

The infographic and the [Energy in the Netherlands](#) website provide an overview of the energy system in the Netherlands, together with associated levels of greenhouse gas emissions. New in the 'Energy in Figures 2020' infographic is the household perspective. This information provides the basis for a good conversation, and that is exactly what we want.



Definitions

Primary demand

The amount of energy in the country available for conversion and consumption.

Renewable energy

Energy from sustainable sources. Geothermal energy, biomass, ambient energy, hydropower, wind energy and solar energy.

Net imports

Primary demand minus production plus net exports.

Net exports

Production minus primary demand.

Final demand

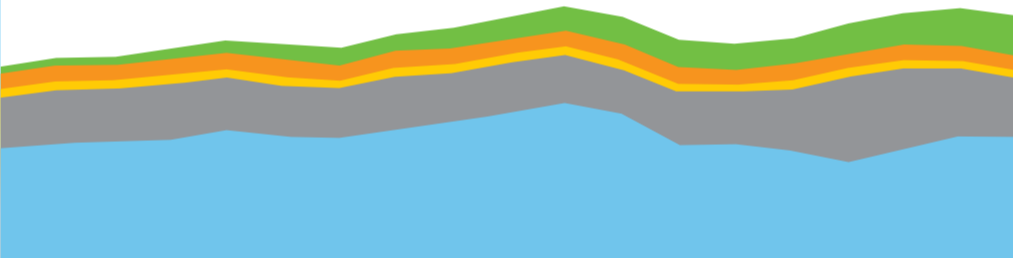
Primary demand minus loss due to direct demand minus electricity conversion loss. This is the sum of forms of energy that are used directly and thus no longer converted.

Greenhouse gases

Gases that contribute to an enhanced greenhouse effect on earth and thus to global warming. The amounts of greenhouse gases are expressed in CO₂ equivalents, so that it is clear how the impact of all greenhouse gases on the greenhouse effect relates to that of CO₂.

Petajoule (PJ)

Unit for expressing an amount of energy. The total amount of energy sources we use in the Netherlands is 3100 PJ. One petajoule is roughly equivalent to the annual electricity consumption of a city like Tilburg.



Assumptions

Domein	Aanname over...	Waarde	Eenheid	Bron	Opmerking
Windenergie	Nominaal vermogen windturbine	8	MW	ØRSTED, 2017	
	Vermogensdichtheid windturbine	5,86	MW/km ²	ØRSTED, 2017	Totaal opgesteld vermogen delen door oppervlakte van de windparken (Borssele 1+2)
	Vollasturen windturbine	4000	uren/jaar	ECN, 2016	
zonne-energie	Opbrengst zonnepaneel	262,5	kWh/jaar	Milieu Centraal	
Biomassa	Opbrengst biomassa	0,019	PJ/km ²	TNO, 2019	
Geothermie	Opbrengst doublet	0,21	PJ/jaar	EZK, 2019	Gemiddelde opbrengst van de producerende doubletten in 2018
Mobiliteit	Opbrengst elektrische auto	0,16	kWh/km	Milieu Centraal	
	Aantal autokilometers van een huishouden	12414	km	Milieu Centraal	



Availability of data

For the 'Energy in the Netherlands' website, EBN makes use of publicly-accessible data. In the interests of transparency, EBN publishes both the raw and processed data. The data files can be found on [Energie in Nederland](#). The majority of the data used for the 'kitchen table' perspective originates from [Milieu Centraal](#). Availability of this data is limited.



Explanatory notes to the 'climate table' infographic

Question 1

This infographic uses uncorrected temperature values.

Tilburg consumes approximately 1 PJ of electricity per year. Tilburg consumes an average of 2790 kWh of electricity per household and has 106,219 households. Tilburg thus consumes a total of 2790 (kWh) * 3.6*10⁻⁹ (to convert kWh to PJ) * 106,219 (households) = 1.07 PJ.

Question 2

Net exports generally relate to liquid bio-transport fuels. In the Netherlands (especially Rotterdam) there are several large biofuel production facilities available. These biofuels are derived from feedstock that often comes from abroad. In accordance with international agreements, this feedstock does not count as energy. The facilities make this feedstock suitable for use as energy and thus the production from these facilities is regarded as biomass recovery. A large proportion of these biofuels then go abroad.

The situation is similar to that of fossil transport fuels, where Dutch oil refineries also produce much more than is needed for domestic demand. However, in the case of oil refineries, the (mainly imported) feedstock (crude oil) already counts as energy.

Question 3

The share of self-sufficiency in the Netherlands (orange line) is strongly dependent on gas production (blue line). An increase or decrease in gas production is directly reflected in the share of self-sufficiency. In recent years, gas production has fallen sharply. On the other hand, production from renewable sources has increased.

Question 4

Electricity generation releases much heat. Much of this heat is not usable and is lost (530 PJ) whilst some heat remains usable (163 PJ).

Question 5

Part of the energy is used as 'feedstock'. This includes the manufacture of non-energy products such as plastics.

Part of the primary demand is consumed directly for final demand e.g. energy is lost here due to transport. That is what we refer to as loss due to direct demand.



Explanatory notes to the 'kitchen table' infographic

Question 1

It is customary to use corrected temperature values in order to make structural differences between years clearly visible. The most recent year is 2017. The average energy consumption of households with a gas connection (2017) is 1340 m³ of gas and 2830 kWh of electricity. Because all data from 2018 is used on the remainder of the infographic, we have chosen to use the 2018 values before correction.

Question 2

The assumptions made for the calculation of this question can be found under the 'Assumptions' heading.

Questions 3 to 6

These questions were formulated in collaboration with Milieu Centraal. The availability of this data is limited and can be requested via energiein nederland@ebn.nl.

