

## 5-3 ECO-EFFICIENCY OF ELECTRICITY PRODUCTION

The eco-efficiency of electricity production can be assessed by comparing the evolution of the quantities produced to that of pressures on the environment: atmospheric pollutant discharges, cooling water consumption, waste water discharges and waste production (some of which is radioactive).

## KEY MESSAGE

Electricity production<sup>1</sup> in Wallonia which had been relatively stable since 1990 decreased by  $\pm$  15% between 2010 and 2012. This can be mainly explained by the decrease in nuclear generation (in 2012)<sup>2</sup> and in the CCGT plants (in 2011 and 2012)<sup>3</sup>. Despite this, the sector still features a decoupling of the evolution of its electricity production from that of its production of waste and atmospheric emissions (greenhouse gases, acidifying substances and ozone precursors). These eco-efficiency gains reflect in particular (i) technological advances (e.g. in atmospheric emission filtering) and (ii) the use of less polluting fuels (the replacement of coal by natural gas, the use of biomass, etc.). Regarding the impact on water resources, 83% of surface water intake volumes in Wallonia (almost 1.45 billion m<sup>3</sup>) were used for cooling power plants in 2011. The overall volumes of water consumed match the evolution of electricity production, excepted when Meuse flow rates are too low<sup>4</sup>.



[1] Electricity generated from primary energies, i.e. excl. wind, solar and hydro-electricity (pumping or run-of-river) → Map 3

[2] Shutdown of the Tihange II reactor for several months

[3] Lower production due to the increase in the price of natural gas and the development of renewables (ICEDD, 2014)

[4] As in the summer of 2003.



## EOW 2014 - Sources: SPW - AwAC; SPW - DGO4 - DEBD (energy balance 2012); SPW - DGO3 - DEE