CONCLUSION

This 3rd part of SOERW 2017 aims to provide an overview of the intensity of demand and consumption in the Walloon economy, and more particularly the pressures exerted on water and forest resources.

Materials flows

As part of the Europe 2020 Strategy (COM (2010) 2020), each EU Member State must develop environmental accounting, alongside the traditional monetary accounts based on wealth creation that do not adequately reflect the use of natural resources and the related environmental impacts. This accounting aims to track the flows of materials (and energy) "from cradle to grave", i.e. including the extraction of natural resources, their gradual processing into finished products (in industry), the use of products by consumers and the return to the environment in the form of emissions, discharges and waste. It can also take the form of material flow indicators.

Among the indicators calculated at the Walloon level, two make it possible to monitor Wallonia's progress towards a more sustainable economy: direct material input (DMI)[1] and domestic material consumption (DMC)[2]. According to a study carried out in 2015, Wallonia's DMI and DMC were well above the EU-28 average values (ICEDD & VITO, 2015).

Water resources

With a rainfall that varies between 700 mm/year and 1,400 mm/year on average according to bioclimatic regions and a favourable geological context that allows the storage of large quantities of water in aquifers, Wallonia is the water tower of Belgium. In 2013, nearly 2,084 million m^3 were exploited, of which 18% came from groundwater and 82% from surface water. As regards the latter, a large proportion (78%) is used for cooling power stations and is returned directly to the rivers. A part of these resources supply Wallonia, but a significant proportion (40% of groundwater abstractions) is exported to the Brussels and Flemish regions.

Wallonia exploits its water resources intensively. In 2013, the water exploitation index was estimated at 5%, which is below the water stress threshold (20%) defined by the European Environment Agency. Over the period 2000 to 2013, total abstractions decreased by 39%, mainly due to industry savings measures or closures of highly consuming businesses.

Forest resources

In order to guarantee the sustainability of forest resources, two objectives must be met: (i) the maintenance or development of forest surfaces, (ii) the limitation of harvesting by logging to the increase in the volume of wood generated by photosynthesis. In 2011, Walloon forests occupied 556,000 ha, or almost one third of Walloon territory, with public forests making up half of this area. Between 1981 and 2011, the area of productive forest remained broadly stable (-4%). However, the composition of the forest has changed, with a downward trend for the area of coniferous stands and an increase in the area of deciduous stands. There also appears to be a trend towards more irregularity in the stands. This is conducive to the development of biodiversity and forest resilience. Since 1981, the volume of standing timber has increased. Over the period 2001-2011, all species combined, harvesting was 10% higher than annual increase, with spruce showing the highest harvest rate (150%). The challenge for the coming years will therefore be to limit harvesting in favour of growth, both in deciduous and coniferous trees, but above all to anticipate the impacts of climate change as part of forestry practices.

[1] Materials extracted and imported into the territory to power the economy | [2] Materials consumed by the population of the territory to satisfy their own needs

CONCLUSION

RES 1 Indicators of materials flows	Wallonia continues to intensively exploit its subsoil. Over the period 2002-2013, non-metallic minerals and forest and agricultural biomass made up, on average, about 85% of material inputs each year. The significant share of non-metallic minerals is explained by the richness of the Walloon subsoil, which forms the basis for the activity of the extractive industry and downstream sectors (cement works, glass industry, etc.).	
	⊕	**Assessment of status not achievable** — No reference — In 2013, a decoupling was observed between GDP on the one hand and DMI and DMC on the other. However, this status cannot be judged favourable since Wallonia is one of the regions that exploits its resources the most. In 2013, the per capita DMI and DMC of Wallonia were almost 2.3 times and 1.6 times higher than those of the EU-28 respectively.
		Trend towards improvement Between 2002 and 2013, a decoupling was observed between the evolution of GDP on the one hand and that of DMI and the DMC on the other, following the growth of the tertiary sector and the development of industrial production with high added value, which consumes fewer materials. This result does not take account of indirect flows, flows which correspond to the raw materials involved in the life cycle of a product, but which are not physically imported or exported.
RES 2 Water abstractions	In 2013, Wallonia abstracted nearly 2,084 million m³ of water from its water courses and groundwater aquifers, in particular to supply the Brussels and Flemish regions, as well as itself. However, abstractions do not exceed the recharge of aquifers.	
	⊕	**Favourable status** — Reference: water stress threshold WEI+ (Water exploitation index) (< 20% = no water stress) (EEA, 2012) —The water exploitation index (WEI+), estimated at 5% for Wallonia as a whole in 2013, does not indicate any regional water stress.
		Trend towards improvement Water abstractions decreased by 39% between 2000 and 2013.
RES 3 Production of public drinking water	The volumes of water abstracted for public distribution (381 Mm³ in 2014) come from 80% of groundwater. Just under 40% of the volumes of water produced in Wallonia are exported to the Brussels and Flemish regions.	
	⊕	**Favourable status** —Reference: water stress threshold WEI+ (Water exploitation index) (EEA, 2012) —In 2014, abstractions for public distribution purposes did not impact the available resources, given the water exploitation index of Wallonia (→ RES 2).
		Trend towards improvement The volumes abstracted for distribution decreased by about 930,000 m³ per year on average between 1986 and 2014.
RES 4 Forest resources	Between 1981 and 2011, the area of Walloon forest remained broadly stable. However, its composition has changed: deciduous stands have increased (+23,200 ha) and coniferous stands have declined (-42,000 ha). This is mainly due to the exploitation of mature spruce. These structural changes, linked to the increase and diversification of non-productive uses, encourage irregularity.	
	?	**Assessment of status not achievable** — No reference — According to the Decree of 15/07/2008 on the Forestry Code, the sustainable development of woods and forests entails keeping a balance between coniferous stands and deciduous stands. In 2011, the deciduous/coniferous ratio within productive forests was 43% and 57% respectively.
		Assessment of trend not-relevant Between 1981 and 2011, the deciduous/coniferous ratio within productive forests went from 50%/50% to 43%/57%. Without additional information on management methods, this evolution is difficult to interpret in terms of environmental impact.
RES 5 Timber harvesting	Over the period 2001-2011, timber harvesting was 10% higher than forest production. This imbalance was mainly due to the extensive exploitation of spruce stands planted on a massive scale in the 1950s to 1970s, which had reached maturity.	
	?	**Slightly unfavourable status** — Reference: Decree of 15/07/2008 on the Forestry Code - principle of timber harvesting limited to volume growth — Over the period 2001-2011, volumes of harvested timber (all species combined) represented 110% of the growth volumes.
		Assessment of trend not achievable The time period covered is not long enough for an assessment of the trend, given the time required to produce exploitable timber.