

## ENERGY BALANCES OF RENEWABLES AND WASTES - ENERGY SUPPLY BLOCK

### METHODOLOGICAL NOTES

#### Description of the main indicators observed:

##### **Production**

The quantities of renewables and wastes, extracted or produced on the territory of the country.

##### **Imports and Exports**

Quantities are considered as imported or exported when they have crossed the political borders of the country, whether customs clearance has taken place or not. The indicators include imports/exports from/to third countries (Extrastat) and/or intra-EU imports/exports from/to EU member states (Intrastat).

##### **Stock changes**

It reflects the difference between the stocks at the beginning and at the end of the year in producers, importers and consumers of renewables and wastes. A stock build is shown as a negative number and a stock draw is shown as a positive number.

##### **Inland deliveries**

Indicator is calculated as: *production + import - export + stock changes*

##### **Unit of measure**

Quantities are shown in the following units:

- in energy units terajoules, based on the net calorific value (TJ net) for the geothermal energy, solar thermal energy, wastes, solid biofuels, biogases and ambient heat.
- in physical units thousand tonnes for charcoal and liquid biofuels.

#### Description of the renewables and wastes observed:

##### **Geothermal energy**

Energy available as heat emitted from within the earth's crust, usually in the form of hot water or steam (excluding ambient heat captured by geothermal heat pumps).

##### **Solar thermal energy**

Heat produced by solar radiation (sunlight) and used for useful energy purposes - for the production of sanitary hot water or for space heating of buildings.

##### **Industrial waste (non-renewable)**

Waste of industrial origin, combusted directly at specific installations for energy purposes. Waste incinerated without any energy recovery is excluded.

##### **Municipal waste (non-renewable and renewable)**

Wastes produced by households, hospitals and the tertiary sector (in general all waste that resembles household waste) combusted directly at specific installations for energy purposes. Waste incinerated without any energy recovery is excluded.

- **Renewable municipal waste** - municipal waste of biological origin

- **Non-renewable municipal waste** - municipal waste of non-biological origin

##### **Solid biofuels**

Includes solid organic non-fossil materials of biological origin (also known as biomass) which may be used as fuel for heat production or electricity generation. Solid biofuels is a product aggregate which includes: *fuelwood, wood residues and by-products, black liquor, bagasse, animal waste* (excreta of animals, meat and fish residues which when dry is used directly as a fuel), *other vegetal materials and residuals* (straw, vegetable husks, ground nut shells, pruning brushwood, olive pomace and other wastes arising from the maintenance, cropping and processing of plants), *renewable fraction of industrial waste*.

##### **Charcoal**

Manufactured fuel from destructive distillation and pyrolysis of wood and other vegetal material.

##### **Biogas**

A gas composed principally of methane and carbon dioxide produced by anaerobic digestion of biomass or by thermal processes from biomass, including biomass in waste. Biogas is a product aggregate which includes: *landfill gas* (produced from the anaerobic digestion of landfill waste), *sewage sludge gas* (produced from the anaerobic fermentation of sewage sludge), *other biogases from anaerobic digestion* (produced from the anaerobic fermentation of animal slurries and of waste in abattoirs, breweries and other agro-food industries) and *biogas from thermal processes* (produced from thermal processes - gasification or pyrolysis of biomass).

**Liquid biofuels**

Includes all liquid fuels of natural origin (e.g. produced from biomass and/or the biodegradable fraction of waste) suitable to be blended with or to replace liquid fuels of fossil origin. The quantities of liquid biofuels reported in this category should include the quantities of pure biofuel that were not blended with fossil fuels. Liquid biofuels is a product aggregate that includes biogasoline, biokerosene, biodiesel and other liquid biofuels.

**Ambient heat (heat pumps)**

Heat energy, extracted by means of heat pumps that need electricity or other auxiliary energy to function. This heat energy can be stored in the ambient air, beneath the surface of solid earth or in surface water.