

Belgian steel in 2021

Annual report



A word from our Chairman



Despite the pandemic continuing into 2021, the year was marked by a strong economic recovery, increased pressure on the labour market, accelerating inflation and the 'fit for 55' package outlining ambitions for the future.

Economy

The unexpectedly strong economic recovery in 2021 had a positive effect on market demand for steel. As a result, European consumption increased by 18% to 152 million tonnes from its low point in 2020. **The Belgian steel industry also experienced a significant increase in activity, returning to pre-COVID-19 levels.** Initially, a continuation of this recovery was expected in 2022, but at a much more moderate pace. Today, however, this projection has become increasingly uncertain. Geopolitical tensions, soaring energy prices and disrupted supply chains are all factors that may have a negative impact on the economy. I would also like to take this opportunity to express my deepest sympathy to all victims of the war in Ukraine.

As demand picked up in 2021, there was a surge in steel imports from outside the EU. **With around 30 million tonnes of finished steel imported, the 2018 peak has been equalled.** In the second quarter of 2021, an unprecedented import volume of 8,4 million tonnes was recorded.

The extension of the European Commission's safeguard measures from 1 July 2021 was, therefore, welcome news. This system curbs the surplus of non-EU steel imports and stabilises the market. The continuing excess production capacity outside the EU makes it essential that this system be maintained.

Climate

With regard to climate, 2021 was marked by a surge in the ETS price, which came close to the critical €100 per tonne of CO₂ emitted mark. The rise in the price of CO₂ was not a coincidence, but rather a market reaction to the launch of the European Commission's long-awaited 'fit for 55' package, which sets out concrete plans. This package should make it possible to achieve the 2030 target of reducing greenhouse gas emissions by at least 55% compared to 1990.

The 'fit for 55' package is the cornerstone of European climate policy. It consists of several legislative initiatives, such as the strengthening of the European Emissions Trading Scheme (ETS), the introduction of a carbon tax at Europe's external borders (the 'Carbon Border Adjustment Mechanism') and a raft of new regulations on renewable energies, energy efficiency and energy taxation.

On behalf of the Belgian Steel Federation I would like to reiterate our absolute commitment to Europe's climate ambitions. With this in

mind, 2021 saw the finalisation and implementation of innovative climate investments in blast furnaces and rolling mills. Further plans were also drawn up and subsequently confirmed to replace one of the two Belgian blast furnaces at the Ghent site with a direct iron reduction (DRI) plant and two electric furnaces. They will operate in parallel with the other state-of-the-art blast furnace, which is designed to use waste wood and plastic as alternatives to carbon. The past year can, therefore, be seen as an initial, concrete step towards the goal of climate-neutral steel production in 2050.

Nevertheless, the transition to climate-neutral steel production is a crucial process that requires an appropriate policy framework that covers financing, regulation and infrastructure. We, therefore, urge authorities not to fast-track new regulations quicker than the pace at which our industry can technically and financially reduce its emissions. Due consideration must be given to the timeframe for the realisation of these projects and the authorisations for the construction of facilities. An unrealistic timetable would only result in additional relocations and 'leakage'. In practical terms, we are pressing for the free ETS emission rights to be maintained until 2030 and for our benchmarks not to be tightened unrealistically. Moreover, an appropriate solution must be found for exports outside the EU, which account for around 10% of deliveries.

Social

In the autumn of 2021, an agreement was once again reached between the social partners of our sector. This agreement is a continuation of previous agreements and takes into account the developments in legislation and the new elements of the latest AIP (*Accord Interprofessionnel - Interprofessional Agreement*). Furthermore, the agreement pays special attention to issues such as training, work feasibility and the attractiveness of our sector.

Our goal of climate-neutral steel production means that plans are currently being developed, new facilities are being built and operational processes are being reviewed. **Against this background, it's essential to bring together all the expertise necessary to achieve this ambition. I would, therefore, like to thank, once again, all the staff and people involved in our sector for their efforts and dedication.** Their efforts are directly contributing to the delivery of the 'Green Deal', by steel, for steel and with steel.

Manfred VAN VLIERBERGHE
Chairman

Steel production in Belgium

Fig.1a - Steel production in Belgium (tonne) ■ 2021 ■ 2020 ■ 2019

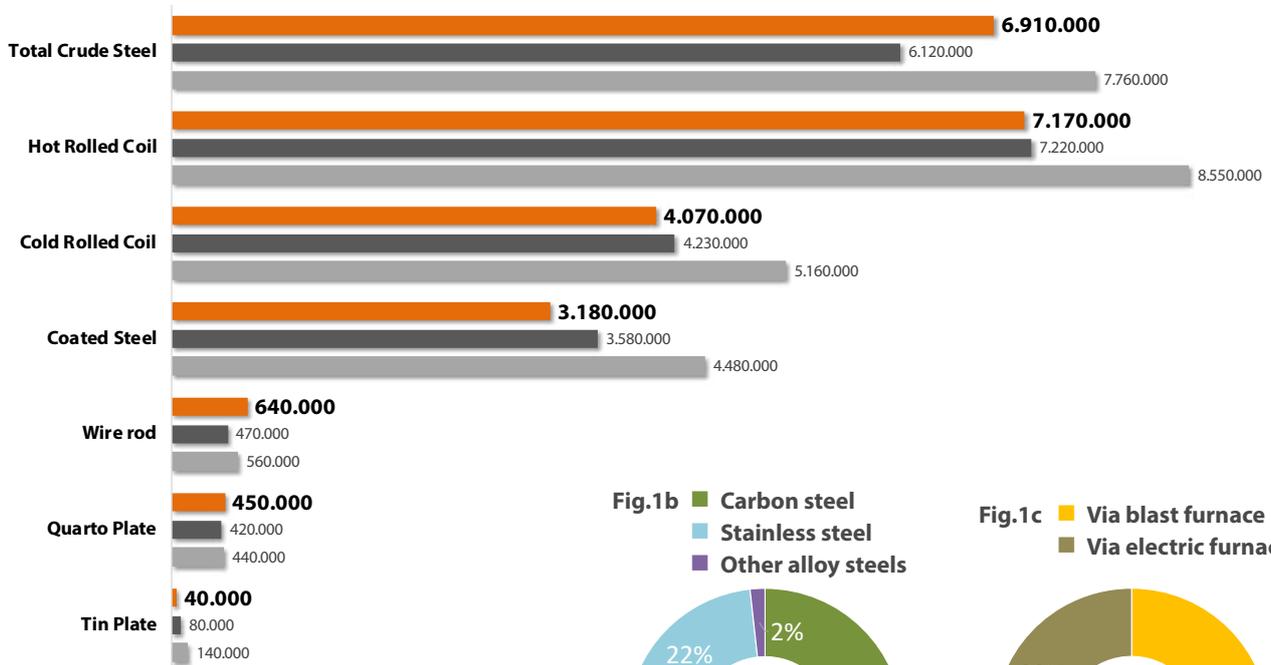


Fig.1b ■ Carbon steel
■ Stainless steel
■ Other alloy steels

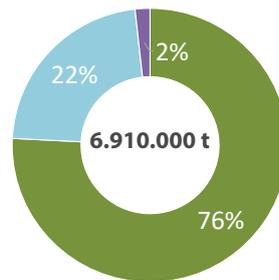
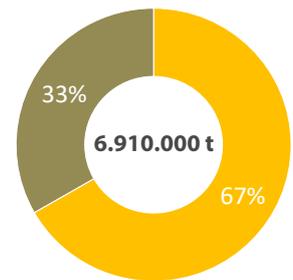


Fig.1c ■ Via blast furnace
■ Via electric furnace



ArcelorMittal Belgium inaugurates blast furnace of the future

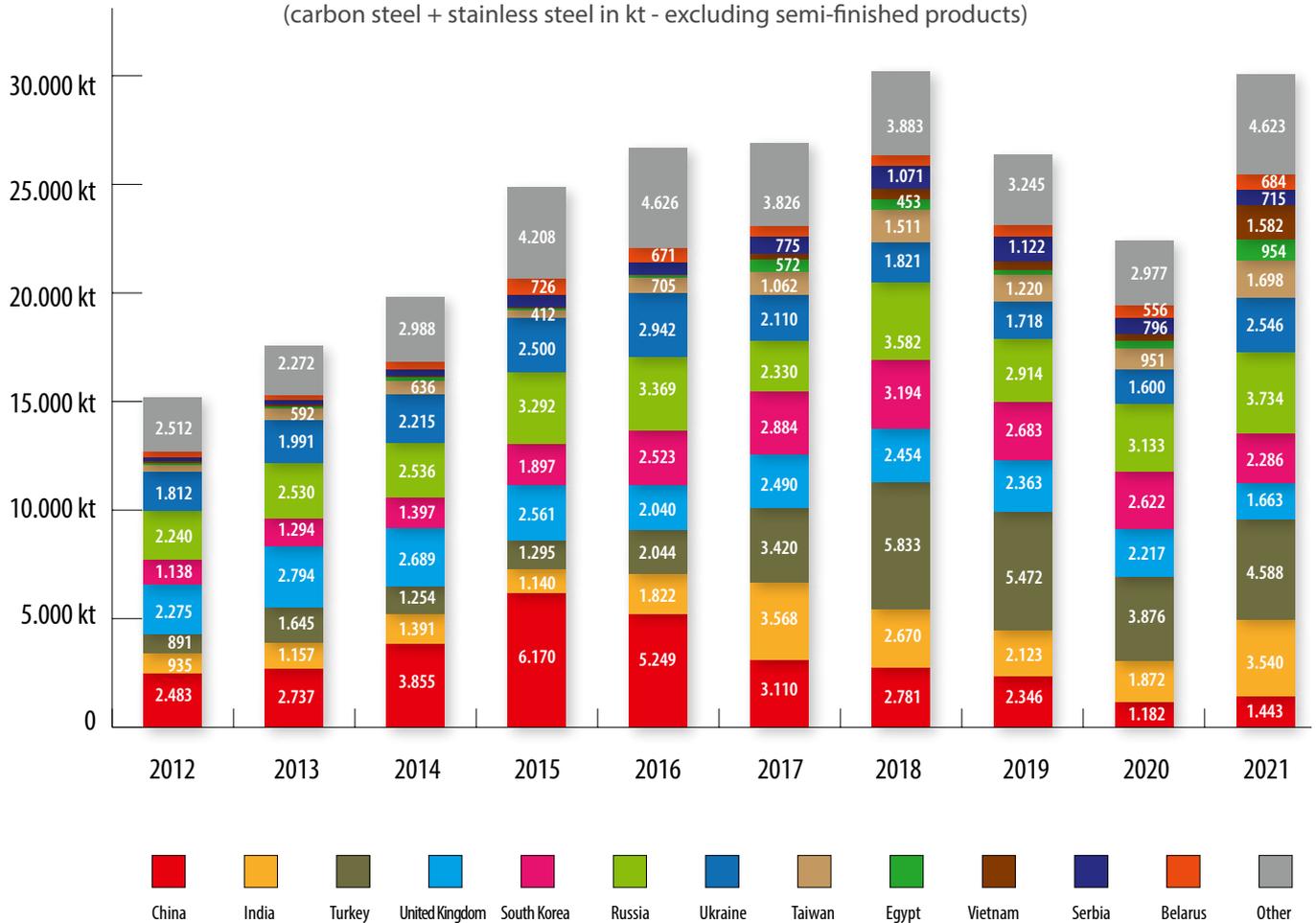
ArcelorMittal Belgium has officially inaugurated its blast furnace B in Ghent, after a significant investment to renew the furnace, making it one of world's most modern and efficient blast furnaces, both in terms of productivity and CO₂ emissions. This investment will further enable steelmaking to be at the heart of the circular economy and help the company lower its CO₂ emissions and achieve its climate objectives, through more efficient fuel consumption, through recycling of wood waste and through injection of waste gases as well as end-of-life plastics.

The company plans to replace fossil carbon with green and circular carbon and green and circular hydrogen in the blast furnaces. Thus, 'fresh' raw materials will increasingly be substituted by waste. In the Torero project (to be commissioned in 2022), wood waste from container parks is being pre-treated to produce biocarbon suitable for the blast furnace process. In addition, two projects are running with plastic waste that could be injected into the blast furnace in powder or gas form.



Steel import in EU27

(carbon steel + stainless steel in kt - excluding semi-finished products)



50.000 solar panels at Aperam Genk

By 2050, Aperam Genk wants to be climate neutral and, therefore, has reinforced this ambition in 2021 by building a large 11-hectare solar park on the company site. The photovoltaic panels are installed in various locations, such as on the roofs of several production halls, on an unused terrain on the company site and on top of a covered car park.

The new solar parc has a capacity of 23 megawatt peak (MWp). In concrete terms, it will produce 20.300 megawatt hours (MWh) of electricity per year. The company will be able to use at least 97% of this produced electricity in its own power stations. This will reduce annual CO₂ emissions by 7.300 tonnes, equivalent to the emissions of 5.900 average households.



Social affairs

2021 saw the emergence of a “new normal”, with our professional, social and family lives continuing to be marked by COVID-19.

Despite the pandemic, everyone – companies, workers and sectoral organisations – contributed to the continuity of business activity and social relations.

Health

Throughout the year, companies implemented the legal frameworks relating to health regulations to guarantee the health of workers, ensure the continuity of their activities and, more generally, help improve the health situation in Belgium.

It was with this in mind that several companies in our sector sought to offer their employees the opportunity to be vaccinated against COVID-19. The Belgian Steel Federation and other sectoral federations regularly insisted to the various authorities that vaccination be considered within and by companies' health services, as these are large companies with experience when it comes to vaccination drives, particularly for seasonal flu.

A pilot project was implemented at the end of 2021, in which a dozen companies from different sectors participated. Among them were ArcelorMittal Ghent and Aperam Genk from the steel industry.

Social relations

Despite the failure of the cross-industry negotiations to set the wage margin and establish a cross-industry agreement, the industry organisations ensured that the steel industry's existing agreements and practices are preserved and have agreed on the terms of a sectoral agreement for 2021-2022.

Through this agreement – as is the norm in our sector – many mechanisms were renewed or extended. The sector's social partners also adapted certain systems, in line with the evolution of legal frameworks. Above all, they managed to transform some of their concerns and priorities into concrete themes, some of which have been, and will be, the subject of working groups in 2021 and 2022.

These relate to the sector's minimum wage (CP 104), training efforts, the notion of 'feasible work' and the end-of-career, as well as the attractiveness of the sector.

The industry agreements paved the way for negotiations and agreements within companies, which are fundamental to collective relations. These negotiations made it possible, depending on the possibilities within each company, to reward workers' efforts during the health crisis.

ArcelorMittal Ghent invests 1,1 billion € in decarbonisation technologies

In the autumn of 2021, ArcelorMittal announced having signed a letter of intent with the Belgian and Flemish Governments, supporting a 1,1 billion € project to build a 2,5 million tonne direct reduced iron (DRI) plant at its Ghent site, along with two new electric furnaces.

A DRI plant uses natural gas and, eventually, potentially hydrogen instead of coal to reduce iron ore, resulting in a significant reduction of CO₂ emissions compared to blast furnace ironmaking.

The two electric furnaces will melt direct reduced iron (DRI) and scrap steel, which will be transformed in the steel mill into steel slabs, and then further processed into finished products.

Once the DRI plant and electric furnaces are built, there will be a transition period during which production will gradually switch from blast furnace A to the DRI plant and the electric furnaces. Afterwards, blast furnace A will be shut down as it reaches the end of its life. By 2030, this will result in a reduction of about 3 million tonnes of CO₂ emissions each year.



Climate and energy

Climate policy

2021 saw an explosion in the ETS price which, for a long time, seemed to be heading over the €100 per tonne of CO₂ emitted mark. At the end of the year, however, the price stabilised around €80 per tonne, a fourfold increase in just two years. This sharp rise was due to the launch of the European Commission's long-awaited 'fit for 55' package.

This package is the instrument with which the Commission intends to achieve its ambitious 2030 target of reducing greenhouse gas emissions by at least 55% compared to 1990. The 'fit for 55' package consists of several legislative initiatives, such as the strengthening of the European Emissions Trading Scheme (ETS), the introduction of a carbon tax at Europe's external borders (Carbon Border Adjustment Mechanism) and new regulations on renewable energy, energy efficiency and energy taxation. In the coming months, the package will be discussed by the European Parliament and the EU Council. The Belgian Steel Federation has, therefore, already engaged in numerous discussions with the stakeholders concerned and will continue to do so in 2022. We urge authorities not to fast-track new regulations quicker than the pace at which our industry can technically and financially reduce its emissions. In concrete terms, this means that free ETS emission rights should not be phased out by 2030 and that our benchmarks should not be excessively tightened. Furthermore, it's essential to find a solution to safeguard the competitiveness of our exports throughout this transition, given that our sector exports some 10% of its steel outside the EU.

Finally, our sector continues to keep a close eye on the new opportunities offered by the circular economy. To take advantage of these, access to high quality and affordable scrap to be re-melted in convertors and electric furnaces, is crucial. Unfortunately, we have noted more and more scrap being exported to countries with a dubious environmental reputation. We hope that the revision of the Waste Shipment Regulation in 2022 will bring some relief.

Energy policy

In 2021, the Belgian Steel Federation continued to stress the importance of a competitive electricity price for the Belgian steel industry. This was all the more necessary as the price of gas rocketed due to various unforeseen geopolitical factors. We are cautiously positive about this situation, as, after many years of discussions and promises, the initial steps have finally been taken to implement an energy standard that should eliminate the competitive handicap compared to neighbouring countries. At the end of 2021, it emerged that the federal Government plans to convert all federal levies on gas and electricity into special excise duties on gas and electricity. These excise duties should offer more flexibility to react to rising and falling energy prices.

Furthermore, the Belgian Steel Federation was delighted that the compensation for indirect carbon leakage costs granted by the Flemish and Walloon regions for emissions was guaranteed in 2021. However, the Federation recommends that the Walloon region not work with a closed envelope each year, but instead grant the maximum compensation allowed, as is already done in Flanders and in neighbouring countries. This higher and automatic compensation limits the loss of competitiveness with regards to foreign competition and would also create a secure investment climate.

Finally, 2021 also saw the beginning of debates on the extension of Belgium's energy efficiency instruments – the 'Accords de Branche' in Wallonia and the 'Energiebeleidsovereenkomsten' in Flanders. Given the importance and urgency of the situation, the Belgian Steel Federation calls upon all competent authorities to accelerate these discussions to offer more certainty to interested parties.

NLMK La Louvière finalized the first step for the hot strip mill upgrade

NLMK La Louvière has finalized the first step for the hot strip mill upgrade. This investment of 150M€ will enable the company to expand the production of thinner, stronger, and more environmentally friendly steel for customers in the EU. Three finishing mill stands with new motors, a new run-out cooling table, a new system for hydraulic, state-of-the-art automation, modernized cooling and water systems were installed between February and May 2021.

This is the biggest project NLMK La Louvière has had in the past 20 years and is part of the "Strategy 2022". The hot strip mill revamping supports the strategic development and innovation of NLMK Europe. The project will enable the mill to expand the production of high-strength thin hot rolled coil (as thin as 1,2 mm), increase the range of high-strength products beyond 1000 MPa yield strength and provide customers with a best-in-class surface and dimensional tolerances.





Centre for Research in Metallurgy

www.crmgroup.be

The research centre CRM Group, based in Liège and Ghent, is specialised in the field of metallic materials for over 70 years and employs 265 technicians, engineers and PhDs. The research is structured around five platforms, being Energy Shift, Circular Economy, Digitalisation, Advanced Manufacturing and Construction. CRM Group develops R&D solutions to make our industries cleaner, smarter, more competitive and more efficient in the shortest timeframe possible. All with a vision of creating added value and a low level of risk during implementation thanks to unique infrastructure covering the whole manufacturing chain of metals from laboratory scale to industrial pilot lines.

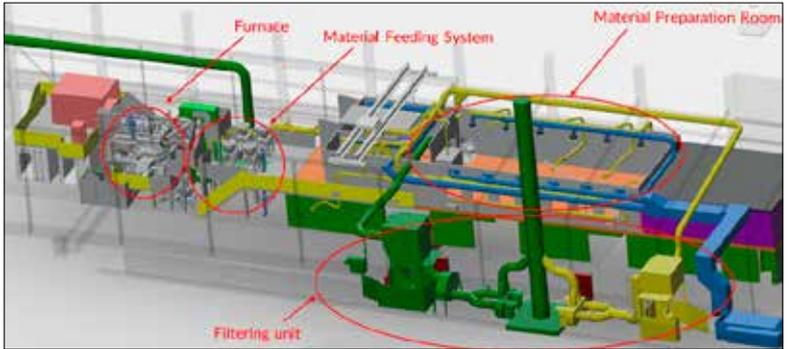
In its transition to carbon neutrality, the steel industry is planning to progressively shift from the conventional Blast Furnace (BF) route to the Direct Reduction (DR) route using hydrogen as reducing gas. CRM Group is therefore quickly adapting its facilities and testing options to support that shift. We are already well equipped in terms of tools which can be used for the characterisation of input and output materials of the new process route (DR pellets, DRI, scrap). Test facilities are also already available for simulating both the direct reduction and the downstream melting processes (EAF or alternative melting units) and a new pilot

scale versatile furnace (1 tonne DC arc furnace 700kW) is being installed to study new EAF steelmaking or OSBF (Open Slag Bath Furnace) conditions while melting low quality scrap or DRI. Furthermore, the EAF dynamic model can be used for upscaling the pilot results. Beyond that, the wide range of available pre-processing tools (mixer, pelletiser, briquetting machines, etc) can also be used to support the transition of steel plants, by tailoring more input materials to the new processes and by developing recycling solutions for the new by-products, as there will be less and less sinter plants available for such recycling.

The increased use, as well as the use of lower quality scrap, is a topic of high interest for both the production of high-quality steel products in the EAF as well as the increase of the scrap rate at the converter. To enhance the scrap usage, scrap treatment and cleaning campaigns have been carried out at CRM Group. Promising results have been achieved for decoating and degalvanising under vacuum or conditioned atmosphere in our 200L thermal preconditioning furnace. Scrap cleaning and sorting will be further investigated in the project 'CAESAR' (Circularity Enhancements by Low quality Scrap Analysis and Refinement), a Horizon Europe project in the Clean Steel Partnership that CRM is coordinating.



HUGE pilot for the simulation of direction reduction



Pilot scale DC arc furnace for DRI melting



Steel promotion, information - Infosteel

www.infosteel.be

Infosteel is the steel construction sector's information and promotion centre, and its slogan is 'Together, for more steel in construction'. Its activities are built around 3 core principles: connect - inform - inspire. Close collaboration with the major segments of the key value chain is essential. Steel mills and steel traders have long been closely involved in Infosteel's activities. In 2021, additional efforts were made to strengthen bonds with the steel construction sector.

In 2021, the 'Score With Steel'-campaign (communication aimed at architects and contractors) was boosted by physical events in addition to the digital component. For decades, the projects of

the Steel Construction Competition are a vital source of inspiration. The visit to the 4 nominated projects demonstrated the many participants the impressive application possibilities of steel in every market segment.

Also in 2021, a lot of attention went to higher education. New concepts were tested. After several years of intensive preparations in a collaboration with 'Bouwen met Staal' (the Netherlands), SZS (Switzerland) and Worldsteel, the 'Steel Design' series of manuals really took shape with the publication of n° 2 (Fire) and n° 3 (Connections) and the completion of the editorial work for n° 4 (Composite structures).



'Journée Prix Acier' in the Grand Duchy of Luxembourg



'Journée Prix Acier' in the Grand Duchy of Luxembourg



'Steel Design' book series

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GSV is the professional organization representing the Belgian steel industry

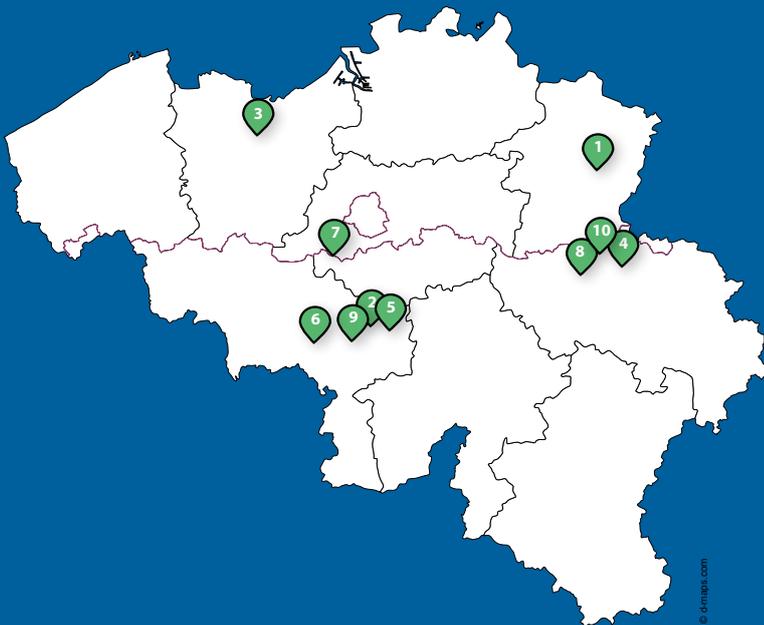
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