

Industrial regions and climate change policies

DRAFT

**Reference document for the Province of
Antwerp**

Authors: Andrzej Jakubowski, Fabrice Warneck, Syndex Bureau in Brussels

Methodology

The present study has been drawn up on the basis of the analysis, compilation and comparison of data which are essentially in the public domain. It is supplemented by material from interviews conducted with the local, regional and federal social and economic players. Our thanks go out to the representatives of the following organizations for their support:

ABVV-FGTB,

ACV-CSC,

Essenscia,

The Flemish Energy and Environment Administration (Department of the Environment, Nature and Energy – LNE),

The Antwerp Port Authority,

The City of Antwerp.

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1. General characteristics of the Province of Antwerp

1.1. Geography

The Province of Antwerp is a province in the north of Belgium, located in the Flemish Region. Its area is 2,867 km², and it is the most populous of the Kingdom's 10 provinces, being home to almost 1.8 million people. It is divided into three administrative districts: Malines, Turnhout and Antwerp, the latter being also the provincial capital and the largest city in terms of population.

Its position on the estuary of the Scheldt, with ready access to the North Sea, gives the Province of Antwerp the benefit of a prime geographical location. Its central position and its exceptionally good communications networks (river, road and rail) make the Port of Antwerp a key maritime platform in Europe (in fact it is Europe's second most important port), and one of the major entrance points into the northern European range (the 'northern rail') forming the continent's top commercial interface.

1.2. Economy

The Province of Antwerp is one of Belgium's main economic hubs. In 2013, its GDP stood at 75.4 billion €, or 33% of the Flemish Region's GDP and 19% of Belgium's GDP. GDP per capita is the second highest in the country at 41.9 K€, behind that of the Brussels-Capital Region's 61.9 K€ and well above the national average of 35.5 K€.

The province's economy is dominated by manufacturing and industry, which account for 24% of the added value produced, and by the transport and trade sectors (22%). This situation is linked to:

- the diamond trade: Antwerp is the major diamond marketplace, and accounts for 10% of the country's exports;
- the city's port and its associated transport and logistics activities (1/3 of transport in Belgium);
- a very high industrial density. The Port of Antwerp is home to the world's second-largest petrochemical cluster; Houston, Texas is the largest.

The Port of Antwerp

The Port of Antwerp¹, which handles 74% of Flanders' maritime traffic, is Belgium's number one port and an international port. In terms of the traffic of goods, it is number eleven in

¹ <http://www.portofantwerp.com/en>

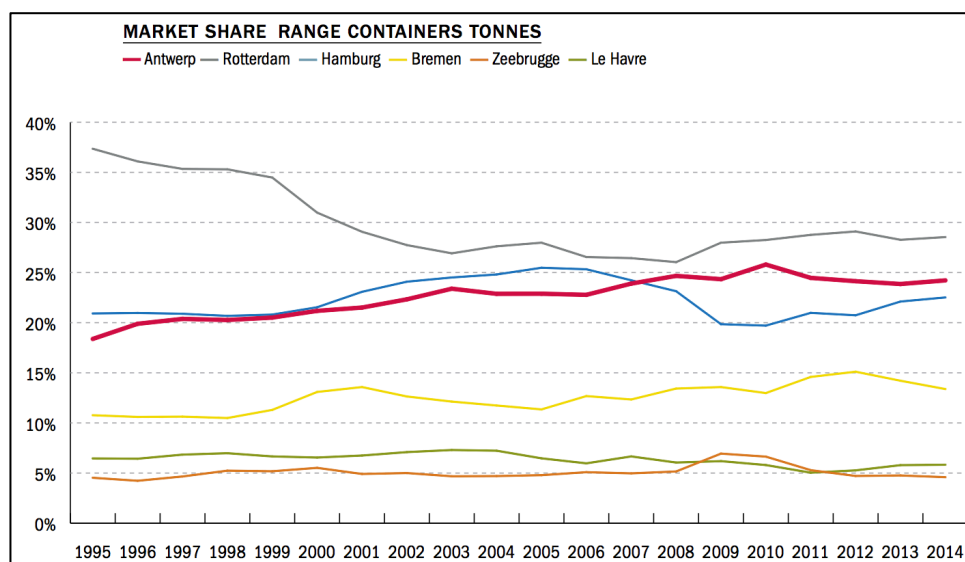
the world and number two in Europe, behind Rotterdam. According to the port authorities, the added value created by the Port of Antwerp represents 8.7% of Flemish GDP and 5% of Belgian GDP.

Maritime traffic of goods (in tonnes) – Range Hamburg – Le Havre

PORT	TONNES	PORT	TONNES
1. Rotterdam	444.733.000	1. ANVERS	199.012.000
2. ANVERS	199.012.000	2. Zeebrugge	42.549.000
3. Hambourg	145.673.000	3. Gand	25.889.000
4. Amsterdam	97.790.000	4. Ostende	1.431.000
5. Brême	78.260.000	TOTAL	268.881.000
6. Le Havre	66.886.000		
7. Dunkerque	47.103.000		
8. Zeebrugge	42.548.000		
9. Zeeland Seaports	35.100.000		
10. Gand	25.906.000		
11. Wilhelmshaven	23.506.000		

(Source: Vlaamse Havencommissie)

Market shares – Transport of containers – Northern European range (source: Port of Antwerp)



The Port of Antwerp boasts impressive infrastructures. It covers an area of 13,057 hectares, which breaks down into 7,239 hectares on the right bank and 5,818 hectares on the left bank.

Port of Antwerp transport and transshipment infrastructures			
Roads	409 km	Locks	7 + 1 under construction
Rail	1,061 km	Bridges	25
Pipelines	350 km	Docks	48
Length of docks	157 km	Terminals	86

Source: Port of Antwerp

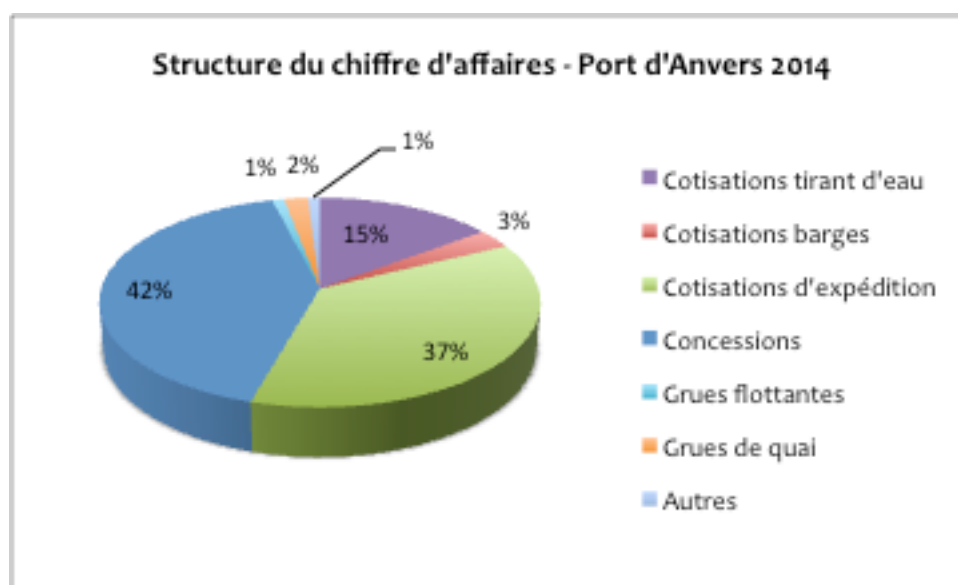
The volume of goods loaded and unloaded at Antwerp has doubled over the past 20 years, reaching 199 mln tonnes by 2014. The port's transshipment activities break down into several categories:

- **Transshipment of containers**, whose uniform size makes them suitable for carriage by container ship, barge, train or road freight, and standardised storage.
- **Breakbulk**, which can be transported by container or simply placed on a ship, packed into pallets, crates or other methods.
- **Dry bulk** (raw materials, such as cereals, coal, iron ore, cement, sugar, etc.).
- **Liquid bulk** (oil, petrol, fuel oil, vegetable oils, etc.), processed on site (refineries) or transported to the outside via truck/tanker or by pipeline.
- **Ro-ro**, which stands for 'roll-on, roll-off', meaning the way in which the cargo is loaded or unloaded. It refers to ships designed, as a general rule, to carry cars (up to 8,000), buses, trucks, farm vehicles or cranes, which can be loaded only by specially trained operatives.

Activity	Terminals	Products transported in 2014	Tonnage (Mt. - 2014)	Rating (Hamburg - Le Havre)
Containers	5	Various	108	2 nd
Miscellaneous	17	Iron and steel (68.5%), perishable foodstuffs (11%), forest products (6.5%), industrial cargo (2%)	9.9	1 st
Ro-ro	3	Automobiles	4.4	3 rd
Liquid bulk	16	Oil products (73%), chemicals (18%), crude oil (8%)	63	2 nd
Dry bulk	12	Ore (28%), fertiliser (21%), sand, gravel and minerals (21%), coal (1%), cereals (7%)	13.5	6 th

Source: Port of Antwerp

In 2014, the Port of Antwerp recorded a slight rise in turnover (+0.83%) to 338 M€, compared to 336 M€ one year earlier, yielding a net result of 89 M€ (54 M€ in 2013, or +62%). This increase is due in part to a rise in container volumes (+5.9%) and liquid bulk (+5.6%), which offset the decreases recorded on the breakbulk and dry bulk segments (-2% and -6.1% respectively).



Source: Port of Antwerp

Broadly speaking, the port's economic activity is largely linked to 3 elements:

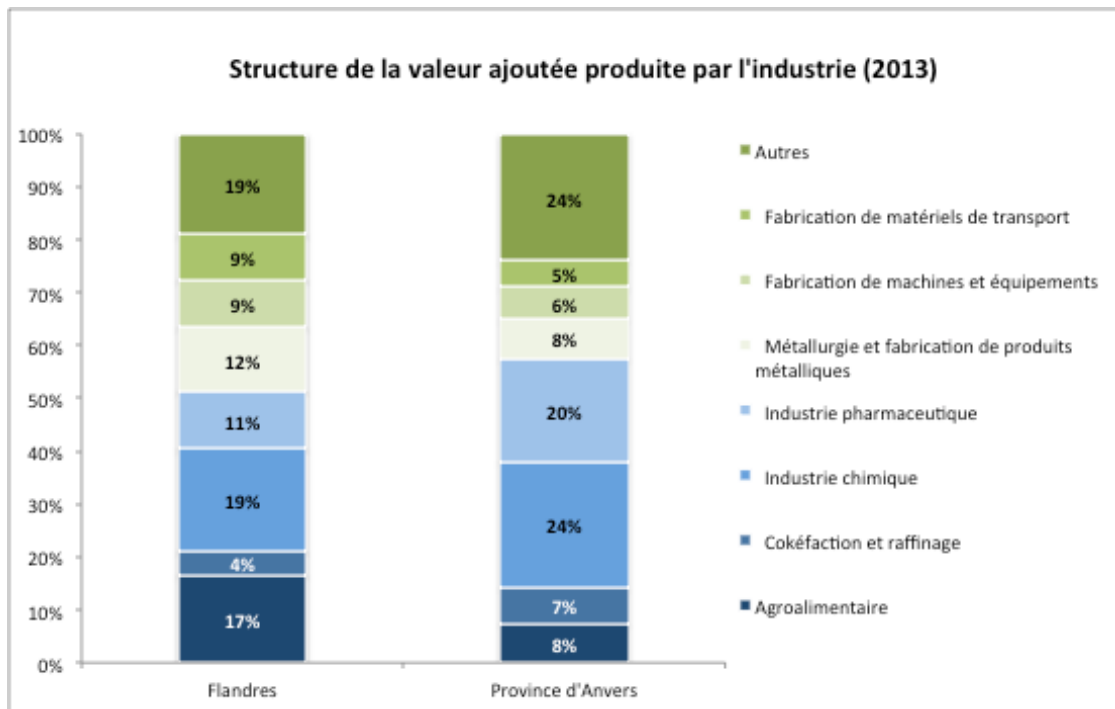
- The first is the **growth of the world economy**. The point is that volumes of freight depend on the level of maritime trade, which in turn depends on global manufacturing activity. The other influential factors are the economic upturn in the euro zone and the development of the naval industry.
- The **level of the port's infrastructures** has a direct bearing on the ability to attract sizeable investments and substantial cargo volumes. This means that investments must be focused on areas such as the carrying capacity of industrial sites, the creation of synergies within the platform, optimisation of the logistics chain and traffic regulation, specifically by means of the development of automation and IT systems.

Storage capacities – Port of Antwerp

Polymers	Covered storage	Liquid bulk	Containers	Air-conditioned warehouses
680,000 m ³	6.1 mln m ³	6.9 mln m ³	15 mln	2 mln m ³

Source: Port of Antwerp

jobs. The other important industries in the region are metallurgy (Arcelor-Mittal Gent) and the food processing and automobile industries.



Source: Regional statistics (NBB stats)

The Port of Antwerp has the world's second-largest petrochemical cluster, which includes 7 of the top 10 multinationals in the chemical sector. The production installations on the site include 4 refineries (Total, Exxon Mobil, IBR, ATPC) and 3 steamcrackers. Total refinery and chemical production capacities amount to 40 and 19 mln tonnes per year respectively.

The installations on the site, which include the largest BASF production centre outside Germany, regularly attract substantial investments, which have recently included:

- the modernisation of the Exxon Mobil refinery, at a cost of 1 billion €, which includes plans for the construction of an installation for the conversion of high-sulphur heavy fuel oil intended for fuel production;
- the OPTARA project, which relates to the construction of a new refinery complex by Total (likewise worth 1 billion €);
- the commissioning of a high-tech plastics production centre (Lanxess);
- the roll-out by BASF of a new butadiene extraction site with a capacity of 155 kt, mainly intended for the tyre sector.

1.3. Employment

The working population in the Province of Antwerp stands at 779,000 people, or 30% of total employment in Flanders. In January 2016, unemployment in the region was running at 6.3%.

Employment in the industrial sector represents 117,000 people, or 15% of the working population (compared to 392,000 for Flanders overall). It has dropped by 9% since 2009 (i.e. a loss of 11,600 jobs). The major industrial sub-sectors in terms of employment are the chemical industry (16% of jobs in the industry), food processing (14.5%) and metallurgy (12.4%). The pharmaceutical industry accounts for 8,800 jobs (7.5%). The economic impact of chemicals, pharmacy and plastics is significant. According to Essenscia, the Belgian federation of chemical and life science industries, every direct job in these sectors generates 1.6 indirect jobs.

Emploi total dans l'industrie - Province d'Anvers							
Branche d'activité	2009	2010	2011	2012	2013	Part dans l'emploi industriel	Evolution 2009/2013
Industries extractives	213	216	218	219	224	0,2%	5%
Agro-alimentaire	18 660	17 871	18 052	17 526	16 953	14,5%	-9%
Textile, habillement et cuir	1 569	1 485	1 412	1 363	1 352	1,2%	-14%
Bois, industrie du papier et imprimerie	8 317	7 887	7 696	7 481	7 273	6,2%	-13%
Cokéfaction et raffinage	3 217	3 347	3 321	3 006	3 206	2,7%	0%
Industrie chimique	19 909	19 717	19 896	19 369	19 124	16,3%	-4%
Industrie pharmaceutique	8 584	8 398	8 456	8 732	8 827	7,5%	3%
Produits en caoutchouc et en	7 018	6 760	6 603	6 567	6 434	5,5%	-8%
Métallurgie	19 607	18 635	18 233	15 170	14 504	12,4%	-26%
Produits informatiques et	4 527	4 411	4 299	3 969	3 631	3,1%	-20%
Fabrication d'équipements électriques	2 714	2 742	2 700	2 561	2 239	1,9%	-18%
Fabrication de machines et	6 470	5 875	6 128	6 237	6 067	5,2%	-6%
Fabrication de matériels de transport	12 021	10 904	9 352	9 105	9 068	7,7%	-25%
Autres industries manufacturières	8 193	8 421	8 264	10 879	10 544	9,0%	29%
Electricité, gaz et vapeur	2 052	2 071	2 179	2 200	2 177	1,9%	6%
Eau, déchets et dépollution	5 702	5 608	5 571	5 553	5 520	4,7%	-3%

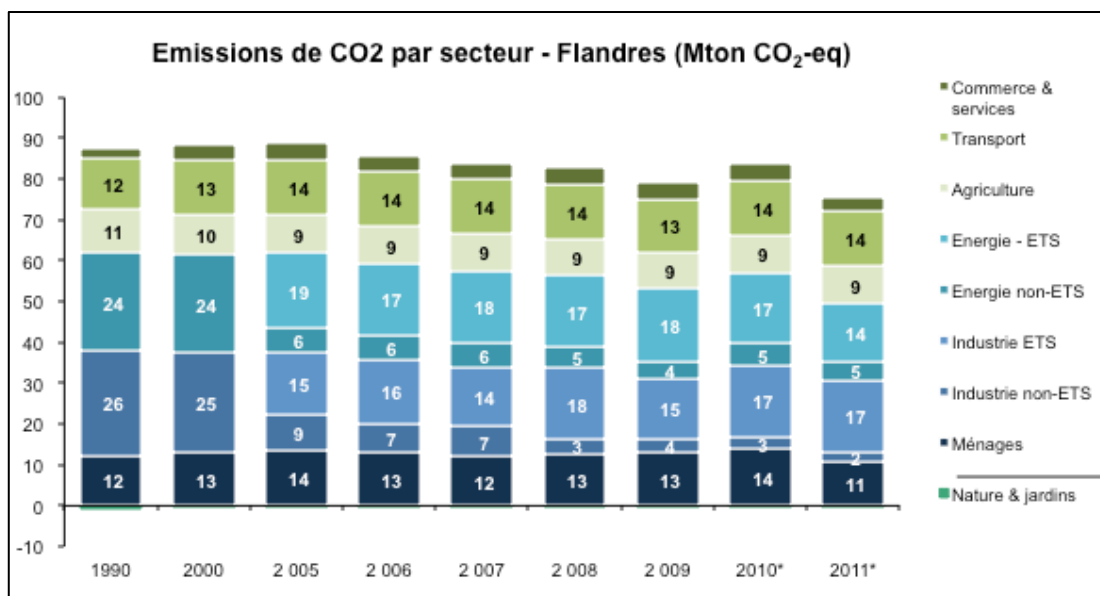
BNB reports that the number of direct jobs in the Port of Antwerp in 2013 was 61,000 full-time equivalent, over half of them in industry and goods handling. The employment impact of the port's activity is put at some 149,714 indirect jobs.

FTE in the Port of Antwerp in 2013	
Industry	22,832
Other logistics services	3,914
Land transport	4,389
Trade	2,462
Miscellaneous	3,471
Port undertaking	1,703
Armaments	937
Goods handling	14,312
Shipping agents and shippers	7,476
Total	61,496

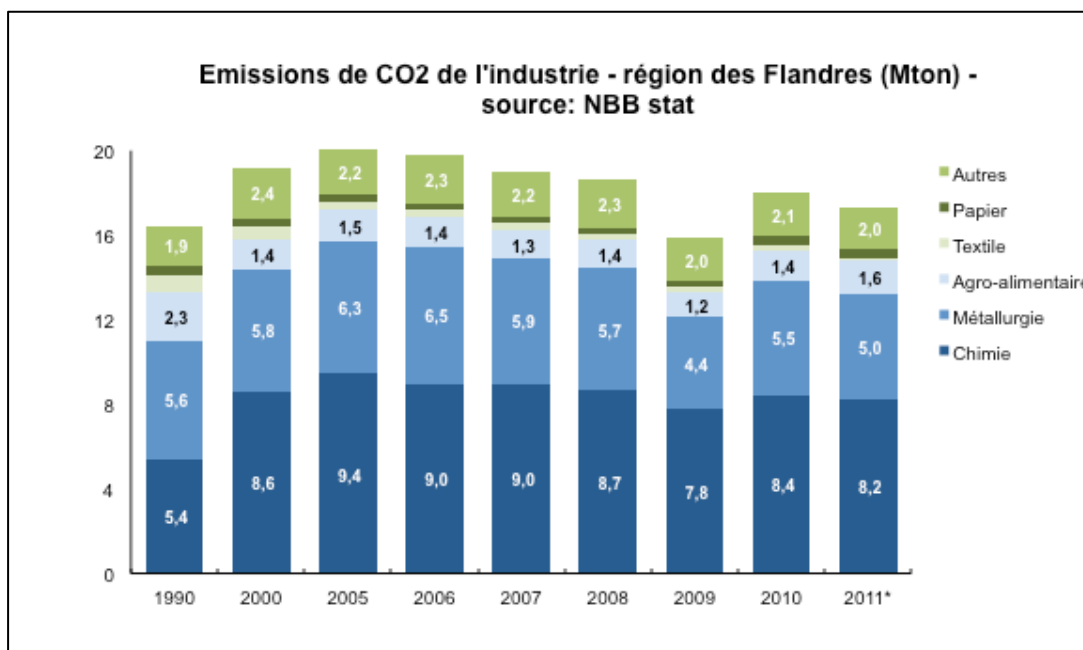
Source: Port of Antwerp

1.4. CO₂ emissions

CO₂ emissions in Flanders in 2011 stood at 75 Mt, or 60.6% of the entire country's emissions. Since 1990, they have fallen by about 13%. The biggest emissions come from the energy sector (25%), industries included in the ETS (23%) and the transport sector (18%).

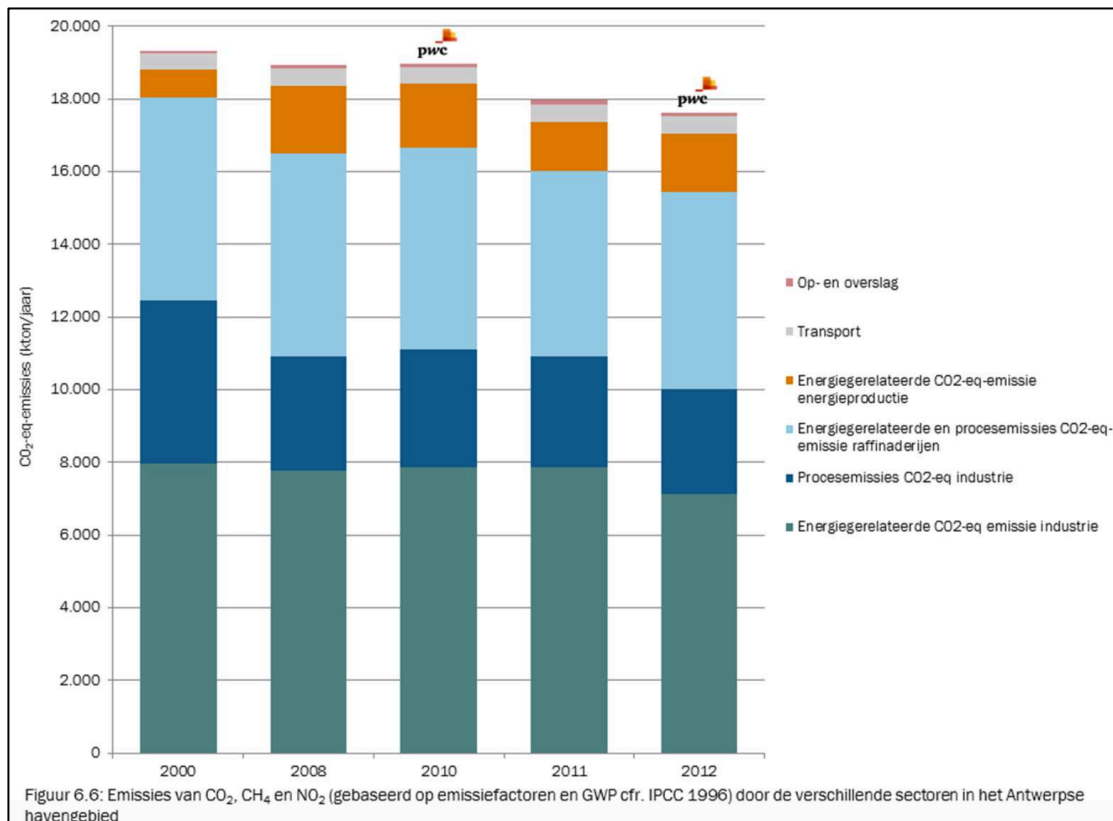


Since 1990, total industrial CO₂ emissions have fallen by 5.96 Mt, a decrease of 19.7%. The structure of the emissions from the industrial sectors (ETS) is dominated by the chemical sector (48%), metallurgy (29%) and food processing (9%).



In its relatively small area, the Port of Antwerp is home to the greatest concentration of major industrial energy consumers and electricity generation facilities with a capacity of 1.2 GW. Overall, the businesses on the site represent about 10% of national electricity consumption and 10% of national generating capacity.

CO₂ emissions – Port of Antwerp



Source: Port of Antwerp

Between 2000 and 2012, the emissions recorded in the port fell by 8.8%, mainly on the back of a drop in emissions associated with industrial processes. Emissions associated with energy generation by refineries and industry have been falling since 2008, although they are still 2.1% higher than they were in 2000.

2. Decarbonization strategies in industry in the Province of Antwerp

On 4 December 2015, the Ministers with responsibility for climate issues in the Flemish, Walloon and Brussels-Capital regional authorities and the federal authority reached an agreement on the distribution of efforts within Belgium in the course of the second period of commitment under the Kyoto Protocol (2013-2020). For Flanders, this agreement provides for a reduction of 15.7% in CO₂ emissions from the sectors not covered by the ETS and an increase in the share of renewable energy sources in final gross energy consumption to 2,156 Mtep, or 51% of the Belgian objective (13%). These provisions supplement the obligations arising from the setting up of the ETS.

Industry in the Province of Antwerp is adapting to these measures largely by setting up actions designed to improve energy efficiency and promote eco-efficiency, coupled with the use of renewables.

2.1. Energy efficiency

In Belgium, competence for regulating energy efficiency in industry lies exclusively with the regions. As in the Netherlands, voluntary agreements form the main pillar in reducing emissions.

Energy plans and studies

In Flanders, businesses whose energy consumption exceeds 0.5 PJ are required to design an energy plan every 4 years. This obligation equally applies to installations whose consumption varies between 0.1 and 0.5 PJ, when their environmental permit has to be renewed. The plan in question contains measures whose RoI (return on investment) is higher than 15%, and which must be put in place within 3 years.

Moreover, the construction of any new installation requiring an environmental permit, and whose consumption exceeds 0.1 PJ, must be prefaced by an energy study, including in particular a comparison of the installation's energy efficiency by reference to those already existing on the market (benchmarking)³.

Lastly, businesses which are not SMEs and do not fall under the obligation to draw up an energy plan must undergo an audit (valid for 4 years).

³ This obligation likewise applies, under certain conditions, in the event of the renovation or repurposing of an existing installation.

Energy policy agreements

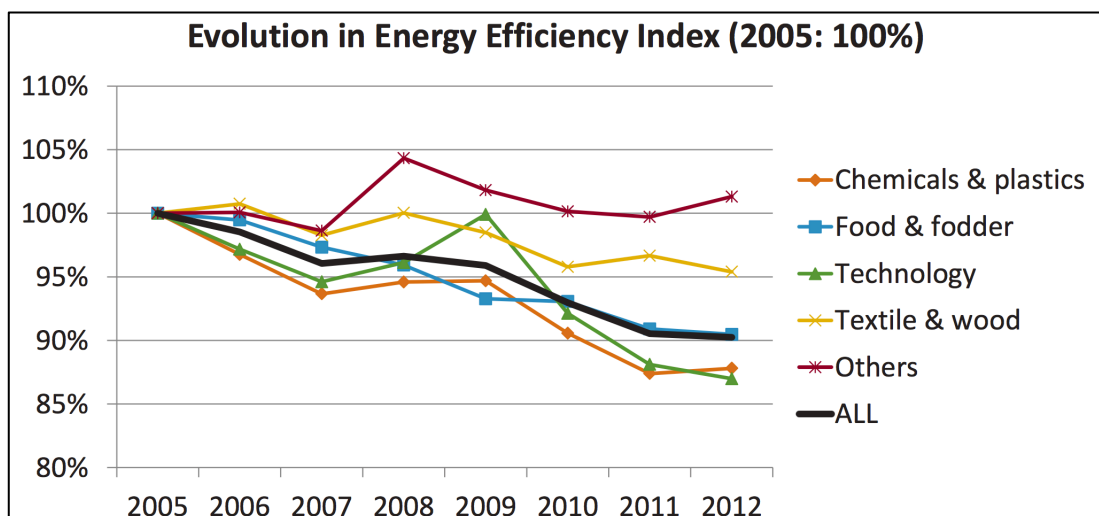
In 2015, businesses in the Flemish Region whose energy consumption was in excess of 0.1 PJ and which were among the NACE code 05-33 sectors of activity were offered an incentive in the form of the option to participate in voluntary energy policy agreements. These agreements place the participating businesses under the obligation:

- To carry out an audit plus a 3-year energy plan providing for measures with a return on investment of 14% for businesses covered by the ETS and 12.5% for those not covered;
- To draw up an annual report;
- To carry out a study into the economic potential of setting up cogeneration and refrigeration and heating networks that meet the demands of the directive on energy efficiency;
- To put in place an energy management system in accordance with ISO 50001.

In exchange, the participating businesses enjoy certain energy tax exemptions, being deemed to have satisfied the obligations to carry out energy audits and studies, and are considered to be eligible for various subsidies.

The system also offers a degree of flexibility. For example, some of the measures planned can be replaced by others whose objective is the production of renewable energy or improvements to the logistics chain. There is also an ‘economic get-out’ clause whereby businesses can justify failure to reach the targets set because of a poor economic situation.

The energy policy agreements have replaced the energy benchmarking commitments, which were in place between 2002 and 2014, and were intended for the big industrial consumers (annual consumption above 0.5 PJ). These commitments, which united between 172 and 176 businesses annually, representing approximately 80% of industrial energy consumption, have enabled an increase in energy efficiency of 0.84% per year since 2002 (1.4% since 2005) and a reduction in CO₂ emissions of 4.36 Mt.



Source: VITOS

As things stand, many sectoral federations (Essenscia, VOKA, Fedustria, BPF, FEVIA, GSV, VGI) and businesses present in the Antwerp region are participating in the energy policy agreements (BASF, Air Liquide, Eurochem, Total, ESSO, ATPC, Cargill, Inovyn, Monsanto, etc.) and setting in place measures to promote energy efficiency.

Their initiatives may be supported in various ways, via platforms or projects. For example, between 2013 and 2015, Essenscia⁴, the Belgian federation of chemical and life sciences industries, took part in the European SPICE⁵ project (Sectoral Platform In Chemicals for Energy Efficiency Excellence), which had as its objective the promotion of energy savings in SMEs.

More specifically, the Port of Antwerp itself is reinvesting its share of the income yielded by the generation of wind power via the fund for energy⁶, the objective of which is to facilitate investments in energy efficiency and to cofinance innovative energy initiatives in the port area. For example, the fund provides financial or practical help to businesses in carrying out their energy audits and setting up energy management plans. The projects proposed are evaluated by a steering committee made up of representatives from the port authority and experts.

2.2. Eco-design and use of renewable energies

In the face of the economic crisis and the development of European environmental legislation, the strategy pursued by the Flemish industrial businesses, particularly in the

⁴ <http://www.essenscia.be/fr>

⁵ <http://www.spice3.eu/index.php/BEFR/>

⁶ <http://www.portofantwerp.com/en/services-and-facilities-investors>

chemicals sector, has been gradually swinging around to eco-design ('cradle to cradle' or C2C).

One thrust of this approach consists of using renewable materials (for example those of agricultural origin) in the production process. These procedures make it possible, to a certain extent, to drive down CO₂ emissions thanks to the replacement of fossil fuels (such as oil) or energy savings.

The second thrust is that eco-design is also based on increasing material efficiency and recycling not only waste, but also industrial by-products (such as steam and CO₂) and the use of renewable energy sources. Recent developments in the port and the Antwerp industrial cluster offer some examples of this approach, such as the creation of the Blue Gate Antwerp industrial park, the CO₂ capture and utilization projects or the ECLUSE project.

The Blue Gate Antwerp project

The Antwerp port authorities have initiated the creation of an industrial eco-park: 'Blue Gate Antwerp'. The project is slated to be carried out on the Petroleum Zuid site on the right bank, on a footprint of 103 hectares. The aim of the project, after the clearance of the pollution, is to set up a green industrial zone (green products/environmentally respectful production) with negative carbon emissions and supporting eco-design (cradle to cradle), i.e. material efficiency, recycling and minimising industrial waste (closed cycle).

The site has to be supplied from energy based on cogeneration and renewables (biomass, PV, wind). It also plans the fitting of smart grids and heat and chilling storage installations.

The priority with the creation of 'Blue Gate Antwerp' is to attract 3 categories of players, on targeted areas:

- Businesses in the smart logistics sector, focusing in particular on coupling and integration of logistics processes (14 hectares);
- Businesses in the environmental sector (14 hectares);
- R&D institutes and research departments from big companies specialising in green technologies (12 hectares).

The project is due to be completed in the form of a public-private partnership. The first businesses are scheduled to be moving on site in the course of 2017. Their arrival should be helped by the creation of a business incubator designed to favour the development of a sustainable chemical industry. A feasibility study, Bluechem⁷, supported by a Flemish government subsidy, has been conducted by Essenscia, the municipality of Antwerp and Blue Gate Antwerp nv. The investment, amounting initially to 6.1 mln €, should be in place by 2016 and might be funded via the ERDF⁸. The study states that the incubator might

⁷ <http://www.fi-sch.be/en/overview-projects/bluechem/>

⁸ <http://www.essenscia.be/fr/Newsletters/Article?article=772>

ultimately involve between 30 and 50 cooperating businesses, employing between 1,000 and 1,650 people.

The Bluechem project is also supported by FISCH⁹, the Flanders Innovation Hub for Sustainable Chemistry, whose role is to support the creation of projects, partnerships (businesses, institutes and universities) or clusters. FISCH is particularly active in the fields of renewables, optimisation of industrial processes, the development of sustainable products and adding value to industrial waste streams and materials used in production processes.

Carbon capture, utilization and storage (CCUS)

The port authorities are assessing the possibility of developing carbon capture, utilization and storage infrastructures with the aim being to stimulate partnerships in this field.

In 2014, a feasibility study¹⁰, funded under the Interreg project, explored the possibilities of collecting CO₂ and methane (CH₄) within the port for transport by pipeline to inside or outside sites. The major hypotheses examined related to the identification of potential suppliers, the creation of a CO₂ scrubbing centre, the possibilities of storage under the North Sea (transport by pipeline or ship to the storage sites) and the possibilities of the industrial utilization of the gases recovered. Work was focused on 4 applications. These relate to the utilization of the CO₂ in industrial greenhouses, in the carbonation process (production of construction materials), in the production of bio-methane from hydrogen ('power to gas' or P2G) and enhanced oil and power recovery¹¹. The study concluded that the options envisaged were technically feasible, and provided some pointers to the financial aspects of such projects.

This project follows on from the studies previously conducted, such as the SINTEF/Statoil project in 2004 (transport of CO₂ from the Port of Antwerp to a North Sea storage site) or CATO2¹² in 2010 (CCS network covering Belgium and the Netherlands).

The development of renewable energy sources

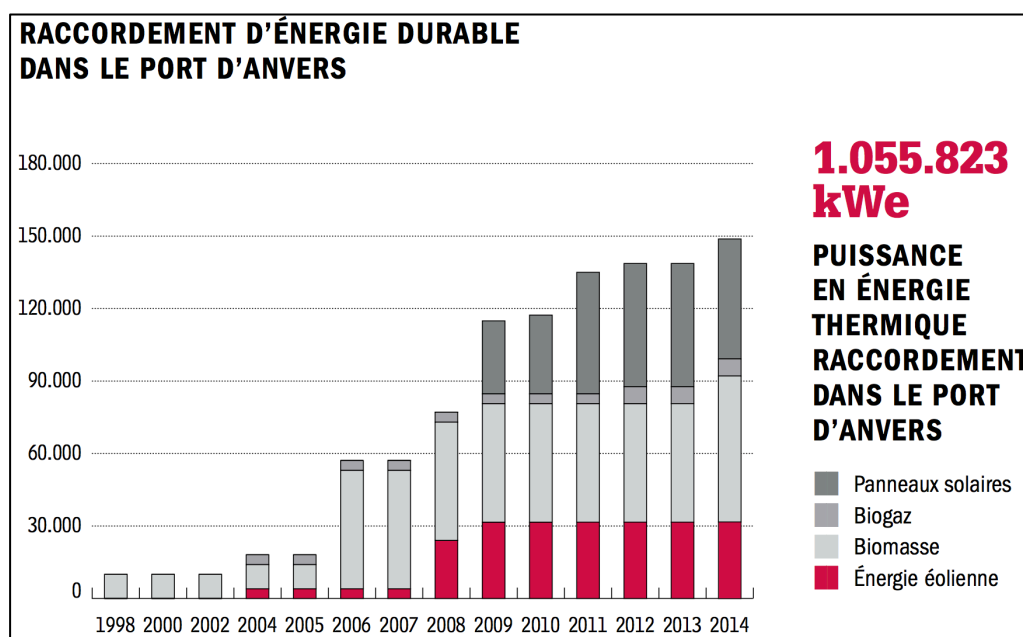
Since 2006, the businesses in place in the Port of Antwerp have been making increasing use of renewables. The site benefits from combined heat and power plants with a capacity of 1,056 MW as well as installations producing electricity from renewable sources (biomass, solar, wind, biogas) with a capacity of 147.8 MW.

⁹ <http://www.fi-sch.be/en/>

¹⁰ <http://www.co2cleaning.eu/resultaten-project-co2-en-ch4/>

¹¹ <http://www.portofantwerp.com/nl/news/haalbaarheidsstudie-havenintern-co2-transport>

¹² <http://www.co2-cato.org/cato/programme-overview>



Source: Port of Antwerp

In September 2011, the decision was taken to proceed with the construction, by a consortium made up of the port authority (47%), the Left Bank Development Corporation (28%) and a grouping of private partners (25%) of a new wind farm on the left bank of the port.

The construction, which began at the end of 2014, was intended, initially, to allow the erection of 15 windmills, equipped with 3-MW turbines supplied by Siemens Wind Power, on the sites of businesses present in the port (Antwerp Gateway, Borealis, Euroports, Indaver, etc.). Ultimately, the number of turbines might be extended to 40 or 50 installations. According to the port authority, the income generated should be allocated to the energy fund.

The ECLUSE project

The ECLUSE¹³ project envisages supplying heat produced by the incineration of waste to 6 chemical companies in the Port of Antwerp (Ineos Phenol, Lanxess, Monument Chemical, ADPO, De Neef, Ashland). The project involves the waste treatment companies Indaver and Sleco (a subsidiary of Indaver and Suez Environnement). The heat (40 bar – 400°), produced by 3 turbines with a capacity of 80 MW, will be carried by a 5 km pipeline and utilized in the production processes (drying, cleaning, distillation, chemical reactions). The cost of building the network, which should be operational in January 2017, is estimated at 30 M€. The

¹³ <http://www.ecluse.be/homepage/>

project should make it possible to utilize 80 to 90% of the energy produced by the incineration, avoiding the emission of close to 100,000 tonnes of CO₂ and generating almost 5% of the green heat produced in Flanders.

The promotion of LNG as a fuel for the inland waterways sector

In 2014, the Port of Antwerp authorities undertook the construction of an LNG bunkering station for barges. Before that, the barges were bunkered directly on the quay from tankers, brought from the LNG terminal at the port of Zeebrugge. Used as a fuel, LNG allows a significant reduction in emissions of pollutants and CO₂ compared to fuel oil or diesel. The project should finish in 2016 and has been part-financed by the Masterplan for the development of LNG in the Rhine-Meuse-Danube region, set up under the TEN-T (Trans-European Transport Network) programme. The port authorities have also signed a collaboration agreement with the ports of Mannheim, Rotterdam, Strasbourg and Basel, aimed at the development and utilization of LNG in the European inland waterways sector¹⁴. This agreement provides for collaboration in terms of R&D and skills transfers¹⁵.

The promotion of sustainable transport methods within the port

The port authorities are committed to a policy of promoting the use of sustainable transport methods and the reduction in the number of home/work trips by private cars. Accordingly, various incentives have been set up: the promotion of the use of bicycles, shuttles and car-shares (a database makes it easy to find a partner). Supplementary initiatives by private companies have also been rolled out. For example, workers at Bayer, Evonik, Ineos, Lanxess, Monsanto and Solvay enjoy the free I-Bus shuttle service (39 routes).

¹⁴ <http://lngmasterplan.eu/>

¹⁵ <http://www.portofantwerp.com/en/news/port-antwerp-plans-set-lng-bunkering-station-barges>

3. The contribution made by the trade union organizations

3.1. The trade union organizations in Belgium and Flanders

Structures may be more or less decentralized, but they are always close to the ground

There are 3 recognised organizations in Belgium and in Flanders:

- ACV-CSC or ‘Confédération des Syndicats Chrétiens’ (the Confederation of Christian Trade Unions) whose roots lie in the Christian workers’ movement. The inter-industry sector is structured into 8 local Walloon federations, 12 Flemish federations, plus the Brussels federation, depending directly on the Confederation. There are also 8 industry-specific centres which represent the members according to their activity or company.

- ABVV-FGTB originated in, and retains close ties to, the socialist movement in its broadest sense: the ‘Fédération Générale du Travail de Belgique’ (the General Federation of Belgian Labour) is a trade union based around 3 interregional bodies, in line with the federal structure of the Belgian State. For Flanders, it is the VLAMS ABVV which is competent. In addition, it has 16 regional structures (which bring together the members by geographical zone) and 6 industry-specific centres (which bring together the members by sector of activity).

- The CGSLB or ‘Central Générale des syndicats libéraux de Belgique’ (the General Confederation of Liberal Trade Unions of Belgium), known as the ‘liberal union’, dates back to the last century. It has a smaller membership and its structure has evolved in line with the regionalization of the country, but it has no sub-regional or industry-specific structures.

ABVV-FGTB is the most decentralized organization, with a confederal structure for each of the three Belgian regions. The SCSLB is the most highly centralized or ‘unitary’. The data below has been culled essentially from the information provided by the ACV-CSC and ABVV-FGTB, which are partners in the ETUC project. The stances of the two organizations are highly complementary and similar in many points. The present study seeks not to compare their respective positions, but to identify the major trade union points being proposed to their opposite numbers among the employers and in government.

Structures which need to cope with a complex government organization

The trade union organizations make national and regional proposals which are coherent and suited to the level (centralized or decentralized) where the competence lies with the Flemish region or the federal level (Belgium). The point is that political competence changes according to the subject matter (energy prices, energy and road infrastructures, taxes, permits, public contract rules, etc.).

This issue has actually been flagged up by the three trade unions, which often comment on the lack of political coherence on industrial and environmental matters between the federal and regional levels. Indeed, Belgium attracted comments during COP 21 in December 2015 regarding the inability of the political players to hammer out an agreement on a climate plan.

Priority to employment and innovation

The main plank of the trade unions' demands relates to the future of jobs in Flanders. Industrial production is increasing along a stable trajectory, but the number of jobs associated with it is falling. Belgium faces frequent criticism (often from the Belgian employers themselves) for the high cost of labour. Yet the trade unions would point out that the country's productivity is excellent thanks to its highly skilled workforce. The issue for the future is therefore to retain this high level of qualification through policies geared to professional training.

Employment is not merely an objective towards which industrial policies need to move, but also a reference criterion: therefore, support from public subsidies for Research and Development (R&D) efforts, regarded as an absolute priority by the trade union organizations, should be pegged to recruitment drives, improved organization of labour and health at work, for example. These social objectives must be able to be monitored by the unions so that their operationality can be checked.

So social and economic relevance should form the basis for public aid to businesses. The Flemish government agencies need to urgently develop a 'shared value' social and economic model on the basis of socio-economic indicators in the economic support and innovation programmes.

On the one hand, the defence of jobs in the face of the potential continuation of Flanders' deindustrialization is a genuine issue for the trade union organizations. Moreover, some big businesses are threatening to relocate out of Flanders or even out of the European Union if the rules become too costly or complex in the fight against pollution and global warming. On the other, the political power in place is providing only timid support for the innovative initiatives without which job creation will be minimal, because these initiatives will be implemented only in some industrial niches. The local political authorities, who have been pushing for years for Flanders to become a service economy, are hard pressed to put their commitments into action by releasing enough funds.

For their part, the unions are banking on sustainable innovation and their view is that industry is the engine of the transition to a low-carbon economy. They believe that this transition will rest upon **environmentally sustainable production, recycling and reclamation, the circular economy, renewable energy**, sustainable mobility, life sciences and so on.

Energy, risks and opportunities

The union organizations regret the lack of strategic vision in Belgium and Flanders with regard to energy. While they themselves are facing conflicts of interest between their members according to their different industries (maintaining 2 obsolete nuclear electricity production plants for an extra 9 years, for example), many democratic internal discussions have been conducted in the search for ways forward. The debate remains open, even though some redeployments towards shale gas and coal gas are not considered as alternatives.

Different levels of intervention are proposed:

- Natural resources: the unions are worried about Belgium's dwindling natural resources and the Flemish economy's increasing dependence on imports. They want to see more funding for research into ways of achieving greater energy autonomy.
- CO₂: the number one objective needs to be to decarbonise production. The organizations want a public debate in Europe about the Emissions Trading Scheme – ETS to solve current and recognised problems regarding efficiency, effectivity and equity of the system.
- Tax breaks: when it comes to the chemical industry, which has a high profile in the study region, the unions are disappointed that despite giving certain undertakings to 'be part of the solution, not of the problem', the employers' organization Essenscia has come out radically against the region's low-carbon policies; the unions want the public authorities to impose stricter conditions before granting tax breaks: a) the industry must be genuinely exposed to international competition, b) the sector must be a player at the European and international level to promote decarbonization, c) concrete undertakings must be framed by the business in favour of energy efficiency and d) there must be proof of workers' involvement in strategic choices.
- The goods produced: substantial efforts need to be made to ensure the supply of products which can be recycled and which have a neutral environmental impact.

3.2. Participation by the trade union organizations

At the regional level: challenging the trade union contribution

The Flemish Council for Science and Innovation, VRWI, the body made up of a large number of stakeholders which acts as a crucial expert adviser to the government, has now been dismantled. As requested by the employers, the Flemish government wants to reduce the number of such bodies. The bulk of the VRWI's resources and funding will be allocated to the Flemish Industrial Council for Businesses and Innovation (VARIO), which will be made up only of industrial players and would exclude the trade union organizations.

Nevertheless, the Flemish Economic and Social Council (SERV) has built up extensive expertise on environmental and industrial questions, and intervenes regularly in the public debate. There is also a sub-regional consultation forum known as Resoc.

At the sectoral level: the trade unions are restricted to a limited role

At the sectoral level, there are lots of collective agreements, but they relate only to the social aspect of the company. In parallel, the regional authorities are signing 'branch agreements' with the industrial federations which specifically concern energy efficiency and investment. But these agreements are often more like moral commitments than binding agreements. The trade union organizations are not involved in this process.

Anticipating the evolution of a sector is a complex task, in part because technological progress is constant but not linear. Making projections for the next 10 or 20 years may be no more than simple speculation. Nevertheless, the unions can prepare themselves to have more influence over policy, and equally prepare the democratic debate in their organizations.

This is what ABVV Metal has done, for example, in producing a study called 'Towards a new industrialization', which promotes the circular economy. This report, published in 2013, analyses the sector's vulnerability by comparing the resources available, the demand and the evolution of (new) finished products and the possibilities of recycling at present. The report concluded that 10,000 jobs could potentially be lost if targeted investments were not made in the medium term. It singled out the utilization of fossil fuels and certain (rare) earths. An approach shared by the ACV-CSC, which focuses on the construction sector (96% of construction and demolition waste can be recycled) and new materials, or the salvaging of plastics, a sector in which Flanders performs very well.

At the company level: rights have been developed but are rarely used

Rights

Legislation in Belgium provides for the setting up of a Committee for Prevention and Protection at Work (CPPT) in companies employing a minimum of 50 people, the members of the CPPT being elected by the company's staff. The CPPT is competent for any question

relating to the internal and external environment of the company and protection and prevention at work with regard to the environmental permit.

The employer must notify the CPPT if the company is filing an application for an environmental permit and keep it informed on the progress of the procedure. The committee, for its part, must be able to consult all the documents relating to the permit application, at every step in the procedure. It is also entitled to obtain from the employer any information allowing it to issue a detailed opinion. Once the permit has been obtained, the CPPT may finally find out the operating conditions which the company has to comply with in order to verify compliance subsequently. The CPPT may also issue opinions and frame proposals with regard to the environmental permit within the context of the workers' welfare policy, and issue a prior opinion on all projects, measures and resources which may, either directly or indirectly, immediately or in the longer term, have a bearing on workers' welfare.

According to these prerogatives, the health and safety committee receives a copy of the company's report on its greenhouse gas emissions, its major activities with regard to environmental management and its energy balance sheet. The major environmental details supplied concern: air pollution and action plans (dust, NO_x, SO₂, dioxins, etc.), the utilization of water and the recycling policy (treatment), the policies set in place with regard to recycling (residues, co-products, etc.), the policy on energy efficiency and the performances achieved.

As part of its information-consultation on the company's economic and financial situation and its strategic thrusts, the works council may ask for information on investments as well as details on energy efficiency or environmental issues¹⁶. With regard to the environmental permit, information may be obtained in the context of questions on its financial impact, the rolling out of new technologies or staff training.

Limits

According to a Syndex study¹⁷ into Belgian steel-making, there is – paradoxically – no general training given to workers on these matters, but only focused training targeted to the specific needs expressed per department.

From the point of view of the staff representatives, who have been surveyed with regard to the exercise of their mandate, the efforts made by companies in this area are largely determined by the legal or regulatory constraints. The fact remains that the latter find it difficult to develop their own properly argued point of view on these matters, in particular from the financial angle (impact on operating costs, for example). In every case, they are not getting actively involved in the definition of the action and investment plans defined on the basis of the audits carried out.

¹⁶Royal decree of 27 November 1973 on the economic and financial information to be supplied to the Works Council.

¹⁷ 'Information-consultation on questions of resource efficiency in European steel-making', Syndex, April 2015.

3.3. Conclusion: more coordination, resources and premises to ensure the involvement of representatives of workers and their organizations

In general terms, the trade union organizations regret the lack of cooperation between companies on the same geographical site, whether or not they belong to the same sector. They reiterate how essential it is for industries which are complementary in terms of their transverse needs (production of heat, need for heat, for example) and skills to cooperate together.

The unions would like to be better integrated into the decision-making processes, a development which would enable workers to be better involved in industrial change. However, the employers' organizations and certain employers now grant them only 'stakeholder' status here, instead of continuing to recognise them as preferred partners in the social dialogue.

Effective participation by workers' and union representatives requires an increase in skills on complex technical subjects, which implies significant funding of training efforts by employers and the public authorities.

Legislation should move on. It would be useful if workers' representatives in the company were able to call on an expert with specialist knowledge of energy and environmental issues. During an information and consultation process at present, they can only bring in an expert on economic and financial questions, not on the sorts of strategic and highly technical questions that are raised by technological choices and their impact on employment and the environment.

Union/employer relations are rendered more complex at regional level because of the very wide variety of foreign multinationals in the region, whose objective is not to help the Flemish government to create Flemish industrial heroes or a 'new factory', but simply to reap the benefits of a skilled workforce, tax breaks and modern infrastructures. For this reason, the trade union organizations are approaching other civil society organizations to step up their action at the regional level in order to put forward some alternative development models based on cooperation and the social economy.

Finally, given the importance of the multinationals to the local economy, the role of the ETUC, the CSI, and the European or international trade union federations as legitimate voices in the dialogue seems to be strengthened on the basis of this analysis. The Belgian trade union organizations actually occupy a key place here.

Map of the port



Carte du port

