosic materials, crop residues and agricultural and municipal wastes.

**Solid biomass**

Wood, wood waste and other solid waste.

**Syngas**

Short for synthetic gas. A mixture of carbon monoxide and hydrogen resulting from high temperature gasification of organic material such as biomass. After clean-up can be used to synthesise organic molecules such as synthetic natural gas or liquid biofuels.

**Traditional biomass**

Woodfuels, agricultural by-products and dung burned for cooking and heating purposes. In developing countries, still widely harvested and used in an unsustainable and unsafe way. Mostly traded informally and non-commercially.

**Wood energy**

Energy derived from fuelwood, charcoal, forestry residues, black liquor and any other energy derived from trees.

**Wood energy feedstocks**

Wood and biomass recovered from forests and trees for use in creating fuel.

**Woodfuel**

Fuel from wood sources including solids (fuelwood and charcoal), liquids (black liquor, methanol, and pyrolytic oil) and gases from the gasification of these fuels.

**Wood pellets**

Small particles used for energy generation made of dried, ground and pressed wood.

**Wood residues**

Wood left behind in the forest after forest harvesting, and wood by-products from wood processing, such as wood chips, slabs, edgings, sawdust and shavings.