

REGIONAL AND SECTORAL ENERGY INTENSITY

ENER 2

All economic activity consumes energy (for operating infrastructure, industrial processes, transport, etc.) The efficiency with which energy is used can be measured by comparing energy consumption with a representative socio-economic variable: energy intensity (EI). EI can be calculated at the territorial level (all types of activities combined) or by economic sector.

An indicator for energy efficiency

The regional EI is the ratio of gross inland energy consumption¹ to gross domestic product. At the sectoral level, EI is based on final energy consumption, particularly given the difficulty of reallocating primary energy sources used for electricity generation to different sectors. Moreover, the socio-economic variable used differs from one sector to another, to allow for more representativeness (gross value added (GVA), number of jobs or households). A decrease in EI means a rise in efficiency: the economy or sector consumes less energy per unit of value created.

High but declining regional energy intensity

At the aggregated level, Wallonia's EI was 182 toe²/€M in 2014, a higher level than that of Belgium as a whole or the EU-28³. Historically, the size of the index was due to the presence of energy-intensive industries in Wallonia. However, the Walloon EI has fallen sharply since 1995 (-41%) and in particular between 2005 and 2014 (-28%), which is explained by the slowdown in the steel industry, and industrial activity more generally⁴. In addition to the restructuring of this sector, the improvement in Wallonia's EI is also due to the progression of the tertiary sector⁵ within the economy, and greater energy efficiency (investments, technological changes, etc.).

Sector trends

The EI level in 2014 for the industrial, tertiary and household sectors was below the initial level of 1995.

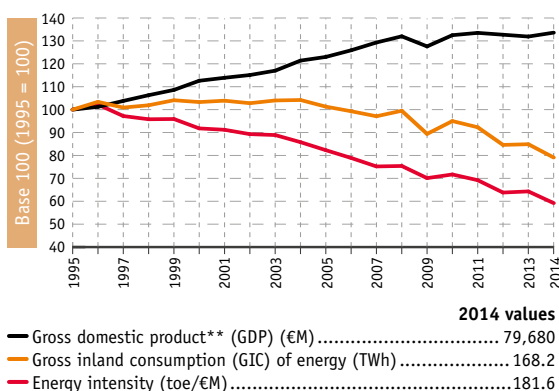
Industry⁴ and households⁶ recorded the largest efficiency gains, with their energy consumption declining over the period (-44% and -21% respectively), while industry GVA (+51%) and the number of households (+16%) increased. For the tertiary sector⁷, the EI remains close to its 1995 level over the whole period. Moreover, unlike the other two sectors, energy consumption in the tertiary sector is growing (+20%), although less pronounced than the growth in the number of jobs (+29%), which explains the slight increase in efficiency. It should be noted that for the household and tertiary sectors, with most of the energy being consumed for heating purposes, climatic conditions account for some of the interannual variations.

An expected decline

Although EI is not subject to numerical targets at the Walloon level⁸, measures to promote greater energy efficiency (notably defined in the Air Climate Energy Plan 2016-2022 (*Plan air climat énergie 2016-2022*)⁹) and the targets for reducing gross inland energy consumption and sales of energy (Directive 2012/27/EU on energy efficiency) should lead to an improvement of EI in the coming years.

[1] → ENER 1 | [2] Tonne of oil equivalent | [3] Respectively 154 and 129 toe/€M | [4] → INDUS 1 | [5] → SOCIOECO 1 | [6] → HOUSE 5 | [7] → TERT 1 | [8] Sectoral objectives based on the EI principle exist in branch agreements; → INDUS 7 | [9] → AIR Focus 3

Fig. ENER 2-1 Primary energy intensity* of Wallonia

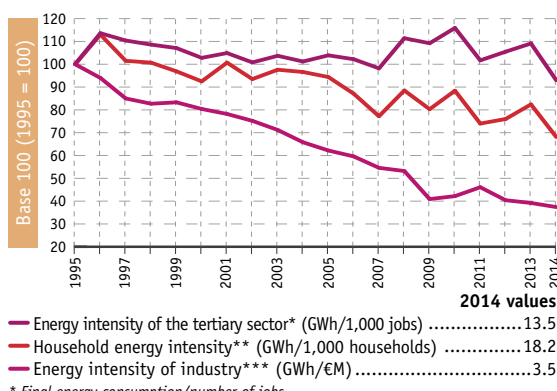


* Gross inland consumption/gross domestic product

** Excluding price changes

SOERW 2017 – Sources: SPW - DG04 - DEBD (energy balances); FPB, BISA, IWEPS, SVR (HERMREG model)

Fig. ENER 2-2 Sectoral energy intensities in Wallonia



* Final energy consumption/number of jobs

** Final energy consumption/number of private households

*** Final energy consumption/gross value added (excluding price changes)

SOERW 2017 – Sources: SPW - DG04 - DEBD (energy balances); FPB, BISA, IWEPS, SVR (HERMREG model); FPS Economy - DG Statistics