

## EMISSIONS OF INDUSTRIAL AIR POLLUTANTS

## INDUS 2

In Wallonia, extractive and manufacturing industry<sup>1</sup> is a sector of activity whose atmospheric emissions are significant for a range of pollutants (greenhouse gases (GHGs), ozone precursors, acidifying substances, particulate matter, trace metals, etc.). Various measures have been taken so that industries can improve their eco-efficiency, in other words reduce their environmental impacts while maintaining or increasing their productivity.

**Significant but declining emissions**

Emissions of air pollutants from industry come from combustion, as well as from certain production processes (the manufacture of fertilisers, the firing of limestone in cement works, ammonia production, etc.). Industry is the first largest emitter of GHGs<sup>2</sup> and trace metals<sup>3</sup>. It is the second largest emitter of ozone precursors<sup>4</sup> and fine particulate matter<sup>5</sup> and the third largest emitter of acidifying pollutants<sup>6</sup>. Overall, between 1990 and 2014, all inventoried emissions decreased significantly (-77% for acidifying substances, -57% for GHGs, -54% for ozone precursors), while gross value added increased by 60%. Final energy consumption<sup>7</sup> decreased by 44%. Significant differences may exist between industrial sub-sectors, depending on their level of activity and modes of production.

**Improving eco-efficiency**

The reduced emissions of acidifying substances are linked in particular to the use of fuels with a lower sulphur content (replacement of coal by natural gas) and to progress made in purifying emissions (filters). In the case of GHGs, the decrease is partly explained by the increase in the share of natural gas, the development of less energy-intensive processes that emit less CO<sub>2</sub> (clinker furnaces using the dry process, electric steel, etc.) and the implementation of branch agreements<sup>8</sup> that were renewed with the main industrial federations for the period 2014-2020. Emissions of ozone precursors decreased due to changes in industrial

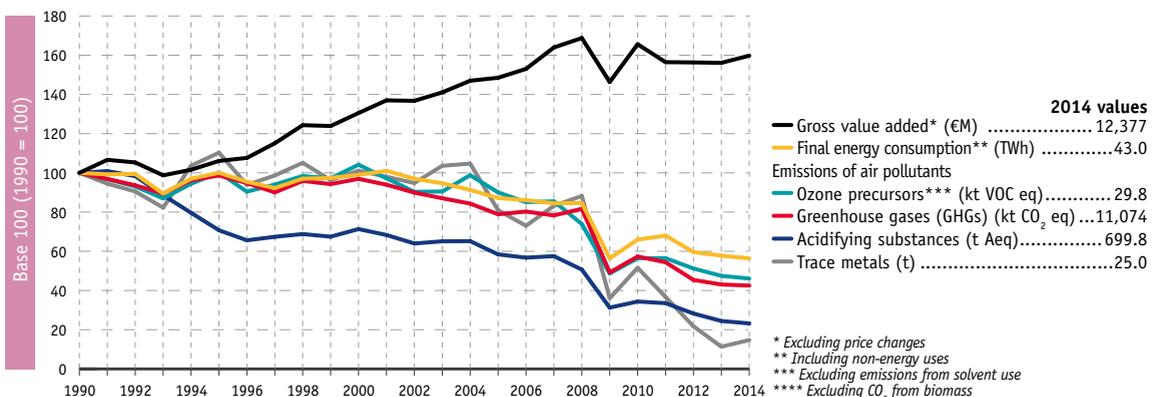
processes and the introduction of low-VOC products. The reduction in fine particulate matter emissions ( $\leq 75 \mu\text{m}$ ) (-70% between 2000 and 2014) is mainly due to abatement measures for particulate matter emissions *via* environmental permits. It should be noted that the drop in emissions observed between 2008 and 2009 is due to restructuring and closures of particularly polluting industries, especially in the steel industry, following the economic crisis.

**Various regulatory tools**

The decrease in industrial emissions is also accounted for by the existence of a number of legislative tools. Given their importance, industrial emissions are effectively governed by various regulations: the IED Directive<sup>9</sup> (aimed at integrated pollution prevention and control, in particular through the use of best available techniques), the MCP Directive<sup>10</sup>, *emissions trading*, sectoral conditions, environmental permits, etc. They were also the subject of various measures in the Air Climate Plan (*Plan air-climat*) (2008 - 2012). The Air Climate Plan 2016 - 2022 (*Plan air climat énergie 2016-2022 - PACE*)<sup>11</sup>, adopted on 21/04/2016, lays down the existing measures to be continued and additional measures to be implemented by 2022.

[1] Excluding energy conversion and transport operations | [2] → AIR 1 | [3] → AIR 5 | [4] → AIR 3 | [5] → AIR 4 | [6] → AIR 2 | [7] Including non-energy uses | [8] → INDUS 7 | [9] Directive 2010/75/EU | [10] Directive (EU) 2015/2193 | [11] → AIR Focus 3

**Fig. INDUS 2-1** Emissions of air pollutants from the extractive and manufacturing industries in Wallonia (excluding energy transformation and transport operations)



SPWER 2017 – Sources: SPW - AwAC (report carried out in February and June 2016, provisional 2014 data); FPB, BISA, IWEPS, SVR (HERMREG model); SPW - DGO4 - DEBD (energy balances)