



YOUR PARTNER IN THE CIRCULAR ECONOMY



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As a waste processing company, we create value from waste. We recover as many materials and as much energy as possible from the waste streams we treat. We prevent hazardous waste products from getting into the environment or the food and materials chains. Working safely is an essential part of what we do, for our staff, for the environment and for society.

In this way, we can be useful to the circular economy. The circular economy is the only sustainable, ecological way to guarantee humans' welfare and well-being. This is what the United Nations envisages with its Sustainability Goals. We are working to provide the solutions that will make this better world a reality, by closing materials loops in a safe, low-carbon and energy-efficient manner.

In doing so, we focus on our corporate social responsibility and we expect the same from our suppliers. Therefore, every link in the waste management chain has its own responsibility.

Every day at Indaver, we all work within a safety culture whereby everyone strives to ensure that all members of staff go home safe every evening. This attention to safety is present in everything we do and runs through all aspects of our organisation and through all of our activities.

We invest in tools and procedures for reporting, recording and monitoring unsafe situations. We offer safety training and the right personal protective equipment. We ensure that each of our facilities is a safe place to work. All of our people feel responsible if safety issues arise and help us to find solutions.

Despite making these efforts day after day, the unthinkable happened. For the first time in our history we lost a coworker, who died in an accident on our site in Antwerp. This tragic incident affected everyone at Indaver deeply, in all regions and on every site. We are all taking extreme care to ensure this never happens again.

In this annual Sustainability Report, we describe the way in which we have fulfilled our role in the circular economy over the last year in terms of People, Planet and Prosperity. We aren't doing this alone, however, but in league with our partners in the waste sector and in the wider industry, as well as various knowledge institutions (Partnerships). These are also highlighted in this report. We are looking forward to our new projects.

I invite you to read on and to find out more about the ways in which Indaver continues to improve across all areas of the organisation.

Paul De Bruycker, CEO



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People



Click on a picture for more information



Human Resources



A well-trained team



Employer branding: Indaver on the map



Sustainable employability of our staff



Meeting new staff



War on talent, our staff are our ambassadors



Our staff at a glance

Safety



Safety dialogue: talking works



Group-wide safety campaign



Measuring for improvement



FM Global Award for Doel and Meath

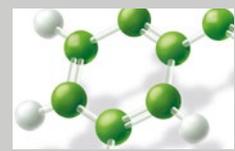


Planet



Click on a picture for more information

Materials



Supplier of high-grade materials



IndaChlor®: recycling hydrochloric acid and energy



IndaMP: recovering precious metals



New sales market for Bio Power Alphen

Energy



Supplier of sustainable energy



Ecluse steam network a European first



Unique energy project in North Antwerp



More energy following revamp of turbine in Germany

Climate



Striving for climate neutral facilities



CO₂ performance ladder raises awareness



Sustainable mobility



Indaver and Dörsam: sustainable together

Safe Sink



Antwerp opens the three valleys



Indaver and Hooge Maey merge



Landscape development on the former landfill site



Indaver remediates contaminated locations



BU Landfill: a strategic project



Indaver treats illegal ivory

Impact



Environmental impact: reporting



Protecting the soil



Healthy ecosystems and biodiversity



Prosperity



Click on a picture for more information

Contributing to prosperity



Annual figures 2018: stable growth



Sustainable procurement: guidelines



A good neighbour for the environment



Social return



Data protection on the agenda

Operational Excellence



New steam turbine Moerdijk



Lean Six Sigma: improving logistics flow



Increasing storage capacity

Growth and innovation



IndaChlor® at the starting blocks



E-Wood: energy from wood waste



Cork: planning for Energy from Waste



Rivenhall: integrated waste management



New Energy from Waste facility Aberdeen



P2C: sustainable solution for plastics





Partnerships



Click on a picture for more information



Partner for customers: solution for complex waste streams



Rotterdam University: advice on employer branding



ArcelorMittal Indaver Thesis Award



ECLUSE: a unique collaboration



Partners with the port and Fluvius



PC2 test facility at UGent



IFAT trade fair Germany: strengthening relationships



Years long partnership



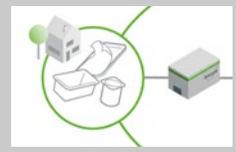
Projects



Bridge-builders: strengthening ties with Indaver



Willebroek ready for P+MD waste



P2C: a new life for end-of-life plastics



Training in green driving habits



Green light for Storage+



Sustainable methanol for Antwerp port



Improvement project for optimum use of energy



New Energy from Waste facility Aberdeen



E-Wood: energy from wood waste



IndaChlor® at the starting blocks

SUSTAINABLE DEVELOPMENT GOALS

In September 2015, the United Nations General Assembly adopted an unprecedented global new sustainable development agenda: the 17 Sustainable Development Goals (SDGs). Each goal has specific targets to be achieved over the next 11 years.

For the first time, business was represented at the negotiation table. Alongside other societal actors, business has a crucial role in helping to achieve these ambitious goals. The ISWA's vision "to create a world where no waste exists" and support towards this new 2030 Agenda was extremely helpful in identifying the goals suitable for a sound sustainable waste management.

[▶ More information](#)

<p>3 GOOD HEALTH AND WELL-BEING</p>	<p><i>Ensure healthy lives and promote well-being for all at all ages</i></p>
<p>6 CLEAN WATER AND SANITATION</p>	<p><i>Ensure access to water and sanitation for all</i></p>
<p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p><i>Ensure access to affordable, reliable, sustainable and modern energy for all</i></p>
<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p><i>Promote inclusive and sustainable economic growth, employment and decent work for all</i></p>
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p><i>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</i></p>
<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p><i>Make cities inclusive, safe, resilient and sustainable</i></p>
<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p><i>Ensure sustainable consumption and production patterns</i></p>
<p>13 CLIMATE ACTION</p>	<p><i>Take urgent action to combat climate change and its impacts</i></p>
<p>17 PARTNERSHIPS FOR THE GOALS</p>	<p><i>Revitalize the global partnership for sustainable development</i></p>

Throughout this Sustainability Report, Indaver makes a clear reference to 9 out of the 17 SDGs which will, collectively, transform our world.



OUR MISSION: LEADING THE FIELD IN SUSTAINABLE WASTE MANAGEMENT

Indaver was established in 1985 in response to the belief held by public authorities and businesses that there had to be a better way to manage waste. Therefore, striving for sustainability is in our company's genes. We are constantly searching for and identifying the most sustainable solutions for the waste streams we treat for industry and public authorities in Europe.

Our role has also changed dramatically over the last thirty years. Today, we are a supplier of raw materials and energy, which we recover from the industrial and household waste we treat in our specialist facilities.

Thus we are helping to close the materials loop in a safe, low-carbon and energy-efficient manner and making sustainable production and consumption possible. This means that as a waste management company, we are no longer at the end of the materials chain but

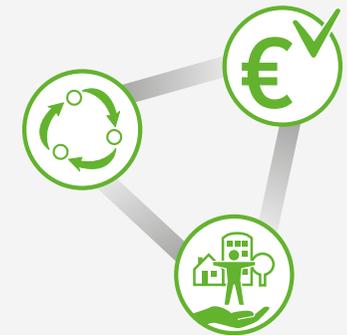
inextricably linked to it. We create added value by returning these materials and energy back into the chain.

Materials that can no longer be used and that contain hazardous substances are destroyed or detoxified, or safely disposed of at our landfill sites. By operating according to this Safe-Sink guarantee, we also protect the materials and the food chain from contamination.

By these methods we are helping to achieve the objectives of the European Union. By 2030, all EU member states must achieve a recycling level of 60 percent for their household waste. Indaver doesn't just recycle a huge amount, the quality of the recycling is also extremely important. We supplement mechanical recycling methods with innovative techniques for chemical and thermal recycling, which produces new, high-quality products.

Our sustainable approach is based on three pillars:

- to recover as many **materials** and as much **energy** as possible, using reliable technologies;
- to focus on **value creation and efficiency** in order to guarantee affordable solutions;
- to focus on **quality and safety** in order to bring reliable products back into the loop, products that don't have a negative effect on people, the environment or society.



OUR CORE VALUES

We want to continue to be pioneers in what we do and how we do it. To this end, we foster a climate that promotes creativity, a climate in which innovative solutions can grow and thrive. We do this by taking care for our staff, who are the ones who come up with these solutions. We want to be a sustainable employer as well, so that we get the best from our staff.

Striving for sustainability is not always easy. But sustainable business is necessary for every company and for every region to remain competitive. Just as Indaver has always done.

Ecology, corporate social responsibility and economy go hand in hand.

Five core values underpin all our work:

- Demonstrating concern for people, safety and the environment
- Building relationships based on mutual trust
- Ensuring transparency in communications and actions
- Concentrating on achieving results
- Continuously improving



ENABLER AND GATEKEEPER OF THE CIRCULAR ECONOMY

Indaver manages around 5 million tonnes of hazardous and non-hazardous waste every year. From that waste, we recycle as many materials and as much energy as possible. We also provide a sustainable solution for hazardous waste streams, thus making the circular economy possible.

ENABLER

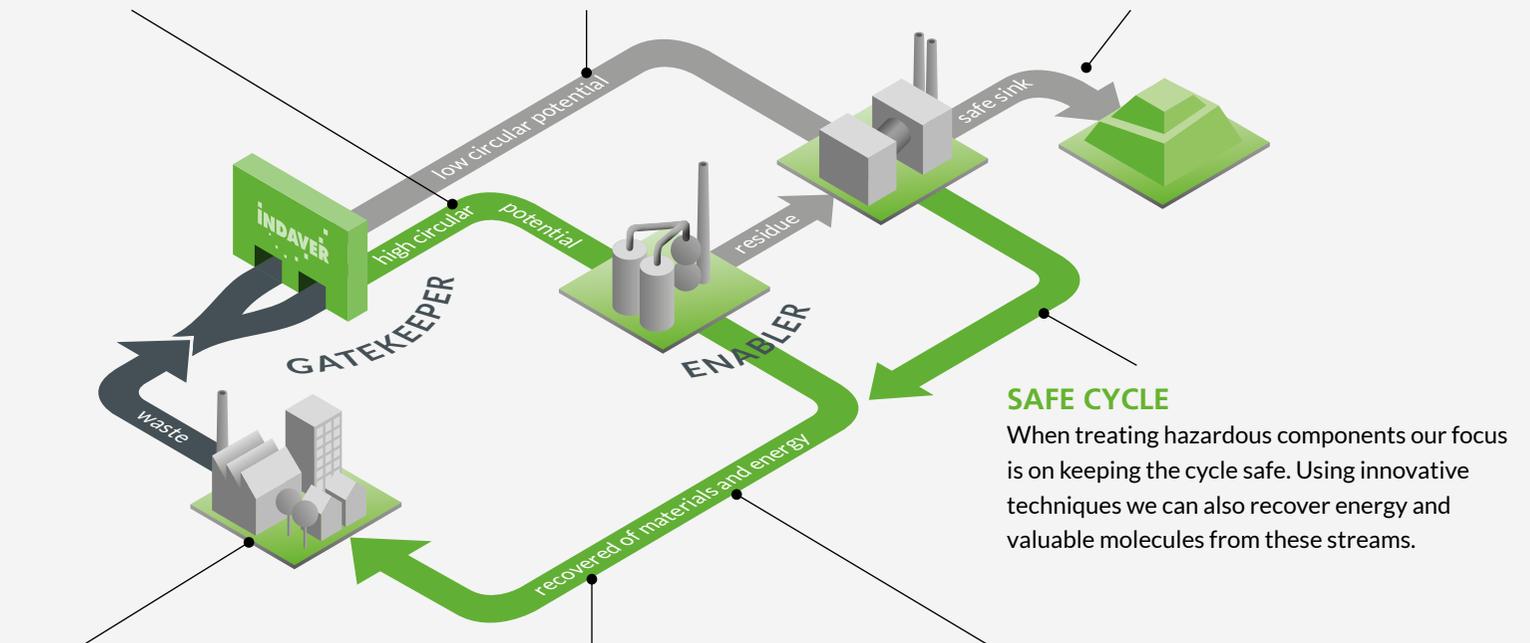
Waste products in the green chain are relatively pure and therefore have a high circular potential. From this we recycle as many materials and as much energy as possible.

GATEKEEPER

Waste products in the grey chain contain hazardous substances, also known as contaminants, and have a low circular potential.

SAFE SINK

With specialist facilities we guarantee a 'safe sink': we destroy and/or neutralise all hazardous substances or store them safely in a landfill. Thus keeping the materials chain safe.



WASTE

Businesses and households produce waste. Indaver provides a sustainable solution.

MATERIALS

Maximum recovery of high-grade materials.

ENERGY

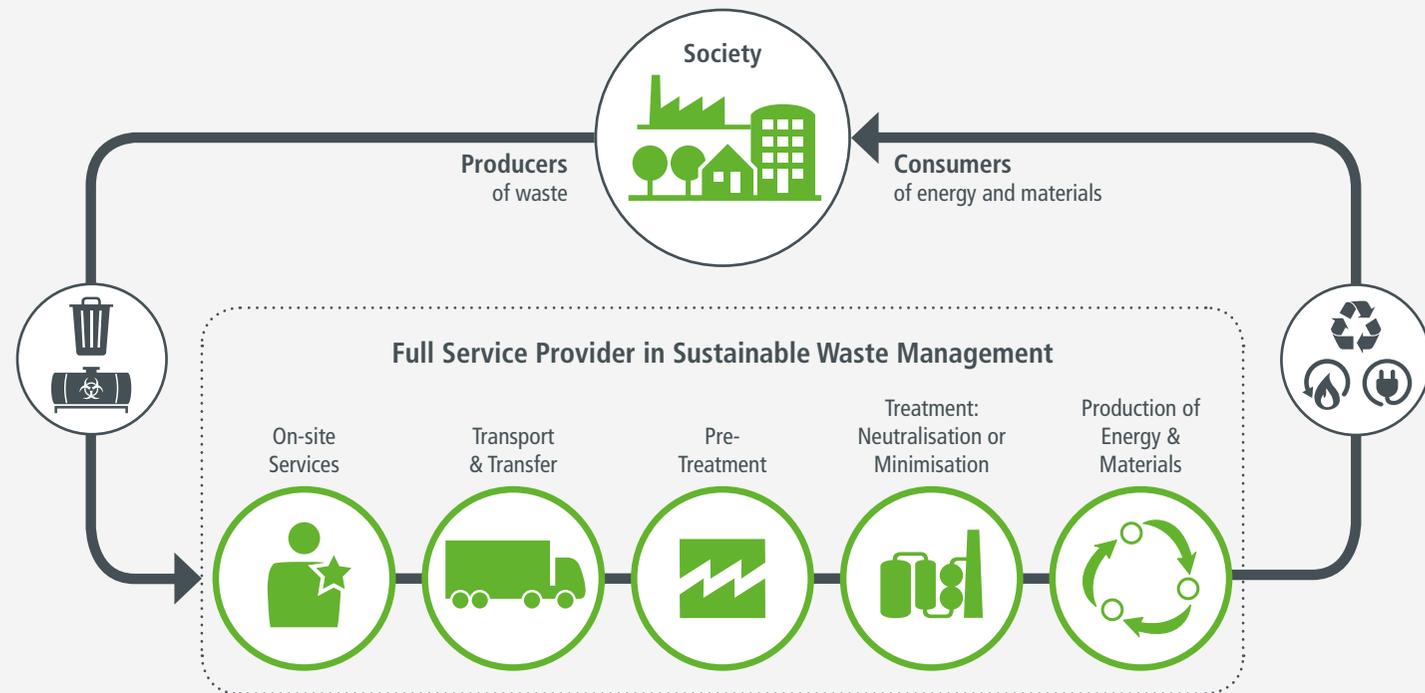
Production for 259,350 households*
 (*) Equivalent, 2018 figures

OUR SERVICES

A full service provider with a clear strategy

Indaver offers its customers (businesses, governments and waste collectors) a comprehensive solution for hazardous and industrial waste and for household and biowaste. As a full service provider capable of managing the most complex waste portfolios, we advise our customers on the most sustainable option for their waste.

In consultation with our customers, we offer the best solution for every waste stream. We always take into account each waste stream's properties and potential impact on the environment, the possibilities for recovery and treatment, the logistics and the cost.



- 7 AFFORDABLE AND CLEAN ENERGY
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- 11 SUSTAINABLE CITIES AND COMMUNITIES
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 17 PARTNERSHIPS FOR THE GOALS

OUR SERVICES

For industry – Industrial Waste Services

Our Total Waste Management solution makes us the leading service provider in waste management for complex, often hazardous waste products from industry in North-West Europe. As every customer has different needs, Indaver always provides a bespoke solution.

We listen to the customer to find out what they need. We determine the best solution for each type of waste. We guarantee full transparency from the time of the request to the final treatment. We can take care of the entire process for our customers, if they wish, with our Total Waste Management (TWM) service provision concept, which is aimed at four sectors:

	Chemistry <i>The science of safety</i>	chemicals, petrochemicals and plastics
	Life Sciences <i>Because we care</i>	pharmaceuticals, biotech, health
	Technology <i>The power of control</i>	ferrous metals, non-ferrous metals, automotive
	Environment <i>Clean & Green</i>	cleaning, collectors, treatment centres.

We put safety, health and the environment first. We guarantee reliability and efficiency to achieve optimum results. We continue to innovate and invest in our treatment and recycling options and data management systems so that we can check, trace and monitor increasingly complex waste streams. To ensure we can serve our customers as well as possible, we continue to expand our treatment capacity and commercial activities in Europe, through organic growth and targeted acquisitions.



PARTNERSHIPS



We create chemistry

“Our waste flows are known for their complexity and diversity. That means we need a partner who has the expertise to support us with advice and solutions. We want to concentrate on our own core business, and need someone who can take care of everything for us while guaranteeing that we are fully compliant with all legal requirements. Our partnership with Indaver is characterised by a mutual open mindset. Everything is open for discussion and we can see that comprehensive records are kept. There is a clear desire to search for solutions, even in demanding situations. Flexibility and short lines of communication are a definite plus. And that applies not only to the Indaver project manager in charge of our file, but also to the Indaver drivers. Based on their role they also contribute ideas as to how we can best approach a number of transport-related issues. That gives us confidence.”

Jeroen Auwaerts, Environmental Coordinator and Delphine Beeckman, Biosafety Manager EMEA, coworkers at BASF Agricultural Solutions.



▶ Read [the full story](#)

▶ Watch [the video](#) with Jeroen from BASF

▶ Watch [the video](#) with Delphine from BASF

OUR SERVICES

For public authorities – Municipal Waste Services

If countries are to fulfil the European goals for recycling, their local authorities must lead the way because they are responsible for treating their residents' household waste. Naturally, they want to do this in a sustainable and cost-effective manner, while recovering as much energy and materials as possible. Indaver is the reliable partner they need to achieve this.

In the regions in which we are active, we have acquired decades of experience in managing household and similar commercial wastes. We therefore have the necessary experience and expertise to assist local authorities and to advise them how to make better use of their waste streams. High-quality recycling and energy recovery are central to our operations. We can work with local authorities to maintain a high-quality materials chain.

Flexibility, free choice and trust

Our service provision is determined by flexibility, free choice and trust. These three principles ensure that public authorities and their citizens are well served.

Our service is provided on three levels:

- **Treatment of household waste:** waste-to-energy, digesting and composting, preliminary treatment of biomass, sorting different plastics, treatment of hazardous household waste.
- **Organisation of waste management systems:** management of waste services for local authorities, collection and transport, operation of transfer stations, talking to external treatment centres for recyclable or residual materials and support for waste prevention campaigns.
- **Infrastructure management:** management or full operation, optimisation of capacity, co-ownership packages, joint projects.

Customized waste management

Each local government approaches its waste policy in its own way and can choose to join forces with other municipal authorities. Indaver has the expertise needed to work within these complex partnerships.



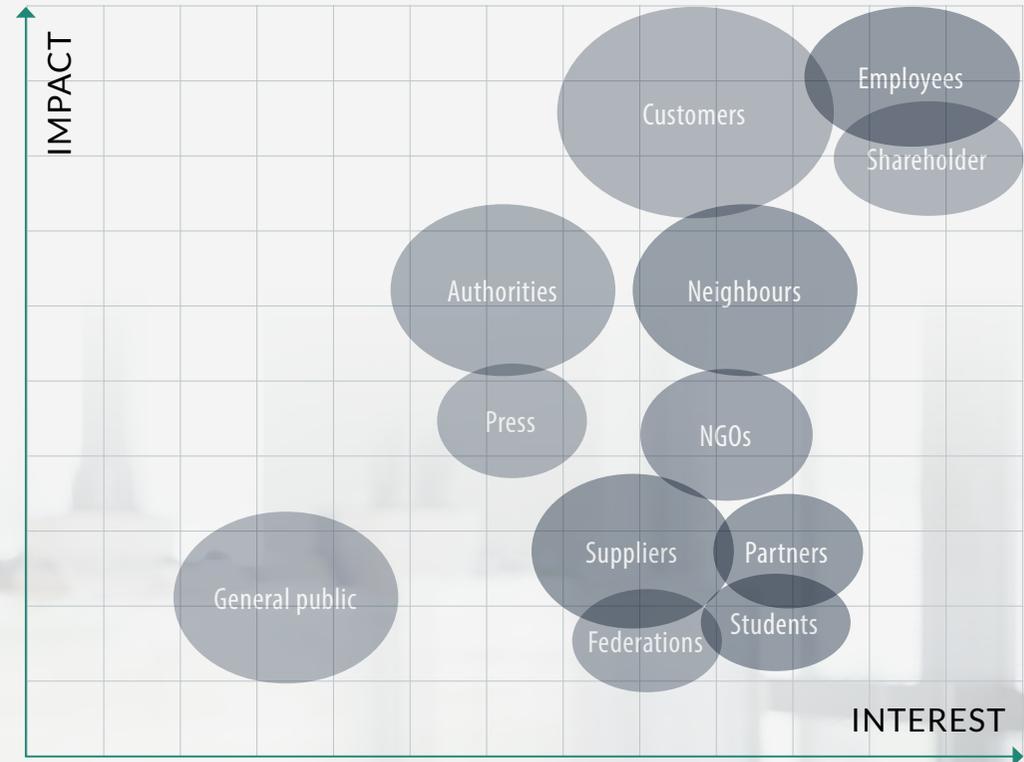
INVOLVING STAKEHOLDERS

Responding to expectations

A working party consisting of staff from the various regions and departments determines the content and scope of this report. This ensures a report that is balanced and representative of the entire organisation. In addition the readers, our stakeholders, are of paramount importance. The stakeholders are mapped here according to their interest in and potential impact upon Indaver. Our experience and our frequent contact with these groups and individuals have enabled us to compile a report that responds to their key concerns and those of the authorities.

To contact Indaver:

- ▶ www.indaver.com
- ▶ e-mail: communication@indaver.com
- ▶ more information: [company data](#)



THE INDAVER GROUP IN EUROPE

Countries of Operation

Indaver has branches and specialized installations in various European countries. Indaver manages waste products with a focus on the sustainable recovery of energy and materials and does so efficiently thanks to intelligent systems.

Belgium Antwerp, Doel, Grimbergen, Kallo, Mechelen, Nivelles, Waregem, Willebroek

The Netherlands Alphen aan den Rijn, Dordrecht, IJmuiden, Moerdijk, Nieuwdorp, Rijpwetering, Rotterdam-Europoort, 's-Gravenpolder, Terneuzen, Vlissingen-Oost, Voorschoten, Well

Germany Biebesheim, Billigheim, Frankfurt, Hamburg, Kassel, Mainz, Stuttgart, Wetzlar

Ireland Cork, Dublin, Dun Laoghaire, Meath

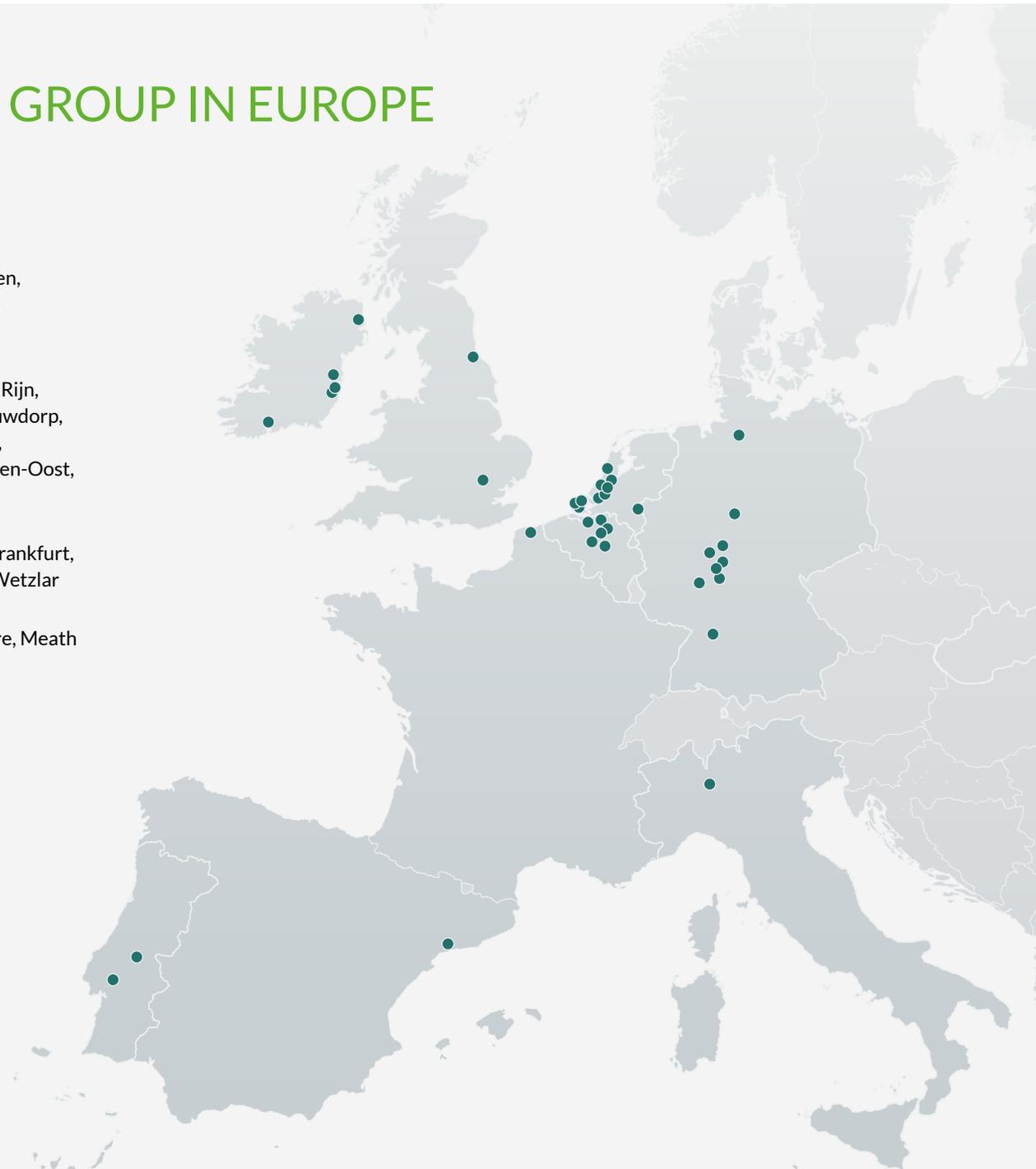
United Kingdom Belfast, Essex, Teesside

France Loon-Plage (Dunkerque)

Portugal Abrantes, Lisboa

Spain Tarragona

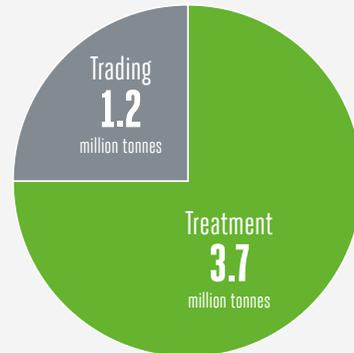
Italy Origgio



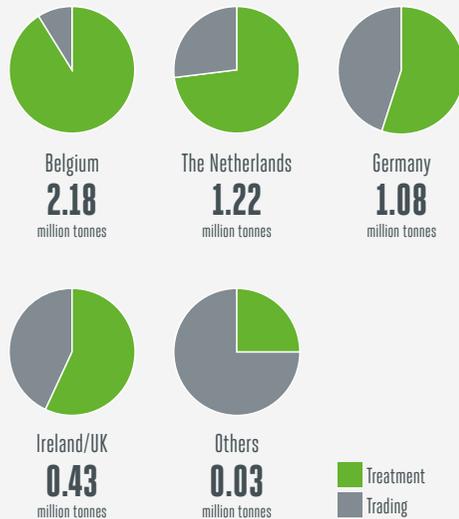
THE INDAVER GROUP IN EUROPE

Volumes managed

In 2018 Indaver managed 4.9 million tonnes of waste, of which 3.7 million tonnes was treated in our own facilities and 1.2 million tonnes by third parties.



Total volume of waste managed
4,930,261 tonnes



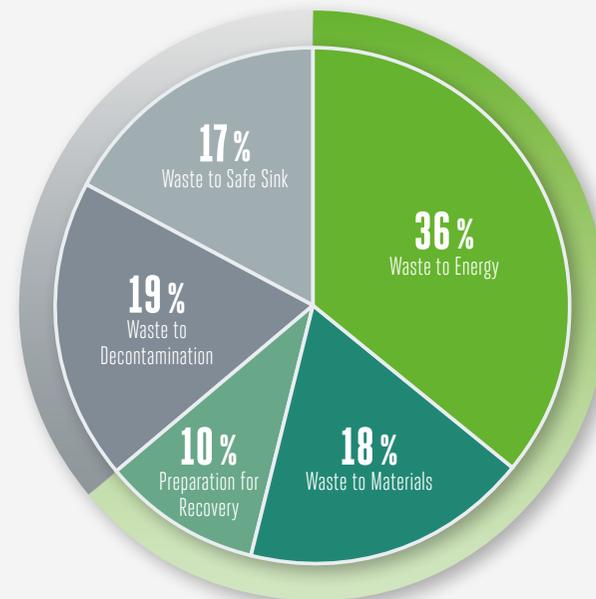
of the waste products were treated with an emphasis on recycling materials and finding useful applications for the energy.



of the streams were thermally treated to break down the harmful components at high temperatures or to neutralize them through physicochemical treatment.



of the total amount of waste was safely and sustainably disposed in a landfill.



AUDITS: IMPROVING THE QUALITY OF OUR PROCESSES

We use audits to monitor the safety, reliability and traceability of our processes. We are transparent, we seek to improve wherever possible, and we operate according to very high standards.

Internal audits

Internal audits help us to improve our business processes. The internal audit team is made up of auditors from all departments. This delivers a balanced approach and helps people from different departments to understand diverse aspects of the business. Each member of the audit team brings their own expertise, technical knowledge and analytical ability to the task of continually improving the quality of our processes.

There are two different types of internal audit:

- **Compliance audits:** the internal audit programme for quality, safety and the environment assesses whether Indaver's operations are being carried out in accordance with the [10 Codes of Good Practice](#), operational procedures, legislation and the various accreditations and licences.
- **Risk-based audits:** these audits identify and quantify risks in the various processes and test the efficiency and effectiveness of the management systems.

► Read the 10 Codes of Good Practice [here](#)

External audits

Each year, Indaver is audited by a number of third parties.

- **Public Authority Checks:** in all regions, Indaver is audited by public authorities that grant licences or monitor correct compliance with such licences.
- **SEVESO checks:** Indaver sites in Hamburg, Biebesheim, Frankfurt, Stuttgart, Antwerp, Terneuzen, Dublin Port and Duinkerke store and treat hazardous waste, which means the sites are subject to the SEVESO Directive. This is a EU Directive on managing the risks associated with the storage and handling of hazardous waste. It aims to prevent serious accidents and, where accidents do occur, to minimise their impact on people and the environment. The preventive measures and the inspection and maintenance programmes on a SEVESO site are audited periodically by the competent authorities.
- **Audits by customers:** Customers regularly carry out their own on-site audits. These audits are either part of the acceptance procedure for Indaver (pre-contractual audits) or of an interim supplier evaluation (post-contractual audits).
- **Audits by certification agencies:** with the certification of Indaver's management systems, an independent and accredited

certification body formally confirms that Indaver is operating correctly. Indaver must participate in a vetting process or certification audit to demonstrate that we comply with these internationally recognised standards. The ISO/OHSAS certificates are valid for three years, verified by annual follow-up audits.

Audits of third parties

Indaver has a large network of reliable third parties who offer specialised processing and logistical solutions that supplement its own activities. They are carefully selected by our own QESH, Waste Flow & logistics teams as a function of location, flexibility, quality standards, services and price. One of the instruments used in the evaluation is the PQQ (Pre-Qualification Questionnaire). Processing centres that handle waste which is critical (due to its nature, composition or the process involved) go through the QESH approval procedure, as a part of which we screen e.g. permits, processing techniques and management systems.

► Click [here](#) for more information

Certificates per country and per site

Country	Certificate holder	Certificate	Since
Belgium	Indaver nv (Antwerpen, Doel, Kallo, Willebroek, Grimbergen, Mechelen, TWM-sites)	ISO 9001/14001	1991/ 1997
		OHSAS 18001	2011
	SVEX nv (Doel)	ISO 9001/14001	2008
		OHSAS 18001	2011
The Netherlands	Indaver Nederland B.V. (Indaver ARP B.V., Indaver Afvalberging B.V., Indaver Compost B.V., Indaver Groencompost B.V., Indaver IWS (Industrial Waste Services) B.V., Indaver Impex B.V., Indaver WTE B.V.)	ISO 9001/14001	1995 / 1997
		OHSAS 18001	2012
		CO ₂ -bewust	2014
	Indaver IWS (Industrial Waste Services) B.V.	SQAS-certificaat	2011
	Indaver Compost B.V. (Alphen aan den Rijn, Europoort, Nieuwdorp), Indaver Groencompost B.V. (Moerdijk, Rijpwetering, Voorschoten)	Keurcompost	2011
		NTA 8080	2010
	Indaver Compost B.V. (Alphen aan den Rijn)	NTA 8080	2014
		NTA 8080 certificaat voor vloeibare CO ₂	2016
	Indaver IWS (Industrial Waste Services) B.V., Indaver Impex B.V. en Indaver Impex N.V.	VCA petrochemie	2014
Ireland / UK	Indaver Ireland Ltd (Dun Laoghaire, Dublin Port, Cork, Meath, Killmallock, Newcastle West, Mungret, TWM activities, UK-sites)	ISO 9001/14001	1994/ 2000
		OHSAS 18001	2002
Germany	AVG mbH (Hamburg)	ISO 9001	1994
		ISO 14001	1997
		OHSAS 18001	2003
		EN 50001	2010
		EFB	1997
		ISO 14001	2001
	HIM GmbH (Biebesheim)	EFB	1997
		ISO 9001	2008
	Panse Wetzlar Entsorgung GmbH (Wetzlar)	EFB	2018
		EFB	1997
	Chemisch-Physikalische Behandlung (Frankfurt)	EFB	1997
	Chemisch-Physikalische Behandlung (Kassel)	EFB	1997
	Chemisch-Physikalische Behandlung (Stuttgart)	EFB	1997
	Sonderabfalldeponie (Billigheim)	EFB	1997
Gareg Umwelt Logistik GmbH (Hamburg)	EFB	1997	
Portugal	Indaver Portugal S.A. (Abrantes)	ISO 14001	2015



EcoVadis: 'Gold' for Indaver's commitment to Corporate Social Responsibility

Just like Indaver, our industrial customers want to operate sustainably. To achieve that aim, our chemical, life sciences, technology and environment customers also look at the whole chain. They want to find out how sustainable their suppliers are so that they can choose, for example, the right waste partner.

The international and independent evaluation platform EcoVadis assesses organisations in four areas of Corporate Social Responsibility (CSR): the environment; employment conditions; fair trade practices; and sustainable employability policy.

Indaver has been audited every year since 2013 and we have been able to improve our score each time. Our recent 'Gold advanced' score now puts Indaver in the top 6% of all suppliers assessed in the category of 'waste management and treatment'.

We score very highly on the environment and working conditions, but previous assessments still showed room to improve our sustainable purchase policy and fair trade practices. One of our improvement initiatives in 2018 was a charter for a sustainable purchasing policy and a behavioural code for suppliers. Indaver

wants to work with partners and suppliers who have a strong focus on sustainability in their companies and can prove that.



The Netherlands: Indaver sails through the TSF audit

Some waste substances from industrial customers cannot be treated in the country where they are produced. Within the framework of its Total Waste Management (TWM), Indaver organises cross-border transport (Transfrontier Shipments or TFS) and takes care of the complex administration involved.

Indaver handles around 600 TFS dossiers for industrial customers each year. The competent authorities must approve these

waste transports. Many TFS applications come back unchanged each year. Therefore, to make the process smoother and more efficient, Indaver had a Dutch-Belgian audit from the ILT (Inspectie Leefomgeving en Transport) [the Dutch Human Environment and Transport Inspectorate] and from OVAM (Openbare Vlaamse Afvalstoffenmaatschappij) [Flemish Public Waste Authority]. These two bodies assessed whether Indaver works in accordance with the strict European Waste Shipment Regulation.

On 6 November 2018, Indaver received a TFS conformity certificate from the Dutch Human Environment and Transport Inspectorate (ILT). The ILT audit concluded that "Indaver is a "very honest organisation, with very committed and professional staff" and is justifiably well trusted because it works in accordance with legislation and regulations."

CUSTOMER SATISFACTION

Every year some of Indaver's customers with the most complex and critical waste provide feedback on customer satisfaction using a Balanced Score Card. They also evaluate various aspects of the Total Waste Management (TWM) service.

For 2018, the average score was 85 %, with the highest score awarded to personal/customer contact. This is a great result of which we

can be proud. Improvement processes have been put in place following a few comments regarding damage to containers and invoicing issues. The progress of the TWM contract and general customer satisfaction is also followed closely and structurally in operational, tactical and strategic meetings. All verbal and written feedback is then registered in the Customer Relationship Management (CRM) system. Where relevant, an improvement process is

put in place. Specific services are also surveyed, such as the Post Collection Questionnaire (PCQ) in Ireland, which prompts feedback on and asks about satisfaction regarding the collection of waste. In 2018, we recorded a response rate of 34 %, which is fairly high, and we received an average score of 91%.

Via the balanced score card Indaver receives annual feedback from industrial customers about their customer satisfaction.



2018 3 PILLAR Balanced Score Card

Based on our 3 pillar Service Model: Assets, Systems, People

SMART KPI's to evaluate every performance

Fill in your Score (1 to 6) & Weight (1 to 3)

SETS	Score	Weight	Result
by made			
request			
agreed			
due			

SUSTAINABLE WASTE MANAGEMENT IN THE CIRCULAR ECONOMY

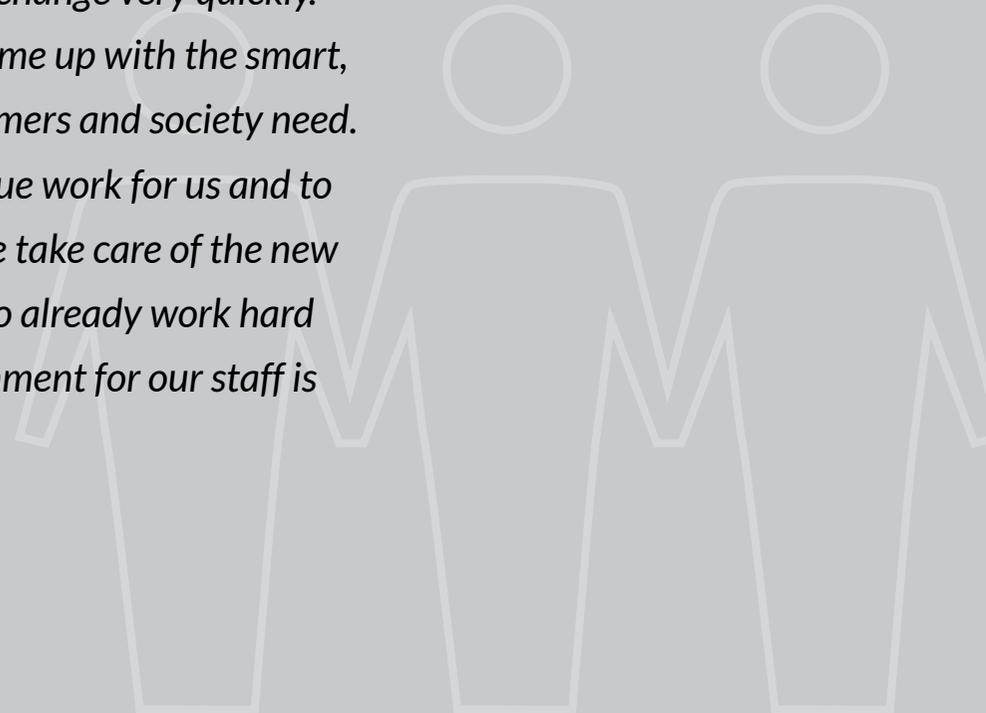
*Steven Coppens, Lead Engineer E&I (l.) with
Erwin Van den Brande, Lead Engineer Civil
and Infrastructure (r.) on the construction
site of IndaChlor® in Dunkerque (Fr)*





People

Waste is a complex business; things change very quickly. By investing in our people we can come up with the smart, sustainable solutions that our customers and society need. So we want our colleagues to continue work for us and to have plenty of energy. That's why we take care of the new talent we attract and the people who already work hard for Indaver every day. A safe environment for our staff is our number one priority.





SUSTAINABLE USE OF TALENTED EMPLOYEES

Context

Remaining enthusiastic throughout your career

Due to the ageing population and the pressure this is putting on pensions throughout Europe, in many countries the retirement age is being raised. Today's employees are therefore expected to continue working for longer. For employers, the priority is therefore to help make that feasible for their staff and to keep them motivated. To ensure that everyone, including young people, can start working and continue to work healthily and happily, employers and employees need to focus on sustainable employability.

War on talent

Attracting and retaining skilled staff is a challenge for all employers today. In particular, there is a shortage of staff with technical skills. The work market is under pressure: a lot of talent and experience is leaving with the ageing population, and the young people who are just entering the workplace want a job that will make a difference and that offers added value to society. That is how they choose their employer.

Our approach

Sustainable employability

Under the slogan 'Stay on the journey' we guide our employees throughout their career with the company. We use a 'metro map' as a visual representation of our sustainable employability policy. The four pillars of this policy form the four major lines on this map, with dozens of branch lines that allow for customised solutions and that are geared to the particular needs of each employee.

We provide a learning environment to strengthen our company's expertise and the resilience and adaptability of our staff. We support our employees to make sure they remain motivated and engaged, and capable of adapting to change. We involve our staff in the ins and outs of the business and give them the autonomy and the space to do their work well. We help our employees to maintain their physical and mental health. We ensure there is a balance between capacity and workload and we arm our people against burnout, stress and sick leave. Prevention is key.

- **Health/Energy:** we support our employees to maintain their physical and mental health.
- **Competent/Professional knowledge & Skills:** we offer our employees opportunities to hone their skills and to continue developing their potential.
- **Enthusiasm/Motivation & Engagement:** we stimulate enthusiasm among our employees.
- **Work-life balance:** we help our employees find the right balance so that they remain productive throughout their careers.

3 GOOD HEALTH AND WELL-BEING



8 DECENT WORK AND ECONOMIC GROWTH



STRUCTURED LEARNING: ACQUIRING THE RIGHT KNOWLEDGE, QUICKLY AND EFFICIENTLY



A lot of staff members want to do a refresher course during their career at Indaver or to gain entirely new knowledge and skills. We want to teach them that knowledge quickly and efficiently. Using 'structured learning' we determine the minimum skills and knowledge employees need for each role and which learning methods are most appropriate for gaining that knowledge and those skills. We also look at what attitudes are important in their role. We invest in 'blended learning', which combines 'on the job' training and the traditional 'classroom' method with new (technological) forms of learning. The approach depends on the content and the aim of the learning requirement.

In addition to traditional face-to-face training there are now webinars, e-learning and screen capturing. We are experimenting with gamification, VR and augmented reality. We integrate these training tools into the online work environment for our employees. Managers are given advice to determine the most appropriate method for each learning requirement. That way, we can guarantee that our employees, whichever region they are in, have the same knowledge and skills in-house. This means we can be quicker off the starting blocks when it comes to new investment projects, or when expanding in new regions.

“For a whole week we immersed the Customer Invoicing team in Indaver Ireland in the world of quotes, invoices and customer administration: we showed them how we do it and they showed us what they’ve learned from it. We give and receive immediate feedback. Because it’s about more than just training. It’s also about making the context clear, about team building, about trust.”

*Els Seghers,
Manager Supply Chain*



EMPLOYER BRANDING: TO STRENGTHEN OUR IMAGE AS AN EMPLOYER

Indaver wants to attract talented people, but that talent will only be tempted if they see Indaver as an attractive employer, where they will be able to work happily and purposefully. We use a targeted approach and play to our strengths: choosing Indaver means choosing a high-tech company that invests in talent and that is helping to create a sustainable planet; it means choosing a company in which sustainable

employability is key, where staff can work flexibly earning salaries at market rates.

We use social media channels to share vacancies and to strengthen our image as an employer through posts about the company and its activities. We want to build a talent community. Our own employees are our best ambassadors: they share Indaver's posts on their own social media networks;

they increase awareness of our brand and give their family and friends an insight into what it's like to work for Indaver. We also take part in job and trade fairs to showcase our appeal as an employer. Our employees talk about Indaver and about their jobs.



OUTLOOK FOR 2019

Developing onboarding and traineeships

Our onboarding programme helps new employees to bond with Indaver quickly. A new employee needs to feel at home fast and to be able to find their way around our organisation easily. The introductory programme is tailored to the employee, it even includes a short follow-up course. Using an e-learning programme, supervisors can pass on company-specific knowledge and thus help the employee to integrate quickly.

To increase our appeal to starters and students, we are also developing a traineeship programme. By better-coordinating projects and collaborating with educational establishments, we can take interns on board. The intern gets a peek behind the scenes and can then be an ambassador and promote Indaver to their fellow students. Indaver gains access to the latest findings and developments in the area being studied by the students doing their internship.

SUSTAINABLE EMPLOYABILITY: HEALTHY EMPLOYEES

Indaver FIT

2018 was the year we introduced the specially developed Indaver FIT to the Netherlands. This sustainable employability portal starts with an online test that shows our staff quickly and easily whether they are comfortable at work, if they have a good work-life balance and if they are fit and energetic. With help from a personal coach from Randstad HR Solutions, participants can then tackle the points for improvement with support from Indaver's sustainable employability programme. We presented Indaver FIT to other people in our sector at a meeting of the Dutch employers' association, WENB, in Arnhem. With the Indaver FIT portal we are providing a leading example for the waste and energy sectors.

"Indaver's approach of sustainable employability is unique as it focusses on the development of the individual. Each person or member of staff is invited and encouraged to see to one's own development, take one's own health, vitality to heart and tend to one's own work-life balance."

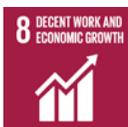
Floor van den Heuvel, Program Manager Sustainable Employability at employers' association WENB

 [Watch the video](#) (in Dutch)



100% smoke-free

Indaver in the Netherlands started 2018 as an almost entirely smoke-free campus. This is the result of an extensive and long-running campaign to work and live more healthily. The regular health check-ups organised by Indaver in the Netherlands in 2017 revealed that the percentage of smokers has fallen by at least 30%, and of the remaining smokers, half wanted help to give up. Indaver offered that help. Furthermore, the results strengthened our resolve to make Indaver in the Netherlands entirely smoke-free.



SUSTAINABLE EMPLOYABILITY: ENGAGED EMPLOYEES

Care @ Work: well-being policy for long-term illness or psychosocial issues

If employees are off work (long-term) for physical or psychosocial reasons, Indaver ensures that the link with the company is not broken, that they receive support and that they can come back to work again quickly afterwards. In 2018, Indaver in Belgium worked out its vision and action plan with its employees, so this approach is supported throughout the company.

For Indaver, prevention is the key to addressing these issues. We try to follow a path that focuses on contact, dialogue and consultation for as long as possible.

Managers play a key role in this. In 2018, they received care@work training and followed a course on how to 'detect the signs of psychosocial risks'. In order to tackle psychosocial risks quickly, such as stress, conflicts or bullying, there is a confidential advisor at all sites. Staff can prevent stress and burnout themselves through workshops such as energy@work, in which they discover what gives them energy. They can also receive career advice and burnout coaching.

"In the past colleagues addressed me on several occasions to discuss issues that bothered them. As always I lent an ear and if need be, I offered well-meant advice or guidance. Hence the request to become a confidential advisor could not have come at a better moment."

Sonja Houben, Transfrontier Shipments
Coordinator and Confidential advisor (B)



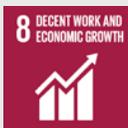
A look behind the scenes

With the 'Look behind the Scenes' initiative, staff were given the chance to shadow a colleague who works in a different role, in a different department or even on another site. Staff get to know other departments and colleagues better, which in turn promotes communication and collaboration. Furthermore, they gain more insight into the operations of the entire organisation. With this project the Netherlands and Belgium are following Indaver Germany's example with its 'My Work, Your Work' project that began in 2017.



"Indaver Impex does exactly the same as we do with (semi-) local authorities, in their case drinking water companies and waterways. These are similarly big customers and I really wanted to know how they handled their relationships. How do they maintain contact, how do they approach contract extensions? I had a fun and interesting day there. Such cross-pollination exercises are relevant and interesting"

Robert Jansen, Tender manager VFG,
Green and Residual Waste in Dordrecht



EMPLOYER BRANDING

Students advise Indaver on employer branding



In the autumn of 2018, Indaver acted as a case study partner for students at the Rotterdam University of Applied Sciences in the Netherlands. Through working groups, students from different disciplines advised us on employer branding. They suggested setting up an ambassador network within our organization. This network can help bridge the gap between enthusiastic employees and potential colleagues.

Night of Chemistry & Life Sciences



On 10 December 2018, Indaver was one of the companies present at the first Night of Chemistry & Life Sciences for Chemistry & Biochemistry Industrial Engineering students. With this event Groep T (KU Leuven Faculty of Engineering Technology) wants to bridge the gap between the worlds of business and education and to give businesses the chance to spot talent early. In the Netherlands, the implemented intern policy is already paying off. In 2018, we had 11 interns, spread throughout the entire company.

AMI-Awards



Young talent that seeks to build a sustainable world deserves Indaver's support. That is why we sponsor the Arcelor Mittal & Indaver Thesis Awards. In 2018 we rewarded the five best final theses from the five environmental courses at UGhent (BE). The university is one of Indaver's academic partners for industrial and experimental research, with which we can jointly come up with innovative solutions for the circular economy. The winner from the Masters in Environmental Sanitation was chosen by Indaver staff. He won with his research into the role of the plant lianas in maintaining the water balance in rainforests.



Indaver employees inform students at a job fair

Rob Kruitwagen, Regional Director Benelux - France, with the winner of the Arcelor Mittal & Indaver Thesis Awards



WAR ON TALENT

Bringing Generation Y to Indaver

Indaver launched an online campaign targeting Generation Y (those born between 1980 and 2000) to promote vacancies for new starters. Our own Generation Y staff played a major role in this initiative. They talked about working at Indaver in testimonials on the website and on social media. Thanks to their stories, more visitors found their way to the vacancy pages on our website. By doing this, Indaver aims to receive more spontaneous job applications and promote its desirability as an employer.

Refer a friend

As an employer, there is no better promoter for Indaver than our own staff. To encourage our people to look for talent among their own family and circle of friends, Indaver brought in the 'Refer-a-Friend' programme in 2018. Employees who introduce a potential member of staff will receive a bonus payment to thank them for their efforts. They receive this payment as soon as that colleague is employed permanently.



OUTLOOK FOR 2019

Bridge-builders: new ambassadors

In 2019, Indaver in Belgium introduced "Bridge-builders": staff who help to strengthen the ties between each other and with the organisation. Bridge-builders are like Indaver's ambassadors. They convey where the organisation wants to get to and explain the approach it is using to achieve that in order to increase support for it. They communicate with their colleagues, with management and with the outside world. **MoodMakers** provide a healthy and sporty way to fill the lunch break, **WegWijzers** (guides) aim to help colleagues to organise their mobility sustainably, while **MedeMerkers** (Brand Employees) work on Indaver's employer's image. Employees volunteer out of a desire to help and promote Indaver's vision and goals.



MoodMakers



WegWijzers



MedeMerkers

COMMITTED AND ENGAGED EMPLOYEES

This figures show the composition of the workforce in every region. All regions are working on sustainable employability.



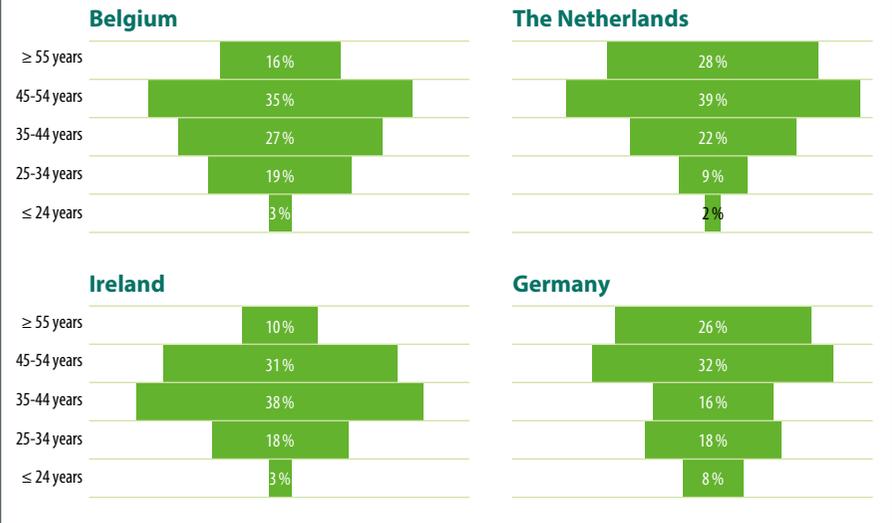
Average age
44.42 years

BE 44 jaar
NL 46 jaar
DE 45 jaar
IE/UK 42 jaar

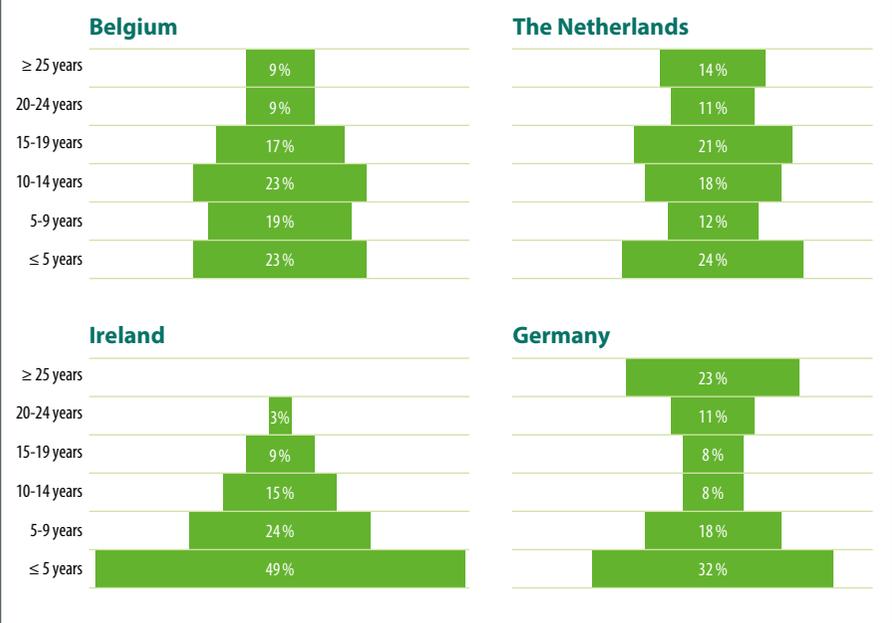
Average seniority
12.11 years

BE 12 jaar
NL 14 jaar
DE 13 jaar
IE/UK 7 jaar

Average age pyramids 2018



Average seniority pyramids 2018





Antwerp incident: a dark day for Indaver

Safety is our priority, that is evident in everything we do. But despite all of our efforts, measures and procedures, the unthinkable happened. On 13 September 2018, Indaver was shocked by a fatal accident.

There was an explosion on the Indaver site in Antwerp. In an underground storage tank, where liquid waste was being stored while it was awaiting treatment in the rotary kiln incinerator, a rare chemical reaction occurred. In the incident, one colleague lost their life and four others sustained minor injuries.

Indaver immediately undertook a thorough cause analysis. This showed that we had followed the existing acceptance procedures and the procedures for disposing of and storing the waste correctly. There was no question of human error.

Nonetheless, the incident was able to happen, and with tragic consequences. Based on the cause analysis, Indaver has taken additional measures to work more safely both on a technical level and at an organisational and procedural level. We fully tested the facility. On 22 October 2018, Indaver Antwerp resumed acceptance of liquid waste.

Sad loss in the Netherlands

In October 2018, one of Indaver Impex's long-term contractors had an accident on his way home from work.

Indaver was deeply affected by the loss of these colleagues.

To avoid such accidents in the future, Indaver is doing everything to guarantee the safety of its people. Indaver's overall safety results are addressed in the next chapter.



SAFETY: OUR PRIORITY

Context

Work safe, get home safe

Our people give their best every day. We strive to ensure our high-tech installations work properly and that the working environment and traffic on our sites are safe. We teach our people to spot hazards and risks and we provide the necessary safety training courses. We are working to foster a culture in which everyone pays attention to each other's safety.

Safety of facilities & processes

Safety is a constant theme in our policies, procedures and management systems. We've invested in tools and procedures to report, record and monitor unsafe situations across the entire organisation. We provide safety training, health check-ups and the correct personal protective equipment. We ensure that each of our facilities is a safe place to work.

Personal safety

For a safe work environment it is vital for our employees to operate safely. We are working to foster a culture in which everyone cares about each other's safety. Managers take on a visible responsibility regarding safety, and our people feel a sense of ownership for safety problems and solutions. We encourage anyone who spots a safety risk to report it promptly so that we can investigate and address it.

Our approach

Safety, a priority

Safety is everyone's responsibility, at all levels and in all roles. The International Management Team (IMT) sets the safety objectives each year. Every Regional Management Team (RMT) develops its own safety plan, which is monitored by internal audits, risk evaluations and training.

In an effective safety culture the main aim is prevention, as well as responding and correcting. We encourage our employees to alert us to unsafe situations via a user-friendly app. In our incident management we also continually analyse the root causes of incidents. This allows for quick preventive interventions and the development of actions based on hard facts, to avoid a repeat occurrence.

The more frequently unsafe situations are reported and addressed before there is an accident or damage, the smaller the risk of all other types of accidents. We use the Safety Pyramid to create a safe working environment in every region.



SAFETY DIALOGUE: ENCOURAGING PEOPLE TO TALK ABOUT SAFETY

Under the heading 'Safety begins with you' we work continuously and systematically on a culture of safety. In this, the management leads by example. The members of the International Management Team – including CEO Paul De Bruycker – and of every Regional Management Team visit sites to give safety talks to the people who work there. In 2018, Paul De Bruycker visited Antwerp, Willebroek and Meath.

In training courses managers learn how to identify safety risks, how they can communicate their findings to staff, how to set a good example themselves, and how to motivate their people to follow that example. Indaver also organises training courses to help employees tackle each other about unsafe behaviour.

Promoting this safety dialogue, at all levels, means that employees

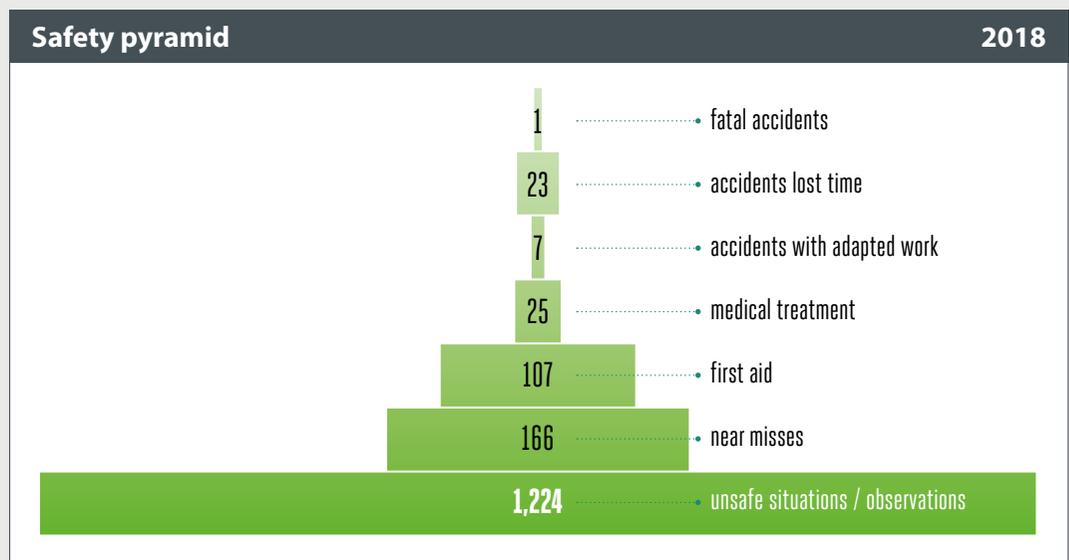
are willing to make suggestions for improvements and to share their views and concerns. The dialogues create connection and also normalises conversations about safety.

Members of the IMT during the visit in Willebroek



Prepared to report potential hazards

In 2018, we received 20% more reports of unsafe situations from members of staff than in 2017. This doesn't mean there were more potentially dangerous situations, but that our staff were more prepared to report these potential dangers. Often the reports were in fact 'early warnings': staff were giving warnings before it could become an incident. This means we can intervene with preventive measures. The staff therefore help to support and grow Indaver's safety policy, from their own experience.



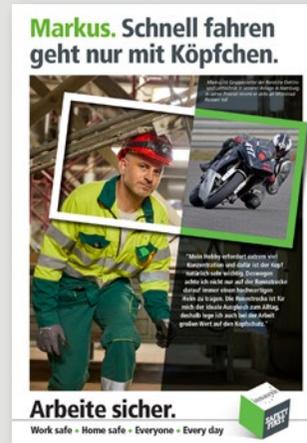
SAFETY CAMPAIGN

Work safe ♦ Home safe ♦ Everyone ♦ Every day

Work and home are not separate worlds. A safety incident at work also has consequences for a member of staff's private life. That is the message of the safety campaign that Indaver launched in 2017 and that continued throughout 2018. This annual, group-wide campaign has a personal touch. In the poster campaign we emphasise that we provide personal protective equipment, but that employees have a responsibility to wear it. Our staff modelled it themselves. They posed at work and while doing their hobbies: a DJ talks about why he protects his hearing, an ultra marathon runner about why he never comes to work without his safety shoes.

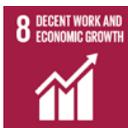
OUTLOOK

In 2019, the safety campaign will tackle the topics of 'breathing', 'backs' and 'working from heights'.



“During performances, but also at work, I always wear ear defenders or ear moulds which mainly filter out the high tones. Tinnitus is increasingly common. As a DJ you are warned about this silent attacker. Once you have the symptoms, it's too late.”

*Kenrick de Dreu,
Indaver Impex operator and DJ*



MEASUREMENTS: MONITORING SAFETY PERFORMANCE



The fatal accident in Antwerp threw a shadow over the whole of 2018 because for us, there is nothing more important than guaranteeing our staff go home safely every evening. Indaver is doing everything it can in this regard, and the overall safety results demonstrate that. Our safety score is stable. In 2018, in 21 of Indaver Group's 27 facilities we didn't have any accidents that caused injuries.



Slips & trips responsible for most accidents

In 2018, there were no accidents resulting in injury in 21 of Indaver Group's 27 facilities. That also applied to Indaver's 50 Total Waste Management locations.

These accidents were usually related to small, simple operations, so-called slips & trips, and to handling. The top three causes of incidents were: falls or slips, near-misses, and exposure to substances.

Lost time incidents

A lost time incident is one that results in a member of staff having to take more than one day off work. Each region collects its own data and we collate this and report as a Group. In 2018, there were 23 lost time incidents, involving 18 staff and 5 subcontractors. In 2018, the frequency rate was 7.5. Overall, our results are continuing to improve steadily over time. In 2018, the severity rate was 0.10. The severity is determined by comparing the number of days' absence from work caused by lost time incidents per 1,000 work hours.

Excellence in comparison to the sector

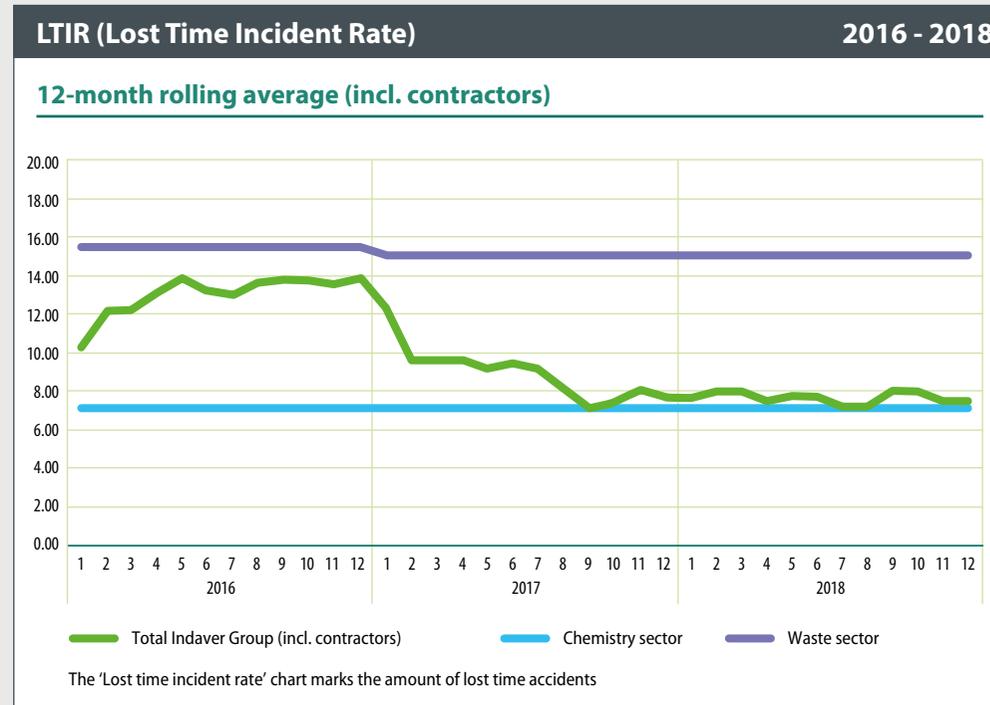
There is no publication containing European safety figures for the chemical and waste sectors. In Belgium, figures are available for the waste sector and the chemical industry, and we use these as an appropriate benchmark for our own safety data.

Frequency – According to the most recent data published by the Belgian federal government (2016), the average frequency rate in the waste treatment

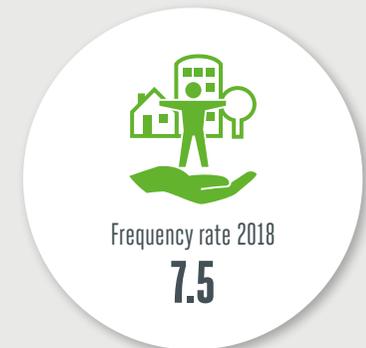
sector is 26.51. Our frequency rate of 7.5 increased slightly in 2018. The average frequency rate across all sectors in Belgium is 16.55, so we still remain significantly below that figure.

Real severity – Number of days lost per 1,000 working hours. This measure indicates the number of days during which staff were unfit for work. Again, we compare our Group results against Belgian figures. In 2018, the real severity

for Indaver was 0.10. The most recent figure for real severity for the waste treatment sector in Belgium is 0.86. Not only is our score better than that of the waste sector in general, it is on a par with the chemical sector in Belgium, where the average real severity is 0.24. We score significantly better than the national average for all Belgian sectors of 0.40.



At Indaver there are fewer accidents than in the Belgian waste sector. And when accidents do happen, they result in fewer days of unfitness to work than the average for the waste sector.



RESULTS OF TEAMWORK AND TRAINING

Learning Opportunity of the Year

Indaver attaches great value to learning opportunities in the field of safety. They keep our staff alert and refocus them. We encourage this attitude by choosing the Learning Opportunity of the Year, which has now become a tradition in the Netherlands. Thanks to the Learning Opportunity of 2018, lorries at Indaver IWS in Terneuzen can now be loaded in a more organised manner and more safely. The winner, Gilco Baaij, enjoyed a hot-air-balloon ride over Zeeuws-Vlaanderen in September 2018, with five colleagues he chose to accompany him.

Selfies with personal protective equipment

Following the Group's safety campaign on personal protective equipment (PPE), in December 2018, at Indaver in Ireland and the United Kingdom we asked our staff to send in photos of themselves showing the use of this PPE at home. The response was overwhelming, with photos of children wearing bike helmets and hi-vis vests, Superman logos, even dogs wearing safety helmets!

Second safety award FM Global Award for Indaver



Two of Indaver's facilities have now been awarded Highly Protected Risk Status by FM Global. FM Global, a global player in insurance, is responsible for Indaver's fire and risk insurance. HPR is the highest status that an installation/location can acquire – and it's difficult to obtain. Meath in Ireland received the award in 2017, then in 2018 FM Global awarded this status to Doel in Belgium. Only one other waste-to-energy installation achieved this ahead of Indaver. This status demonstrates how much effort Indaver has put into technical safety. FM Global conducted an extensive audit in Doel, with a risk analysis of all the vital installations and buildings for fire safety and breakdown of machinery. The auditors praised our continual efforts to raise our standards ever higher.



Belgian locations Doel and Willebroek accident-free

In Belgium, two sites were able to celebrate their good safety performance in 2018. **Doel** remained accident-free for 100 days in a row in the second half of 2018. The **Willebroek** site managed to reach the 1,000 days mark without a work accident requiring loss of work time. The staff on both sites received a small gift. In Ireland, Indaver is doing even better. The **Meath** waste-to-energy facility in Ireland has a record of five years without

an accident requiring loss of work time/absence. Indaver staff, past and present, who together ensured over 43,000 work hours without a health and safety accident causing loss of work time/absence, came together to celebrate this achievement. This excellent performance is the result of teamwork, careful training, supervision and high standards every day.

The waste-to-energy facility in Meath celebrated 5 years without a lost time incident

SUSTAINABLE WASTE MANAGEMENT IN THE CIRCULAR ECONOMY

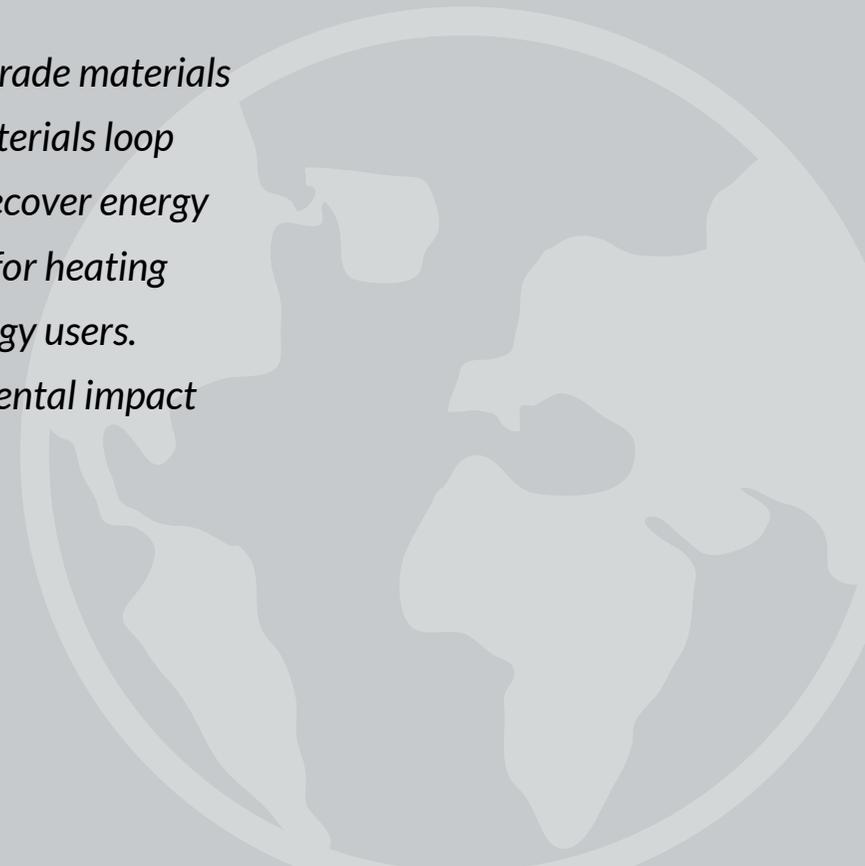
*Operators Yannick De Clercq (l.) and
Dirk Van Hese (r.) in Doel*





Planet

In our high-tech facilities, we recover high-grade materials from the waste we treat. We protect the materials loop against unwanted contaminants. We also recover energy from waste in the form of steam, hot water for heating and as electricity and we supply this to energy users. In all of our activities we keep the environmental impact to a minimum.





Planet

Context

MATERIALS

Raw materials, rare & expensive

Raw materials are essential to our well-being. We need them for all the products and services we use today. The world population is growing exponentially, technology is developing at lightning speed. The pressure on increasingly scarce raw materials and energy is becoming unsustainable.

We have to start using materials and energy more intelligently. In a circular economy, materials that we recover from waste streams are reintroduced as high-quality raw materials to be used for their original purpose, or to make new products. Thus we are saving primary raw materials. Waste management therefore plays a crucial role in closing loops.

End of Waste: the EU wants materials to be reused as much as possible

The EU wants primary raw materials to be replaced, wherever possible, with materials reclaimed from waste. In April 2018, the European Union approved the Circular Economy Package. Among other things, this comprises a new waste directive, a directive on landfills and a packaging directive. This new framework refines the objectives for sustainable waste management, with useful applications for waste streams. It imposes stricter rules on how member states must achieve their goals.

There are as yet no clear European product standards for recovered raw materials.

By 2030, all plastic packaging in the EU must be recyclable. Furthermore, the EU wants the member states to recycle half of all plastic packaging by 2030. Currently, the member states combined aren't even managing 30%. The EU is asking for member states to include these new goals in their national legislation by 2020.

In the meantime, China has banned the import of plastic waste, which has had a major impact on the European waste sector. This ban also offers opportunities, however: we can create new jobs and invest in new technologies.

Our approach

Closing the materials loop

Manufacturers use raw materials to make products. From the waste that is left over at the end of these processes, Indaver recovers new raw materials for industry. By reusing, recycling and recovering these materials as efficiently as possible, we draw on fewer primary and fossil raw materials. That way we are closing the materials loop.

Creating value from waste

In our high-tech facilities we recover all valuable materials from the waste we treat. We supplement mechanical recycling methods with new techniques for chemical and thermal recycling. With our Molecule Management approach we break down complex waste products into their basic building-blocks or molecules. These are a high-quality raw material for the industry because, in a circular

economy, manufacturers want to reuse raw materials on the condition that they are just as good and safe as the original material. Indaver continually invests in the technological innovations required to further improve the quality of the materials.

7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



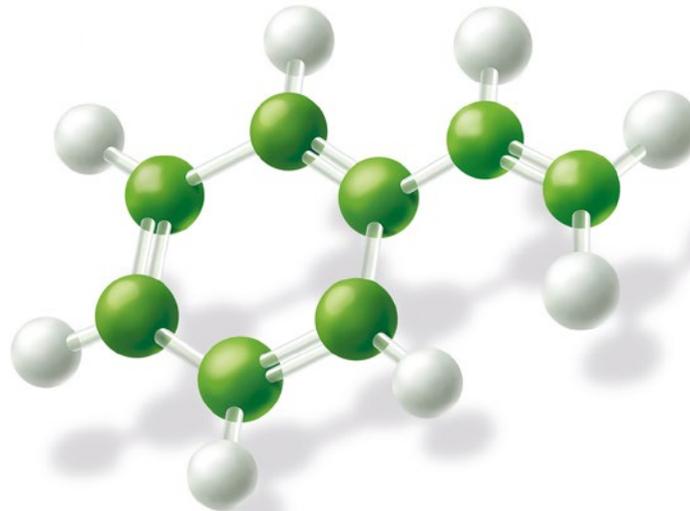
SUPPLIER OF HIGH VALUE MATERIALS

Indaver is a supplier of high-quality materials. In our high-tech installations, we extract as many quality materials as possible from the waste with high circular potential. With our mechanical recycling methods we can extract pure and safe materials from recyclable waste. These are raw materials that are valuable for society.

In addition, we treat hazardous industrial waste streams with a low circular potential because they contain harmful substances. We destroy the hazardous components to keep the cycle safe. But even these streams can sometimes provide valuable materials. Using innovative techniques we recover raw materials from this waste without it posing a risk to the environment or the chain.

Molecule Management

With chemical and thermal recycling such as our Molecule Management, we break down industrial and pharmaceutical waste to their basic building blocks. Based on these blocks, new high-quality raw materials are produced, as illustrated by the IndaChlor® project. We extract valuable precious metals from industrial waste, from the bottom ashes that remain after thermal processing we make concrete blocks that are used for construction or foundation works.



Improving the quality of compost

The staff in the Netherlands, who followed the Green-Belt training from the improvement method Lean Six Sigma in 2018, started working on improving the quality of our compost. Local authorities are highly focused on less residual waste. This has an impact on the quality of the VGF (vegetables, garden and fruit) waste, which is now more contaminated. At the same time, quality requirements for compost have become stricter. During the symposium “Circular Together” (in November 2018), this point was discussed in broad consultation. Indaver has since been engaged in examining the quality of the VGF materials for contamination every day, so they can discuss the results with the supplier concerned.

INDACHLOR®: SUSTAINABLE SOLUTION FOR CHLORINATED PRODUCT RESIDUES IN DUNKIRK

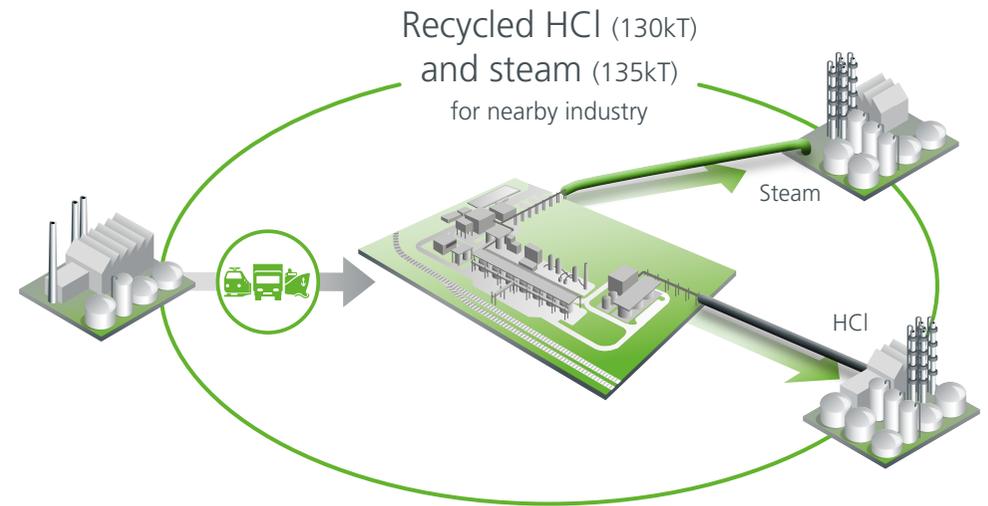


In 2018, Indaver received the necessary licences for a new treatment facility in Loon-Plage, in the Port of Dunkirk, France. This new facility has a 40,000-tonne capacity and will recycle chlorinated residues from the PVC industry to recover hydrochloric acid and energy. Hydrochloric acid is used in the chemical, petrochemical, metallurgy and food industries.

This new recycling facility is a shining example of the circular economy in action. We will supply the hydrochloric acid via a direct pipeline to Ecophos, where it will be used for the production of phosphates for cattle feed, among other things. We supply the recovered energy via a steam pipe to a neighbouring alcohol distillery. The preparatory works were completed in the autumn of 2018.

OUTLOOK

The launch is planned for the start of 2020.



“In order to reduce its environmental footprint, Ryssen’s management has concluded an agreement with the Belgian group Indaver, which is currently building a chlorinated waste treatment plant (IndaChlor) a few hundred metres away. We will use the steam generated by IndaChlor’s waste heat, which will allow us to shut down our boiler and reduce our gas consumption by two thirds.”

Laurent Saltel, director of the Ryssen Alcools plant.

Making ports more energy-efficient

IndaChlor® is a partner in the Ports Energy and Carbon Savings (PECS) project, which looks for ways to make small and medium-sized ports greener, more energy-efficient and to reduce their carbon footprint. Ports, industry, knowledge institutions and local stakeholders are working together on this project. IndaChlor® will make the Port of Dunkirk’s energy supply more sustainable: it will channel all the steam from the treatment into a steam turbine, part of which will then be converted into electricity for its own use, while the rest of the steam will go to a neighbouring company. The knowledge gained from the PECS project could inspire other ports to make their energy supply more sustainable.

INDAVER METAL PROCESSING: RECOVERY OF PRECIOUS METALS FROM INDUSTRIAL WASTE

Precious metals are rare and valuable metals, such as platinum and palladium, and they have applications as industrial catalysts. They have unique chemical properties and are rare, therefore they are very expensive. Recovering these metal types is therefore an attractive solution in both ecological and economic terms.

Indaver has carried out a lot of research & development to recover precious metals from waste streams from large-scale industry in Europe. This can now also be done by IndaMP, which stands for Indaver Metal

Processing. This is a thermal process that separates precious metals from solvents and collects them in the residues. Thus, Indaver can offer its customers a constant and sustainable supply of precious metals. As a result, they are less dependent on raw materials from outside Europe.

In 2018, we did a lot of preparatory study and preparatory work before conducting several tests. After thorough quality research we have scaled up the IndaMP process further. We have converted an existing facility at Indaver's Antwerp site for this purpose.

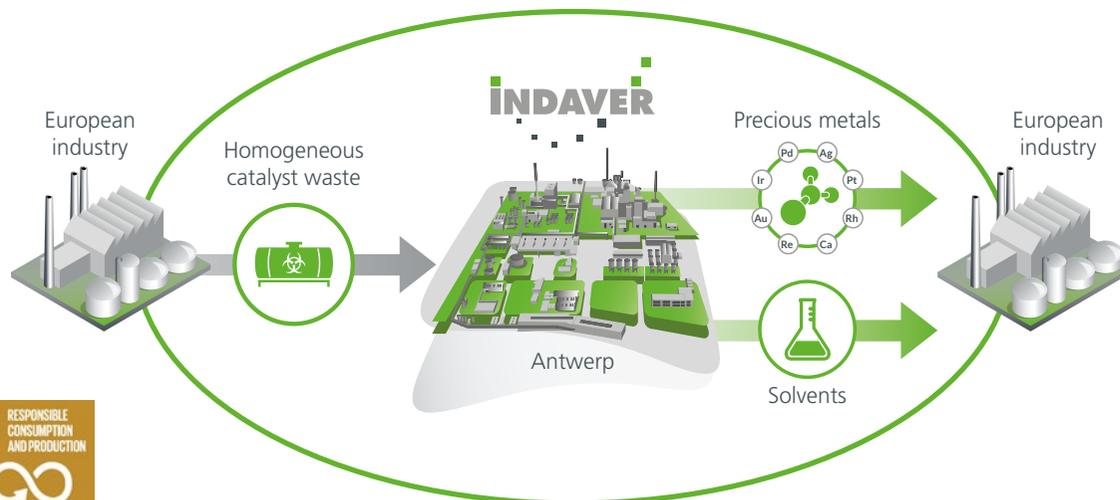
IndaMP focuses on streams from the European pharma industry. The complexity of the streams makes recovery through regular recycling processes very difficult. With IndaMP, however, Indaver is offering a unique solution: we can recycle both the metals and the solvents.

OUTLOOK

In 2019 Indaver would like to expand the processing centre for precious metals on the Antwerp site.



For IndaMP, an existing installation at our plant in Antwerp was modified



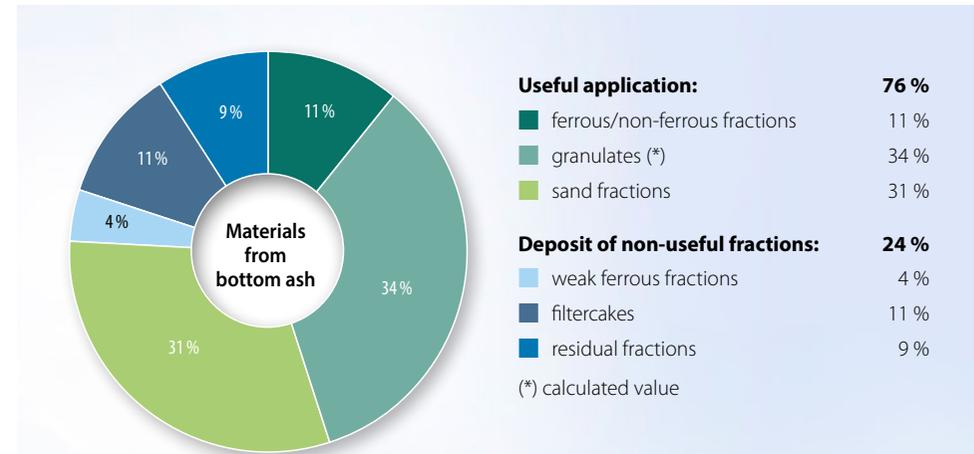
MATERIALS FROM INCINERATOR ASH

In 2018, we made a new step in recovering materials from the residues of our waste-to-energy facilities. We will henceforth be supplying granulates from the incinerator ash as feedstock for concrete blocks.

These incinerator ashes are sieved and purified in the ash treatment plant in Doel (Belgium). They serve as useful end products for the metal or construction industry. One of these products is granulates. Another application has now been added to that: processing the 6-15 millimetre granulates into concrete blocks. In 2018, Indaver received a certificate

from OVAM (the Flemish Public Waste Authority) so that they can henceforth use the granulates in a moulded application.

Also in 2018, we adapted the ash treatment plant so that these residues could be further cleaned by removing additional non-ferrous metals and stainless steel, for a better end product. With the new application, Indaver can offer a more purified stream of non-ferrous metals to the smelters. Consequently, in 2018 we removed 25 kg of gold and 400 kg of silver from the incinerator ash.



Ferrofractions are separated out of incinerator ashes



Indaver supplies granulates from the bottom ashes as feedstock for concrete blocks

NEW MARKETS FOR BIO POWER ALPHEN

To be able to make the switch to a circular economy, materials loops need to be closed. There is a key role in this for waste management companies like Indaver. We can use our expertise and experience to produce secondary materials from residual streams. Indaver is emphatically opting for quality – i.e. high-value recycling – over quantity.

Production Quality Products

Operational since June 2014, Bio Power Alphen immediately met the highest standards. Indaver produces a constant volume of high-quality green gas and liquid CO₂. Both products are NTA8080 certified. The ISCC certificate for liquid CO₂ followed at the start of 2019, which will allow us to tap into new markets.

Improving Efficiency

Indaver continually works on improvements and innovation, including the Bio Power Alphen process and facility. In 2018, we worked on improving the efficiency of the biofilter. The aeration channels were optimised, an atomisation facility was added and the biofilters were renovated.

Expanding Capacity

The preparations for applying for the revision permit, which was made in 2017, finally bore fruit in 2018. The permit was granted, including permission to expand the capacity by 15,000 tonnes to 90,000 tonnes in total, as desired.

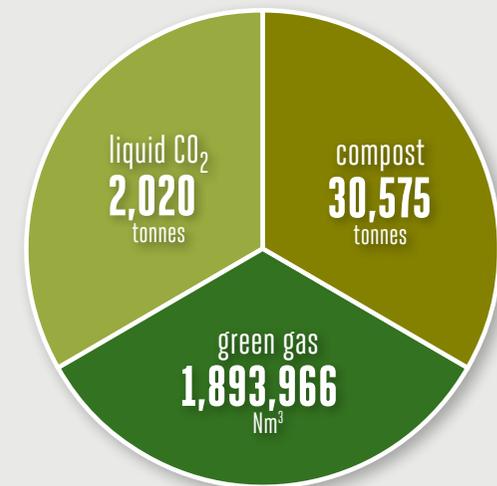


The Bio Power-digester in Alphen aan den Rijn (NL)

VGf waste provides three sustainable products

Bio Power Alphen is Indaver's cutting-edge VGf digester. When developing this facility, thankfully we were able to make use of our previous knowledge from EcoFuels. The VGf waste comes from municipalities in the wider area. Indaver recovers these three valuable products from it, closing the materials loop in the process:

- **Compost:** a natural soil improver that replaces fossil peat or chemical fertiliser;
- **Green Gas:** wet organic residue is digested into biogas, which is reprocessed into green gas. This green gas is of a very high quality and can therefore replace fossil natural gas;
- **Liquid CO₂:** which is released when biogas is refined into green gas. Bio Power Alphen compresses this into liquid CO₂, which can be used to stimulate plant growth in greenhouse farming, among other things.





Adjustments in the installation in Willebroek for P+MD

PROJECTS



P+MD: building a sorting facility for more plastics recycling

Indaver's environment park in Willebroek in Belgium sorts over 30,000 tonnes of PMD waste each year as a raw material for the recycling industry. In 2018, the Flemish government adapted the legislation for the collection of residual plastics – P + MD – so that more streams have to be collected. Indaver responded to this immediately. We are adapting our sorting facilities accordingly and expanding them. At the end of November 2018, Indaver in Belgium received the first four contracts for sorting and purifying P + MD waste from intermunicipal partnerships. The adjustments to the facility will be completed in the spring of 2019.

In the **transfer phase, up to 2021** we will remove the new plastics to be sorted both automatically (using wind sifters and facilities for optical recognition) and manually from the packaging stream. They includes items such as PET trays, opaque PET bottles, polystyrene packaging, black plastic packaging and plastic films.

In total, during the **transition phase** Indaver plans to sort around 37,000 tonnes of P + MD waste annually. Eventually, FOST Plus, which is responsible for the collection, sorting and recycling of packaging waste in Belgium, wants 14 fractions to be sorted. Then a new, bigger installation will probably be needed to treat all the additional plastics.



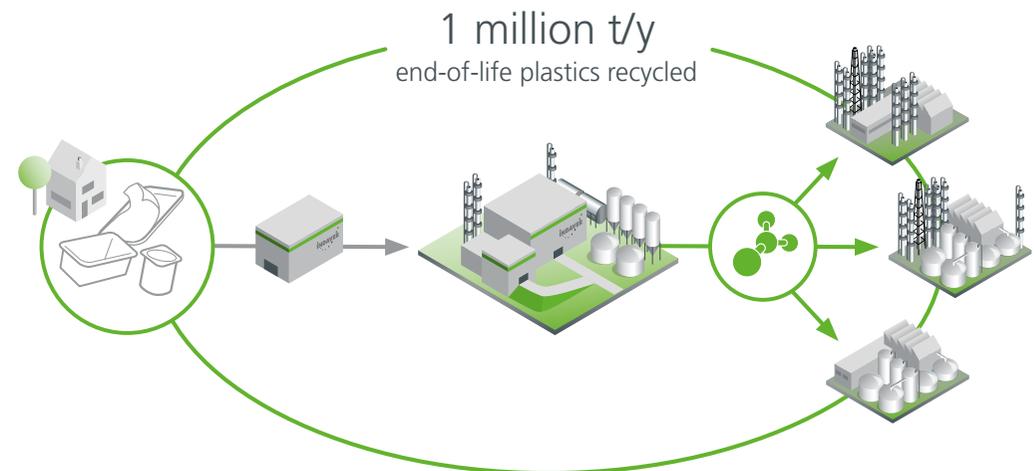
PROJECTS



Plastics2chemicals: test facility fully under development

Indaver is also working on an innovative solution for **end-of-life plastics** that can no longer be reused. It is planning plastics2chemicals (P2C) facilities that break down plastics into smaller hydrocarbon chains. This thermal, molecular recycling will produce a high-grade end product for the chemical industry. P2C is still in the test phase, with the development of a test facility together with the University of Ghent.

The permit for this test facility must be completed by the end of 2019; the facility should be operational from the end of 2020. In this facility we will test the depolymerisation process in practice. The first industrial facility is expected in 2022. In total, Indaver is planning ten facilities in Europe, through which we will eventually be able to recycle 1 million tonnes of plastics that couldn't previously be reused.





Planet

Context

ENERGY

Fossil fuels are hazardous to the environment and expensive

Most of the energy we consume still comes from fossil fuels, such as petroleum, coal and gas. These fuels put a strain on the environment. They have to be incinerated to produce energy. In doing so they emit pollutants and greenhouse gases, including CO₂, which contributes to global warming. Furthermore, they are becoming increasingly expensive as they are being exhausted.

EU climate policy

By 2030, Europe wants greenhouse gas emissions to be reduced by 40% compared to 1990. Energy consumption must be reduced by at least 32.5%, and at least 32.5% of energy must therefore be renewable. In the longer term, even more radical measures are needed to limit the temperature increase to 2°C compared to the pre-industrial age, as agreed in the Climate Agreement made in Paris at the end of 2015. The EU wants to reduce its emissions by between 80% and 95% by 2050 compared to 1990.

Renewable energy policy

In 2018, Europe implemented the directive for renewable energy. By 2030, 32% of the energy in Europe must come from renewable sources. This directive strengthens the goals of using energy from wind, sun, water, heat and, to a lesser extent, biomass. The EU wants to reduce the European dependency on fossil fuels.

Our approach

Producing sustainable, safe and affordable energy

Indaver offers a sustainable alternative to fossil fuels. The energy we recover from waste through thermal treatment goes through heating networks and electricity networks and we supply it back to industry and towns as steam, hot water for heating and electricity. Thus we are completing the circle and the circular economy is a reality. With this waste-to-energy strategy, we can reduce energy consumption and CO₂ emissions and increase the share of renewable energy. We are therefore a supplier of reliable, affordable and sustainable energy.

Creating value from waste: recovering energy

During the thermal treatment of non-recyclable waste in our facilities, energy is released and we make maximum use of it. We use the steam that we produce during incineration for our plant machinery and buildings and we also supply residential homes and neighbouring businesses. Using a turbine we also convert the steam into electricity, which we supply to the grid. Besides the energy generated by our incineration facilities, we also produce green gas from organic waste and electricity at our landfill sites.



SUPPLIER OF SUSTAINABLE ENERGY

At present, industry and households mainly use fossil fuels such as natural gas and oil. We offer a more sustainable alternative.

Our treatment facilities for household and similar commercial wastes are power stations. We use the steam that is produced during incineration, for our plant machinery and buildings and we supply families and neighbouring businesses. Using a turbine

we also convert the steam into electricity, which we use ourselves or supply to the grid.

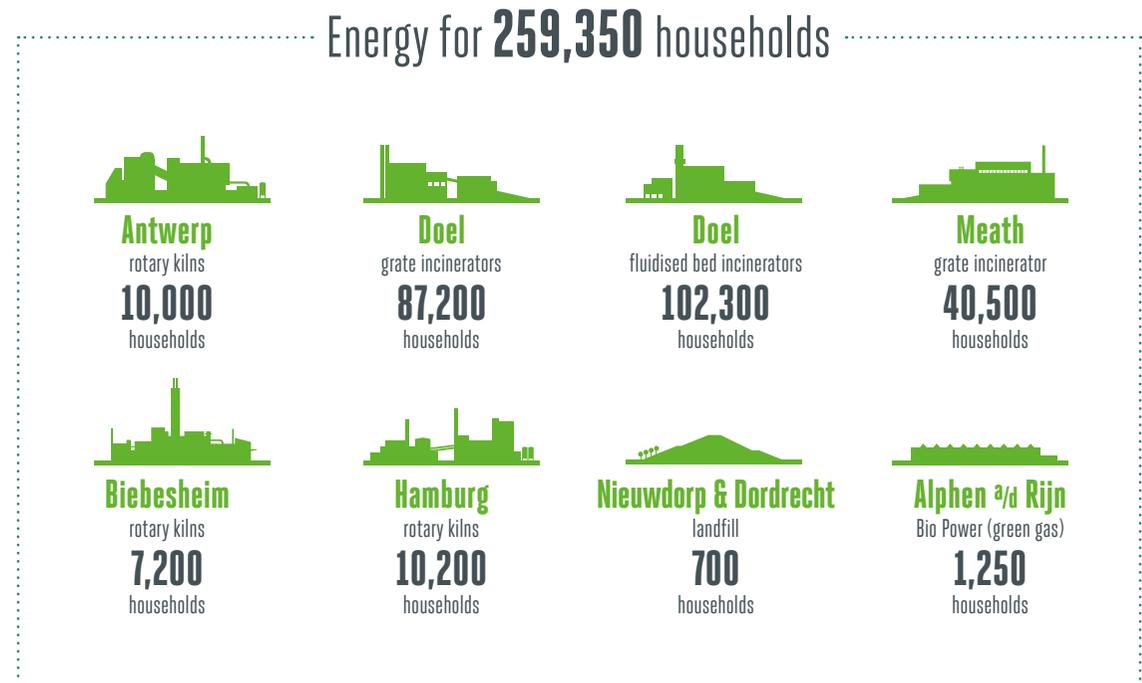
Our treatment facilities for hazardous industrial waste, which primarily keep hazardous substances out of the materials chain, produce energy in the form of electricity and steam.

If all the energy recovered during the thermal treatment processes in 2018 was converted into electricity, this would equate to the average electricity consumption of 257,400 households (3.5 MWh/family per year).

In addition to the energy generated by our incineration facilities, we also produce green gas from organic waste in Alphen

aan den Rijn (the Netherlands) and at our landfills in the Netherlands. Alphen aan den Rijn and the Dutch landfills produce energy for another 1,950 households (1,500 m³ natural gas per family per year).

Waste-to-energy installations in Doel (B)



ECLUSE: TESTED AND READY FOR USE

In 2018, we finished building the Belgian industrial steam network ECLUSE in Antwerp's Waasland Port. The seven underground junctions were laid, as were the 15 pipe bridges. The steam and condensation pipes were isolated. After a thorough test phase, the official opening of ECLUSE took place on 15 March 2019.

The network will send the steam from Indaver and SLECO's waste-to-energy facilities through a network

of pipes. Five companies will draw steam from it and one company will use the condensate heat. This means they don't have to create any more steam for their production processes in their own steam boilers, which run on gas, a fossil fuel. The steam network has sufficient capacity to allow even more companies to join onto it.



7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



17 PARTNERSHIPS FOR THE GOALS



CEWEP-award for ECLUSE

In 2018, ECLUSE received yet another award. At the 9th CEWEP congress in Bilbao, ECLUSE won the very first Integration Award. CEWEP is the Confederation of European Waste-to-Energy Plants. The award recognises projects for how they integrate waste-to-energy in our daily life. Our urbanised world needs innovative solutions for supplying energy. ECLUSE has made the energy supply in the Port of Antwerp more sustainable. The award was given by the 220 congress participants from 27 countries. An important factor in ECLUSE's success is the **unique collaboration** between Indaver/SLECO and the six companies purchasing the steam, the companies providing the land, infrastructure and financing and the Flemish government. The collaboration has already received the Sustainability Award from the Antwerp Port Authority and the Belgian Environment Award.

► www.ecluse.be



Silvia Colazzo from ECLUSE holding the CEWEP Integration Award 2018

ECLUSE: EVERYBODY WINS

Thanks to this steam network, 100,000 tonnes of CO₂ will be saved each year. That is the equivalent of 50 wind turbines. It will supply the industry with reliable, cost-effective energy at attractive rates that will anchor the industry and work opportunities in the port. Antwerp has the largest cluster of chemical companies in Europe.

ECLUSE fits Indaver's vision for sustainability because it offers economic and social benefits as well as ecological benefits and because it creates energy that the circular economy needs to be able to thrive.

Watch the video

“ECLUSE brings advantages for everyone: our society, due to the undeniable environmental benefits, our businesses, as a result of lower energy costs and security of supply, and our economy too, as we are anchoring the chemical industry in Flanders.”

Philippe Muyters, Flemish Minister for Employment, the Economy, Innovation and Sport



At the official inauguration of the ECLUSE steam network: Paul De Bruycker (CEO Indaver), Gunther Van Cauwenberge (Managing Director / Country Representative LANXESS), Marc Van de Vijver (Mayor of Beveren), Minister Lydia Peeters, Minister Philippe Muyters, Boudewijn Vlegels (Chairman of Maatschappij Linkerscheldeover), Frank Vanbrabant (CEO Infracore)



OPTIMIZE THE USE OF ENERGY

New steam turbine for ultra-modern Afvalverbranding Zuid-Nederland (AZN)

Indaver is co-owner of the ultra-modern Afvalverbranding Zuid-Nederland (AZN), a waste incineration facility in Moerdijk. This waste-to-energy centre incinerates 1 million tonnes of household waste and similar industrial waste each year. In 2018, the AZN started using the new steam turbine. This turbine supplies around 400,000 households with electricity from waste and can therefore respond to the need to use less natural gas. The steam can also be used flexibly for supplying heating networks.



PARTNERSHIPS

Heat supplied by Indaver for Antwerp's residential areas

In October 2018, the city of Antwerp, the Port Authority, Indaver and grid operator Fluvius entered into a strategic partnership to examine whether the residual heat from Indaver's incineration facilities in Antwerp could be used for the sustainable heating of two residential districts and a number of businesses.

Indaver is already supplying residual heat to Amoras, the dewatering project for dredger sludge from the Port of Antwerp. There is still enough residual heat to provide heating for 3,000 families, seven schools, a few public buildings and industrial clients in the port. It presents a sustainable alternative to fossil fuels.

If this heating project is realised, it would be the largest heating network in Flanders. The first 12 kilometre pipe would need to be laid from the port to the city centre, for this network. It would deliver an annual saving of 27,000 tonnes of CO₂.

The partners in the **consortium** are conducting a detailed investigation to ascertain whether this is feasible, whether the installation of the heating network is profitable enough, and whether it can supply the clients with sufficient heat. At the end of 2019 they will decide whether or not they will carry out this heating project.

OPTIMIZE THE USE OF ENERGY

Improvements to the Hamburg turbine



On the site in Hamburg, technical improvements were made to the turbine in 2018. Engineering started in spring 2017, the turbine itself was ordered in September 2017 and construction started in March 2018. Both incineration lines were shut down for nine days to adjust the existing vapour system. The turbine was installed in September 2018.

The pipeline and the electrical construction (including process control) were finalised in December 2018. It was completed in approximately 18 months, with over 30 works being carried out in parallel.



OUTLOOK FOR 2019

Network for efficient energy consumption continued

The 'Hamburger Industrie EnergieEffizienz' (IVH-)network was completed in 2018. The parties agreed to continue the network voluntarily for a further five years after 2019. The clients will be taken over by Hamburg Environmental Senator. In the 2019-2020 period, Indaver's installations in Hamburg will continue to improve efficiency with several projects, such as optimisation of pressure pumps for extinguishing water, a turbine project, lighting for the workplace and plant and reducing steam for its own use, etc. These improvements will result in an additional CO₂ saving of approximately 2,000 tonnes per year.



“Industry is clearly committed to environmental and climate protection and is setting new standards for technology-based climate protection. The fact that politicians are paying tribute to this voluntary commitment by industry is a particular motivation for business owners. Politicians and industry in Hamburg are thus jointly pursuing a successful path for the future of our industrial location and for our environment. The three energy efficiency networks organised to date by IVH together achieve energy savings of around 1,100,000 megawatt hours (MWh); this corresponds to 425,000 tonnes of CO₂. Today's agreement will add further savings.”

Matthias Boxberger,
Chair of Industrieverband
Hamburg (IVH)



INITIATIVE
ENERGIEEFFIZIENZ
NETZWERKE



CLIMATE

Planet

Context

Reducing CO₂

CO₂ is one of the biggest culprits of climate change and 90% of this gas is created in energy production. The more energy-efficient our facilities, processes and buildings are, the more CO₂ emissions are reduced. By 2030, Europe wants to see greenhouse gas emissions reduced by 40% compared to 1990. The goals for CO₂ emissions will be enforced more stringently.

Our approach

Economical use of energy

Indaver is constantly looking for ways to keep its own energy consumption as low as possible. We analyse our plants and processes to see how we can improve our energy management.

Climate neutral/Low carbon

We favour low-carbon solutions both when treating waste and when transporting waste or people. We are working towards a 'modal shift', whereby we combine road transport with more sustainable transport by water or rail.

7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



13 CLIMATE ACTION



STRIVING TOWARDS CLIMATE NEUTRAL INSTALLATIONS AND LOCATIONS

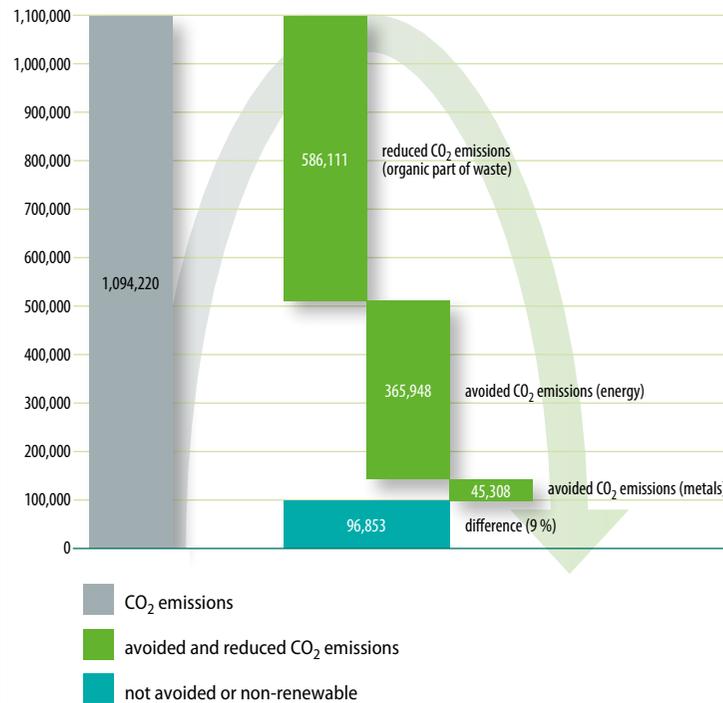
Doel and Meath

Indaver's sites in Doel and in Meath want to become climate neutral. By recovering energy, Indaver prevents the need for CO₂ to be emitted elsewhere to generate energy using fossil fuels.

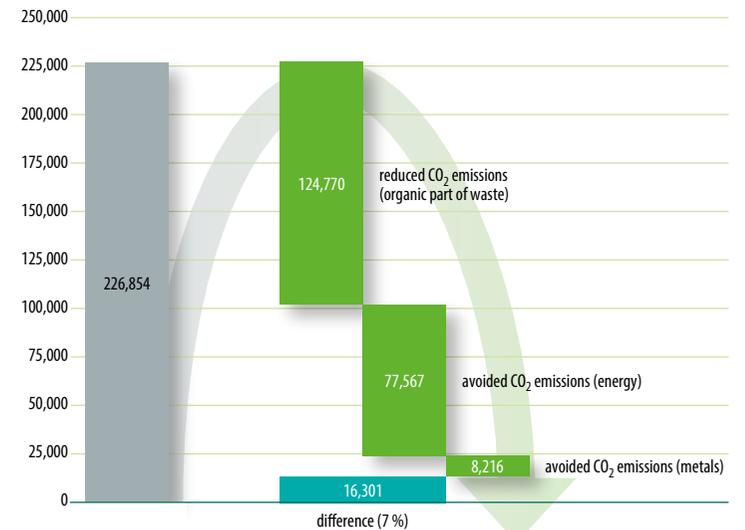
Avoiding CO₂ by recovering energy

2018

Doel



Meath



The calculations are based upon scientific methods, based upon the "methodological agreements made by the International Panel on Climate Change (IPCC) in the framework of the UN Convention of Climate Change".

STRIVING TOWARDS CLIMATE NEUTRAL INSTALLATIONS AND LOCATIONS

Climate neutral ARP

Indaver ARP has had a 'negative' carbon footprint for years. But now the CO₂ emissions that are prevented through the regeneration of hydrochloric acid more than compensate for the CO₂ emissions from its own energy use.



Indaver ARP

Terneuzen

In 2018, Indaver IWS in Terneuzen replaced the mechanical float steam traps in the steam network with tailor-made Venturi steam traps. These don't have any moving parts and therefore don't get stuck. This prevents loss of steam or back up of condensate. They are also energy-efficient and require little maintenance.

Transport

A barge can carry much larger quantities than a lorry. In 2018, Indaver arranged for 2,500 tonnes of wastewater from a customer in Terneuzen to be transported by barge to the treatment plant in Moerdijk.

Solar panels

In 2018, we prepared and submitted the SDE+ subsidy request to install solar panels on all the available roofs of IWS Terneuzen and Indaver Impex. In January 2019, we were informed that the request had been granted. We have included this energy-saving measure in our 2019 Energy Management Action Plan.



PARTNERSHIPS

"Due to years spent working together, Indaver knows the complex range of waste substances inside out. She aims to understand every waste substance as thoroughly as possible in order to offer the right, most sustainable disposal solution. In order to obtain insight into the project and the waste flows that emanate from it, the Project Manager has visited our site on various occasions. He also looked at the production process with us, so as to come up with the correct analysis. Besides the correct administration, the personal contact, the specialist knowledge and the proximity of the Indaver plant are tremendously important for Dow."

Leon van Miert,
Production Engineer Dow Benelux



▶ [Read the full story](#)



CO₂ PERFORMANCE LADDER RAISES AWARENESS

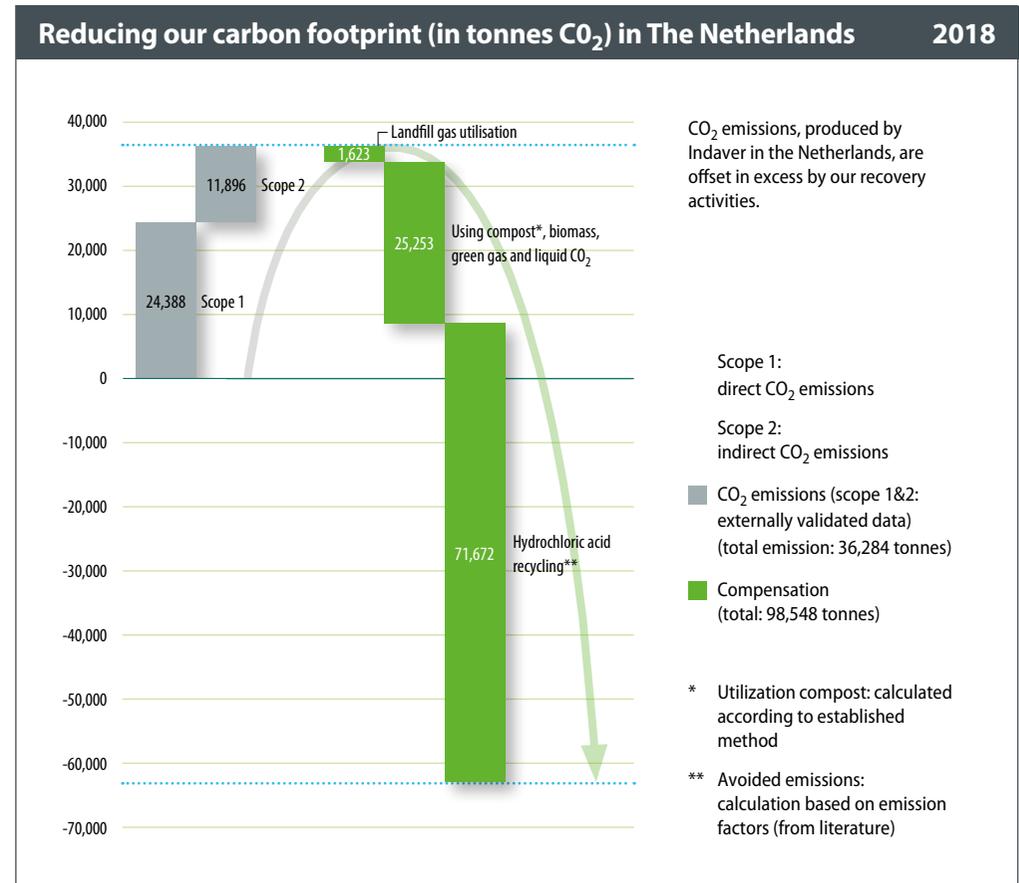
Every year Indaver in the Netherlands provides information on what it is doing to raise awareness and reduce energy consumption within its organisation. The tool it uses for doing so, the CO₂ Performance Ladder, is the benchmark for environmentally aware businesses that want to engage in more sustainable business practices. The use of the CO₂ Performance Ladder leads to lower energy and materials costs, which leads to lower CO₂ emissions. The associated certificate is increasingly incorporated in tender processes, in which the level attained by the company is taken into account.

Ambitious reduction of CO₂ emissions

Indaver has a big ambition. Between 2014 and 2018 we hoped to achieve a reduction in CO₂ of 2% per annum. This applied to both scope 1 (direct) emissions and scope 2 (indirect) emissions, with 2012 as the reference year. Our 2017 carbon footprint was ascertained and validated in May 2018, and our efforts were deemed positive. Our CO₂-Aware Certificate was renewed until 2020.

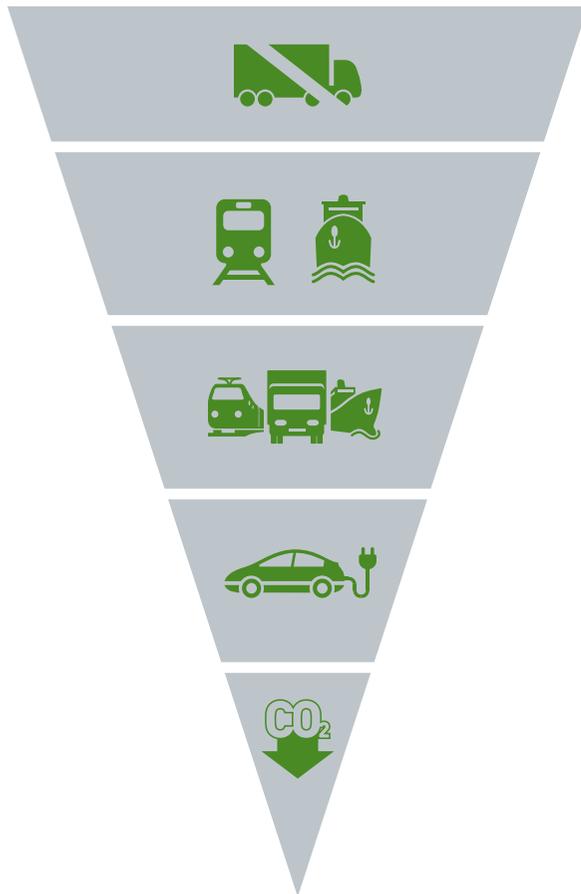
Energy-saving measures

Also in 2018, Indaver implemented energy-saving measures. Consequently, new trommel drums were installed in Rijpwetering and Europoort. The VGF composting in Europoort also gained two new shovels. New caterpillar cranes are in operation on the green sites in Moerdijk, Voorschoten and Rijpwetering. The energy-savings that these facilities and vehicles provide compensate for the extra screening of the screen overflow. The latter is necessary because the market is placing greater demands on the quality of our compost.



LOW-CARBON SOLUTIONS FOR TRANSPORTING WASTE AND PEOPLE

Indaver wants to keep its CO₂ emissions to a minimum during logistics activities and when transporting staff. We have various ways of doing that:

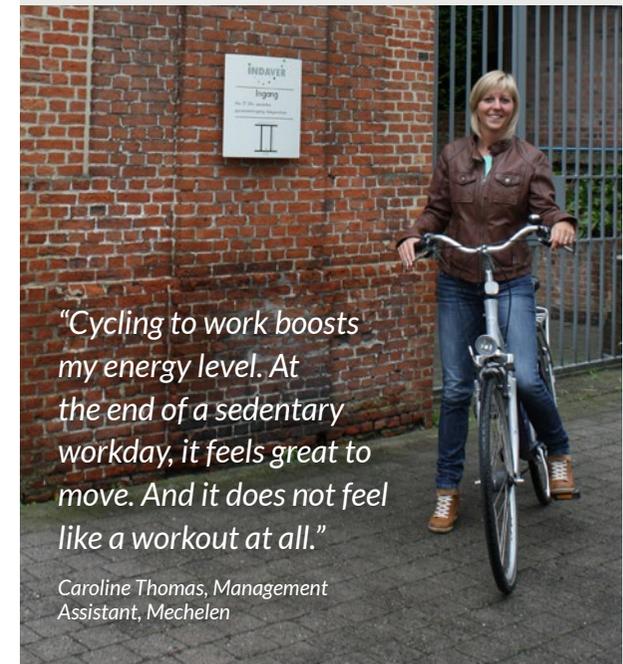


- **avoiding transport:** our sites are situated as close to pharma-chem clusters as possible, and we use a wide network of third-party treatment options;
- **transport by boat or train:** in Northern France the chlorinated residues from which hydrochloric acid will be recovered at IndaChlor will be transported by boat or train. In Germany, contaminated water from a customer will be sent to the Netherlands by boat;
- **intermodal transport:** we combine sustainable, safe and cost-effective transport by rail or water with road transport. In 2018, 2,049 shipping containers, the equivalent of 47,117 tonnes of household waste, travelled by barge from municipalities in Flemish-Brabant to Indaver's treatment facilities in Doel. In 2019, this tonnage increased to 60,000 tonnes, which is approximately 2,600 containers;
- **fleet of low-energy vehicles:** operators and mobile teams visit customer locations in electric vehicles; they use the energy from incinerating waste. Our logistics fleet has been fitted with Euro 5/6 engines, which have much lower emissions than older models;
- **more efficient routes:** through clever planning using GPS, a track-and-trace system for our lorries and by loading up full lorries properly, we can limit the number of kilometres and consequently their CO₂ emissions.



Sustainable mobility policy for staff

To reduce congestion and CO₂ emissions, Indaver is actively engaged in a sustainable mobility policy for its own staff. Staff can work somewhere other than their desk, such as from home or at another location closer to home. They are made aware of avoiding unnecessary travel. The new meeting culture is based more around conference calls, Skype and video. In Belgium, Indaver also facilitates financially viable (tax-friendly) and practical alternative modes of transport, such as an e-bike or bike, shared and pool cars, carpooling and public transport. To help staff in their choices, they are given individual advice about their daily commute.



“Cycling to work boosts my energy level. At the end of a sedentary workday, it feels great to move. And it does not feel like a workout at all.”

Caroline Thomas, Management Assistant, Mechelen

LOW-CARBON SOLUTIONS FOR TRANSPORTING WASTE AND PEOPLE

Germany: acquisition of company specialised in transporting chemical liquid waste

In 2018, Indaver took over the logistics company Dörsam + Nickel Transport GmbH. This acquisition strengthens our service provision to industrial customers in Germany.

D + N specialises in the transport of hazardous waste and has a large fleet with customised equipment, which means Indaver can now transport complex liquid waste and bulk solids from the chemical industry.

D + N stands out because of its technical knowledge on how to adapt tanks and containers to the loading and unloading facilities at our customers' sites and at treatment centres. D + N also focuses on bimodal transport, combining train and road transport solutions. In 2018, those assets proved to be of real added value to our service provision.

Indaver now owns three logistics companies in Germany: Gareg Umwelt-Logistik GmbH, which



services the Hamburg region; Panse Wetzlar Entsorgung GmbH, which is responsible for the Frankfurt region; and Dörsam + Nickel Transport GmbH, which concentrates on the West region and transboundary transport. As both our installations and transport companies are located in the vicinity of our customers, we can offer our customers smooth and flexible waste management services.



OUTLOOK FOR 2019

Training in green driving habits

In 2019, drivers from our logistics services, Indaver Logistics and Indaver Log+, will take a course in energy-saving and defensive driving. Indaver is working with an external partner on this. To prevent the new skills and reflexes from slipping, we also offer our drivers personal driving instruction. Nineteen vehicles have been fitted with an FMS (Fleet Management Service), which can monitor and improve drivers' performances. An app gives the driver an overview of their driving behaviour and tips to limit fuel consumption. Professional coaches provide support where needed.



SMART APPROACH LIMITES OUR ECOLOGICAL FOOTPRINT

Impex plays its mobility trump card at the Aqua trade fair

Indaver Impex, the sludge dewatering expert within the Indaver Group, was at the Netherlands Aqua Trade Fair in Gorinchem again in March 2018. This meeting was a great opportunity for Impex to strengthen relationships with prospective and existing customers from large-scale industry and the water authorities.



Reconstruction of a project site with basins and truck

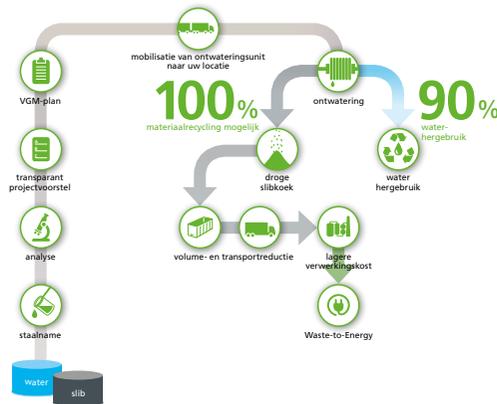
This year, the Impex stand was a simulation of how sludge dewatering is actually carried out on the client's site. With a mock

sludge basin, a contaminated water basin and a container for the dewatered sludge residue, it simulated a real-life project site. The exhibition-stand panels highlighted the mobile aspect: Impex has its own large fleet with built-in dewatering technology, enabling it to respond quickly. It is particularly

important to be able to offer customers a complete service at very short notice in the event of a disaster or an interruption to processes.

Infographic charts dewatering process

An infographic and videos demonstrated how Impex tackles the sludge dewatering process. Thus, visitors were instantly able to experience the added value offered by Impex, such as sludge volume reduction to reduce the costs of transport and treatment. By demonstrating every aspect of the service – analysis, on-site service provision, the techniques and the end result – Impex positioned itself as an expert partner in sludge dewatering.



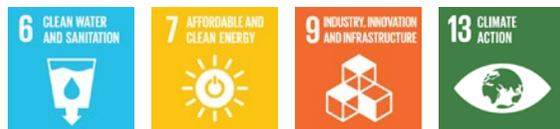
PROJECTS



Power-to-Methanol: sustainable methanol for Antwerp port

A test project has begun in the Port of Antwerp, Belgium, to produce sustainable methanol from the CO₂ that is released during thermal treatment in our facilities. Methanol is an important raw material for the chemical industry. Consequently, the Antwerp port is becoming more CO₂ neutral. On an annual basis, the Port of Antwerp currently produces around 300,000 tonnes of methanol for chemical processes and fuel production. Currently, this methanol is being produced based on fossil raw materials. With this pilot project, the methanol will be produced from collected CO₂ and sustainably-generated hydrogen. This is done using a new process, Carbon Capture and Utilisation (CCU), in which the CO₂ emissions are partially recovered. The pilot project is

aiming for 4,000 to 8,000 tonnes of sustainable methanol per year. Per tonne of methanol produced, the Port of Antwerp is thus preventing an equal amount of tonnes of CO₂ in the atmosphere and potentially even double that. Indaver is one of the partners in this pilot project. We will contribute our knowledge and know-how on CO₂-capture and re-use. We also want to create the first demonstration-facility on our site in the Waaslandhaven.





Planet

Context

SAFE SINK GUARANTEE

Need for safe and clean raw materials

In a circular economy, materials are constantly reused. These materials have to be clean and safe. That is the only way to keep manufacturers' and consumers' faith in the materials chain.

Hazardous substances must not enter the materials and food chains

Waste contains usable materials but it also contains hazardous components. These unwanted and hazardous substances must not contaminate the materials and food chains. The circular economy therefore needs safe sinks.

Our approach

Sustainable safe solution for hazardous substances

Indaver recovers as many materials from waste as possible, but if that waste cannot be recycled and is potentially hazardous, we remove it from the materials loop. That is how we guarantee that hazardous substances cannot cause any adverse effects – now or in the future.

We destroy inorganic streams in our **physico-chemical plants**. Using a chemical process, these facilities neutralise and immobilise heavy metals and other remaining hazardous components. We then transport the end product to Indaver's **landfill sites**, where we store it under special conditions.

We destroy any hazardous components that we can't recover in our **rotary kiln incinerators**. This is done through a combination of high temperature, intensive mixing and time, resulting in homogeneous and complete combustion. Thanks to extensive gas cleaning, the emissions meet all the emissions standards.

We take measurements throughout the process to check that all hazardous components have been incinerated or permanently immobilised. After all, Indaver doesn't compromise on sustainability. Our Safe Sink guarantee keeps both the environment and the circular economy clean and safe.

3 GOOD HEALTH AND WELL-BEING



7 AFFORDABLE AND CLEAN ENERGY



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



LANDFILLS: SUSTAINABLE WASTE MANAGEMENT

Hooge Maey's activities integrated into Indaver

The intermunicipal organisation Hooge Maey was set up at the end of the 1990s to decontaminate the landfill in Antwerp, Belgium, in a manner that is ecologically and economically responsible. Indaver ran the landfill site and by implementing measures to protect the air, water and soil, this site was transformed. As this had achieved the aim of decontamination, at the end of 2017 the decision was

made to dissolve the intermunicipal organisation and to integrate Hooge Maey's activities into Indaver.

Indaver will continue to monitor the landfill site and manage the risks. The valley between the Hooge Maey and Indaver's landfill site in Antwerp is being equipped to create extra landfill capacity. The waste policy in Flanders centres around as little landfilling as

possible, but Hooge Maey is about more than just landfill. Using biogas engines, we produce electricity from landfill gas there. The landfill site has a water purification plant that purifies the leachate and treats external wastewater. There are also two wind turbines, and since 2012 solar panels have been erected on one of the slopes of the landfill.



'3 valleien' landfill site: A European first that will protect open spaces

In Flanders, Indaver isn't allowed to acquire any new landfill sites, but existing landfill sites can be extended. Indaver is therefore creating a new landfill site in the space between three landfill sites, called 'De Drie Valleien' [The Three Valleys]. It will utilise the space between Indaver's landfill site in Antwerp, the Hooge Maey landfill site and the Amoras landfill site. With this new addition, the imminent capacity shortage will not become an issue for 25-30 years. We will create a new landfill of almost 3,200,000 m³, capable of holding 3,700,000 tonnes of waste. On 27 November 2018, the first waste was delivered to the new landfill. Over the coming years, we will organise the landfill further. Filling up space between two landfills is a first in Europe. By doing so, we are creating extra landfill capacity without taking up space that can be used for other purposes.



LANDFILLS: SUSTAINABLE WASTE MANAGEMENT

Waste Storage North and Midden Zeeland

Due to a combination of government policy, tax measures and technical innovations, less and less waste is being landfilled. In 2018, the Netherlands had 19 remaining landfill sites; in 1991 there were 80. Indaver runs another landfill site: the Noord en Midden-Zeeland landfill site in the Vlissingen-Oost industrial zone. To ensure the continuity of the service provision there, Indaver is investing in equipment for the new phase, Phase 5B. This phase has an approved base liner so that landfilling can continue after 2018. Phase 2, the oldest section of landfill, has come to the end of its life and in 2018 the process of sealing it began.

Merwedeheugel

Indaver is busy completing the final closure of the former Derde Merwedehaven landfill (located in South Holland, the Netherlands). This has been closed since 2013 and will be given a recreational purpose in keeping with the “Hollandse Biesbosch” nature area. The name of the area has since been changed to Merwedeheugel. A large project group is busy working on the final treatment, followed by a refurbishment of the recreation area. A contractor has been working on capping the site, in phases, for three years, and it has multiple layers. The Merwedeheugel will have shrubs and small trees, walking and cycling paths, as well as benches, rubbish bins and bike racks. By no later than 1 January 2023, Indaver will hand the Merwedeheugel over to the South-Holland province.



OUTLOOK FOR 2019

Business Unit Landfill

Landfills are admittedly the last choice in the waste cycle, but in many countries they still play a prominent role. Indaver has a lot of in-house knowledge and skills in the field of sustainable management of waste disposal sites and the full life-cycle of landfills. Indaver wants to share this expertise and ensure sustainable approaches to the remaining landfills by setting up the Business Unit Landfill Reconversion. This new Business Unit Landfill will target countries where considerable amounts of waste are still landfilled.



KEEP HARMFUL SUBSTANCES OUT OF THE CIRCLE

Indaver Antwerp offers a solution for the saturated British waste market

Indaver has a number of industrial customers in the United Kingdom, such as chemical giant SABIC, Eli Lilly and DOW. The waste that it manages for these customers is treated on the island itself wherever possible, through a network of Indaver's trusted partners. However, the UK market is now saturated and solutions are being sought in Europe.

Indaver Antwerp is highly regarded for treating complex industrial streams in the European market. We received permission for transboundary transport by ferry for 100 tonnes of paraformaldehyde, a waste stream from cleaning activities. We destroyed the waste in our rotary kiln incinerator in Antwerp, Belgium, the first delivery ever to come out of the UK for Indaver's own facilities.



Indaver uses its expertise for hazardous waste removal in Italy

In 2018, Indaver initiated major projects on clients' sites in three locations in Italy, to identify, label and securely repackage perished chemical products and/or medicines for transfer. We used our own transportation to move this waste to our facilities in Hamburg (Germany) and in Antwerp (Belgium). To do this, we used our knowledge of the products' chemical composition and properties and also of the various local and European waste legislation. There were two projects relating to perished laboratory chemicals in Milan, and another involving smoke candles and chemicals that had been taken off the market in Pisa.

Indaver helps to eradicate the illegal ivory market

The illegal ivory trade is threatening the elephant populations in Africa and Asia and is worth billions of euro each year. In order to minimise and regulate this market, in Belgium ivory is only allowed to be bought and sold if it dates back prior to 1984, or if it was imported with a licence prior to 1990. Sellers must produce a CITES (Convention on International Trade in Endangered Species) certificate.

However, many people still have ivory objects in their homes, such as bracelets, necklaces, combs or other objects. Between May and August 2018, the Belgian government agency for Public Health organised a collection campaign for this type of non-certified ivory. A total of 2,000 kg was collected.

The only way to ensure that this ivory does not end up on the illegal market is to destroy it safely. Indaver takes its societal role in this seriously. On 11 December 2018, under supervision, we treated the ivory in the rotary kiln incinerator on our Antwerp site.



SUSTAINABLE WASTE MANAGEMENT IN THE CIRCULAR ECONOMY

*Laboratory technician Anneleen Sprangers
in Antwerp*





IMPACT

Planet

Context

Respect for the environment

Our facilities are not islands. They are located near to companies and residential areas. In and around these locations live a wide variety of animals, plants and insects. We do everything we can to ensure our activities do not endanger these species or their environment.

Our approach

Investing in new technology/monitoring

We keep the environmental impact of our activities to a minimum. We monitor everything we do closely and strive to have minimal impact on air, soil and water. Our inputs and outputs are subject to strict measurements and we check the nature of our emissions and residues very carefully. We conduct these checks with careful precision

because such thorough insight helps us to limit our impact on the environment.

We are economical in our use of water and energy in our own processes. Indaver is constantly searching for new and innovative technologies to limit the impact of our activities on the environment. We prevent

contamination of the soil and groundwater on our own sites. Our activities always meet the strictest environmental standards. We avoid the unnecessary use of virgin raw materials, and we monitor our processes with an eye to efficiency and reducing wastage.

Reporting performances: air/water/soil

Air

Indaver wants to limit the impact of its activities on people and the environment as much as possible. We are investing in new technologies and methods in order to further limit our air emissions.

► [More information on pages 67-79.](#)

Water

Indaver uses water frugally. It invests in new technologies and methods in order to further reduce its water consumption and its impact on the environment.

► [More information on page 80.](#)

Soil

Indaver takes care that its activities have no impact on the soil. It takes the necessary preventive measures to prevent contamination of the soil and groundwater on its sites.

► [More information on page 81.](#)

3 GOOD HEALTH AND WELL-BEING
6 CLEAN WATER AND SANITATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

ROTARY KILNS – ANTWERP

Emissions and environmental impact

1. Mass balance



IN	
Waste (*)	136,607 tonnes
Waste used in place of raw materials (*)	5,724 tonnes
Energy	
Heating oil	1,445 tonnes
Steam	162,202 GJ
Electricity	24,323 MWh
Flue gas cleaning additives	
Quicklime	1,183 tonnes
NaOH	3,355 tonnes
Absorbent for dioxins and heavy metals	102 tonnes
Chalk	3,504 tonnes
DeNOx reagent	282 tonnes
Water purification additives	
TMT	78 tonnes
FeCl ₃	457 tonnes
Water	
Mains water (**)	230,691 m ³
Ground water (**)	281,889 m ³
Re-used water (**)	107,680 m ³

OUT	
Emissions to atmosphere	
Flue gases	984,292,655 Nm ³
Energy	
Energy recovery	1,048,246 GJ
Water discharged	
Waste water (**)	132,688 m ³
Residual products	
Bottom ash	14,586 tonnes
Fly ash + boiler ash	4,319 tonnes
Filtercakes from waste water purification (**)	11,837 tonnes

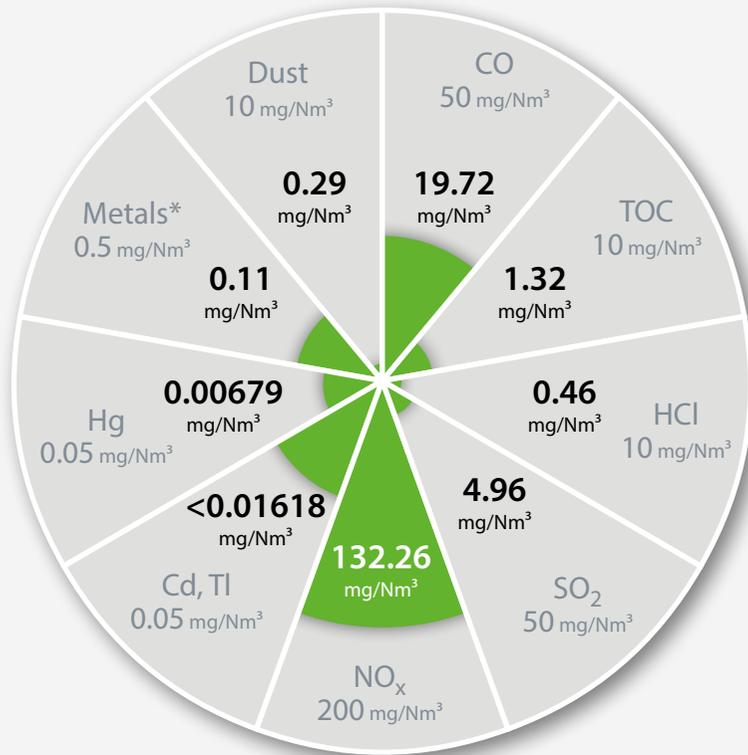
(*) Total volume waste processed in Rotary kilns:
142,331 tonnes = 136,607 tonnes + 5,724 tonnes

(**) Calculated value

ROTARY KILNS – ANTWERP

Emissions and environmental impact

2. Performance relative to emission limitit

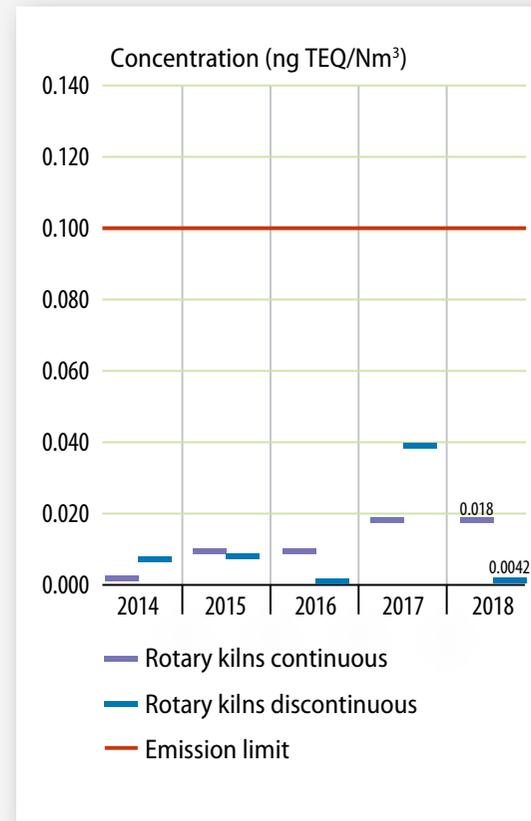


□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 10,1 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	0.3
CO	19.4
TOC	1.3
HCl	0.5
SO ₂	4.9
NO _x	130.2
Cd, Tl	< 0.0159
Hg	0.0067
Metals*	0.1044

* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

ROTARY KILNS IN BIEBESHEIM

Emissions and environmental impact

1. Mass balance



IN	
Waste (*)	119,642 tonnes
Waste used in place of raw materials (*)	429 tonnes
Energy	
Heating oil	514 tonnes
Steam	86,688 GJ
Electricity	22,871 MWh
Flue gas cleaning additives	
NaOH 50%	4,788 tonnes
Absorbent for dioxins and heavy metals	153 tonnes
Na -sulfide/ -polysulfide	416 tonnes
DeNOx reagent	323 tonnes
Water	
Mains water	21,011 m ³
Ground water	158,250 m ³
Process water	14,243 m ³

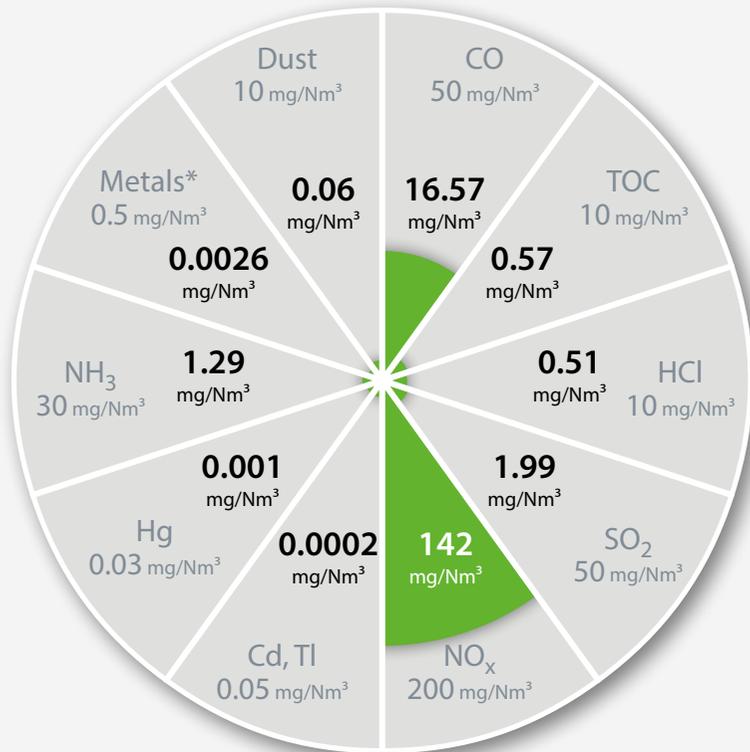
OUT	
Emissions to atmosphere	
Flue gases	671,634,138 Nm ³
Energy	
Energy recovery	754,765 GJ
Water discharged	
Waste water	62,881 m ³
Residual products	
Bottom ash	21,276 tonnes
Fly ash	7,801 tonnes

(*) Total volume waste processed in Rotary kilns:
120,071 tonnes = 119,642 tonnes + 429 tonnes

ROTARY KILNS IN BIEBESHEIM

Emissions and environmental impact

2. Performance relative to emission limit



■ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 1,3 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	0.0371
CO	11.13
TOC	0.3842
HCl	0.3451
SO ₂	1.3389
NO _x	95.54
Cd, Tl	0.0001
Hg	0.0005
NH ₃	0.8664
Metals*	0.0018

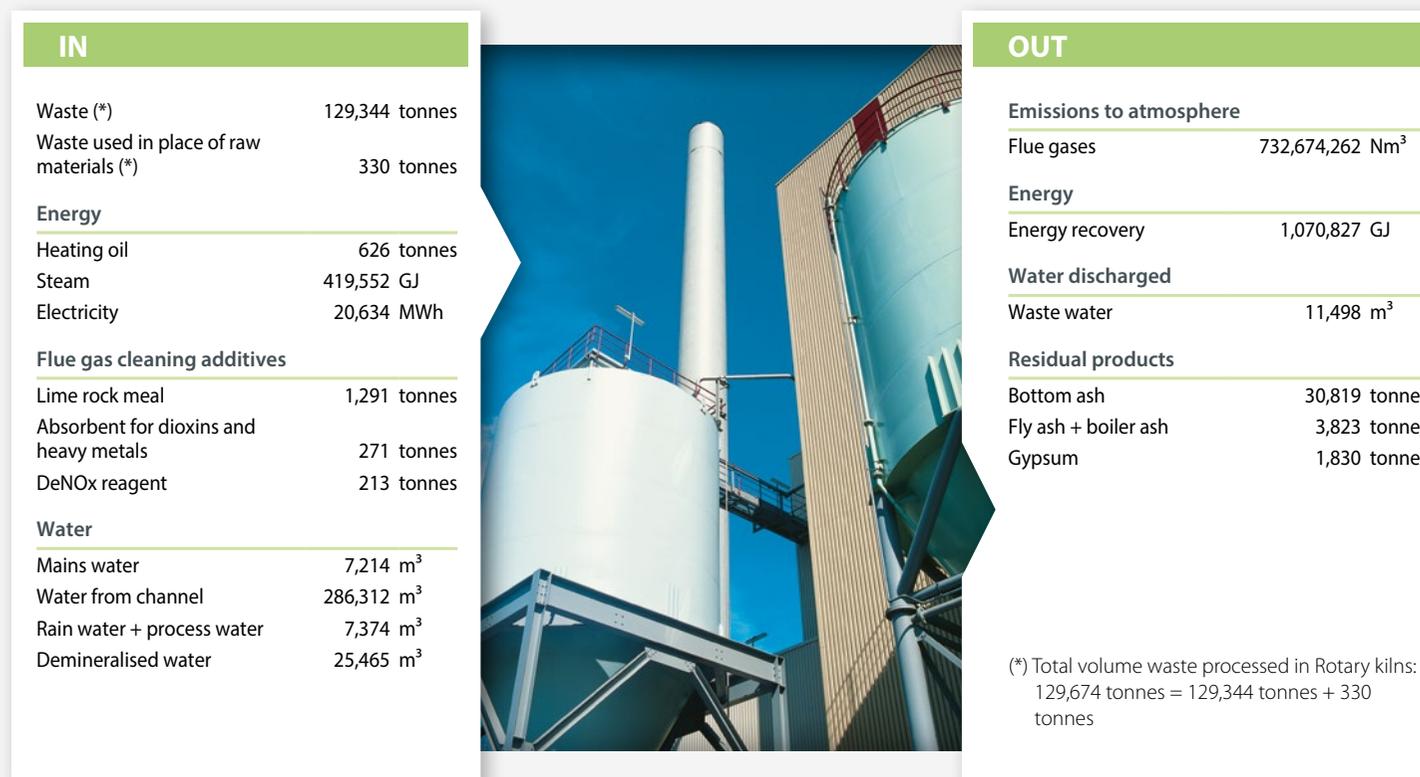
* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

ROTARY KILNS – HAMBURG

Emissions and environmental impact

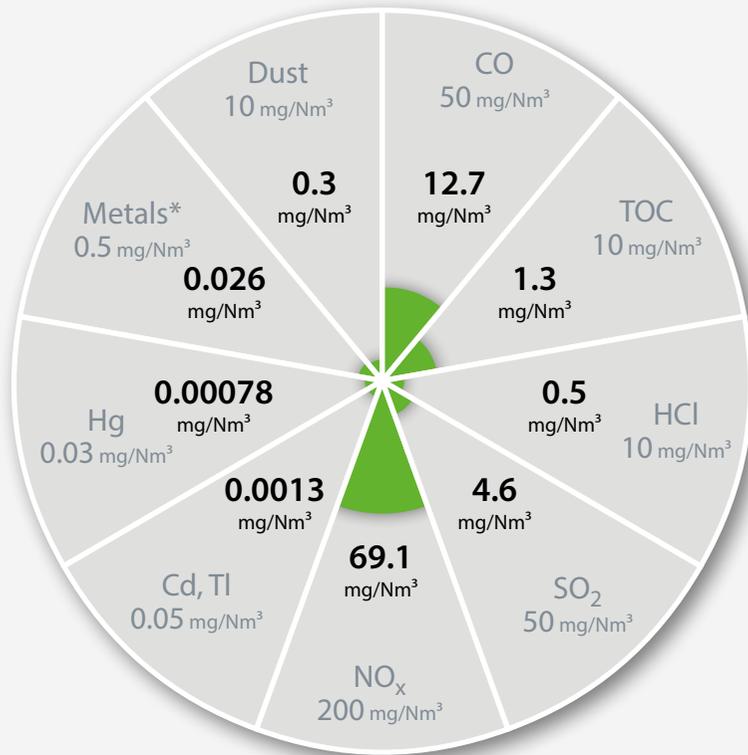
1. Mass balance



ROTARY KILNS – HAMBURG

Emissions and environmental impact

2. Performance relative to emission limit



Grey: Daily average standard unless otherwise stipulated in environmental licence

Green: Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 1,9 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	0.19
CO	9.34
TOC	0.98
HCl	0.38
SO ₂	3.35
NO _x	50.6
Cd, Tl	0.00176
Hg	0.00057
Metals*	0.02

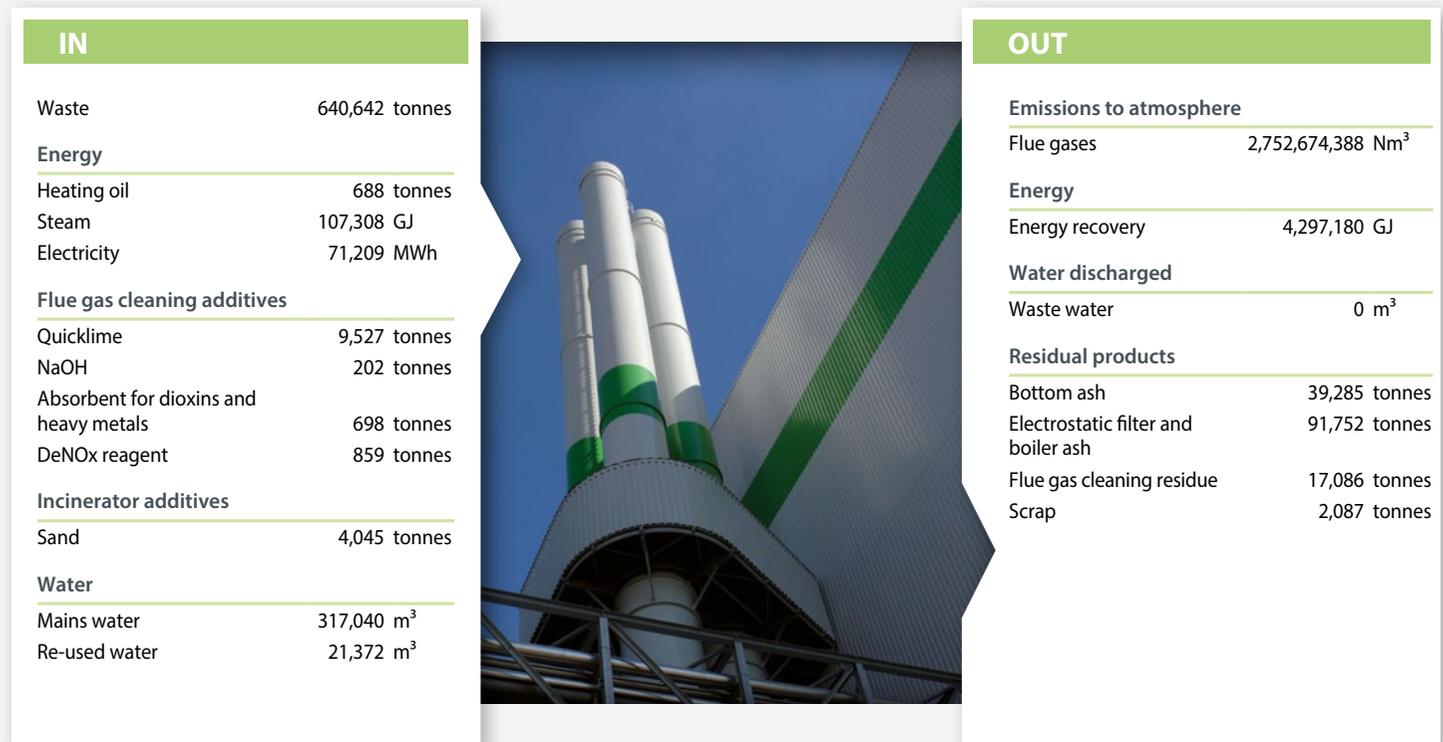
* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

FLUIDISED BED INCINERATORS – DOEL

Emissions and environmental impact

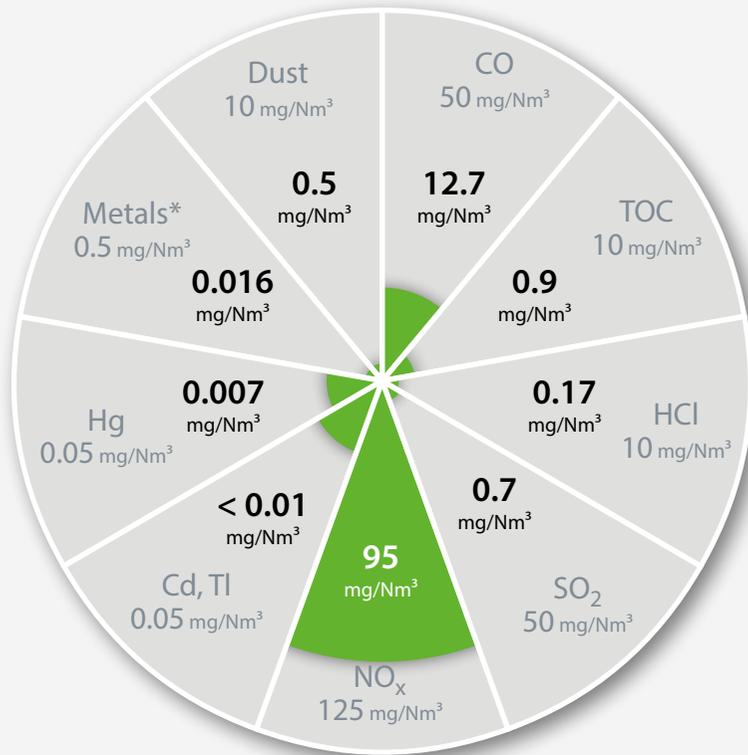
1. Mass balance



FLUIDISED BED INCINERATORS – DOEL

Emissions and environmental impact

2. Performance relative to emission limitit

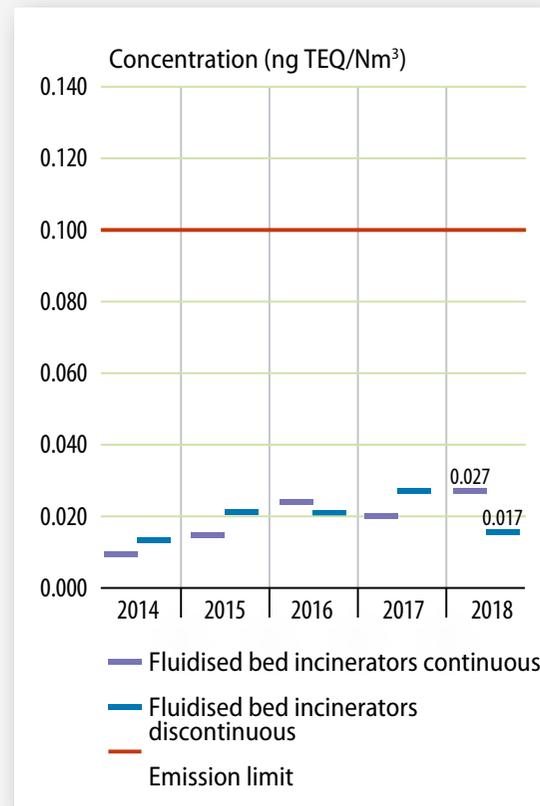


□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 60,2 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	1.3
CO	34.9
TOC	2.6
HCl	0.5
SO ₂	2.0
NO _x	262
Cd, Tl	<0.028
Hg	0.019
Metals*	0.045

* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

GRATE INCINERATORS – DOEL

Emissions and environmental impact

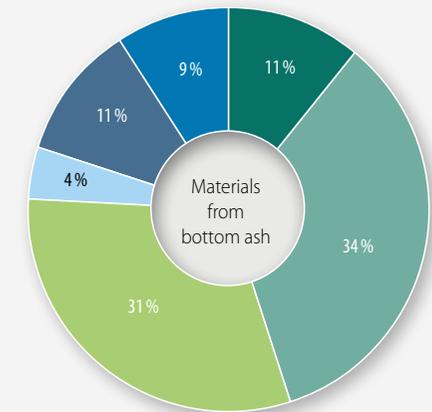
1. Mass balance

IN	
Waste	432,204 tonnes
Energy	
Heating oil	336 tonnes
Steam	84,261 GJ
Electricity	46,076 MWh
Flue gas cleaning additives	
Quicklime	2,088 tonnes
Limestone	2,207 tonnes
Absorbent for dioxins and heavy metals	268 tonnes
DeNOx reagent	1,321 tonnes
Water	
Mains water	148,755 m ³
Re-used water (*)	4,073 m ³



OUT	
Emissions to atmosphere	
Flue gases	2,229,431,228 Nm ³
Energy	
Energy recovery	3,660,208 GJ
Water discharged	
Waste water	0 m ³
Residual products	
Bottom ash (**)	85,963 tonnes
Boiler ash	6,284 tonnes
Flue gas cleaning residue	7,584 tonnes
Gypsum	1,378 tonnes

(*) Calculated value
 (**) Composition of the bottom ash: see graph

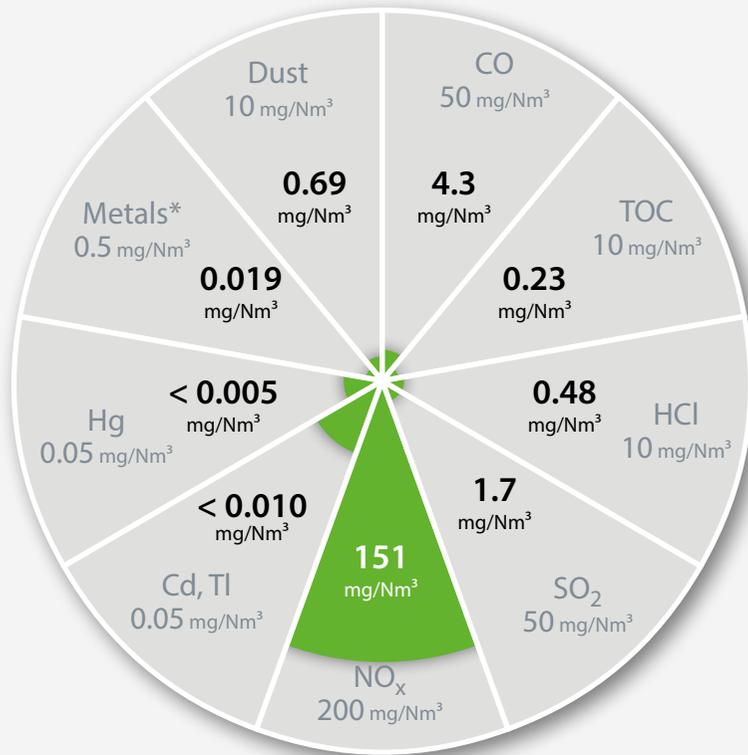


Useful application:	76 %
ferrous/non-ferrous fractions	11 %
granulates (*)	34 %
sand fractions	31 %
Deposit of non-useful fractions:	24 %
weak ferrous fractions	4 %
filtercakes	11 %
residual fractions	9 %

GRATE INCINERATORS – DOEL

Emissions and environmental impact

2. Performance relative to emission limitit

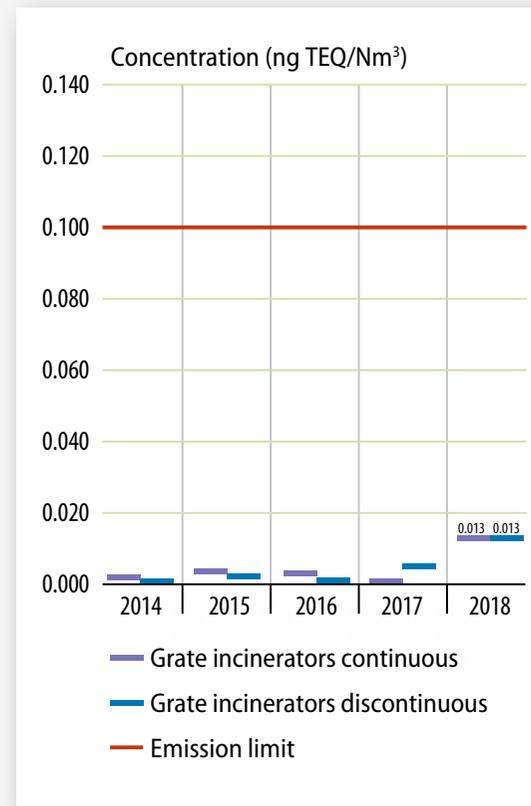


■ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 26 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	1.5
CO	9.6
TOC	0.5
HCl	1.1
SO ₂	3.8
NO _x	337.2
Cd, Tl	<0.022
Hg	<0.011
Metals*	0.042

* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

GRATE INCINERATOR – MEATH

Emissions and environmental impact

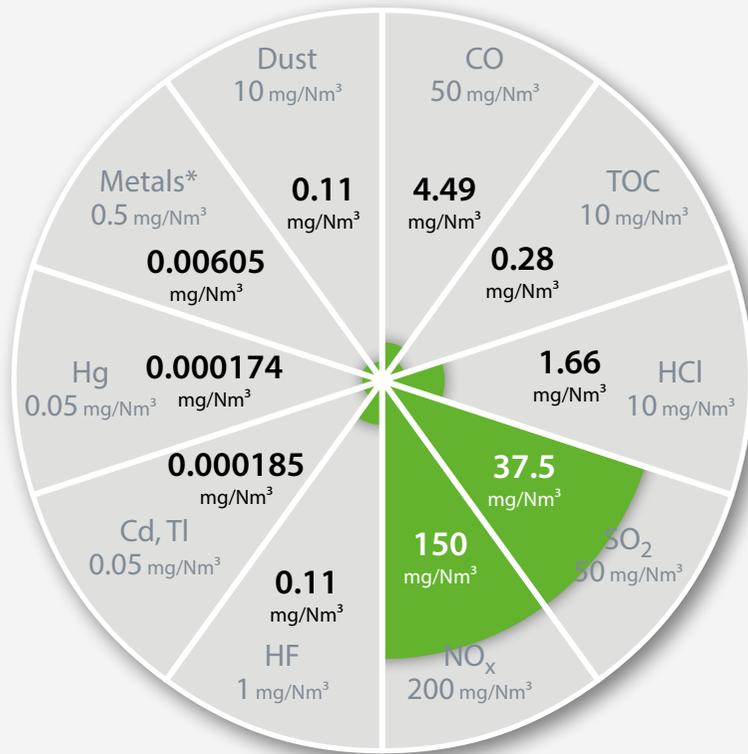
1. Mass balance



GRATE INCINERATOR – MEATH

Emissions and environmental impact

2. Performance relative to emission limitit

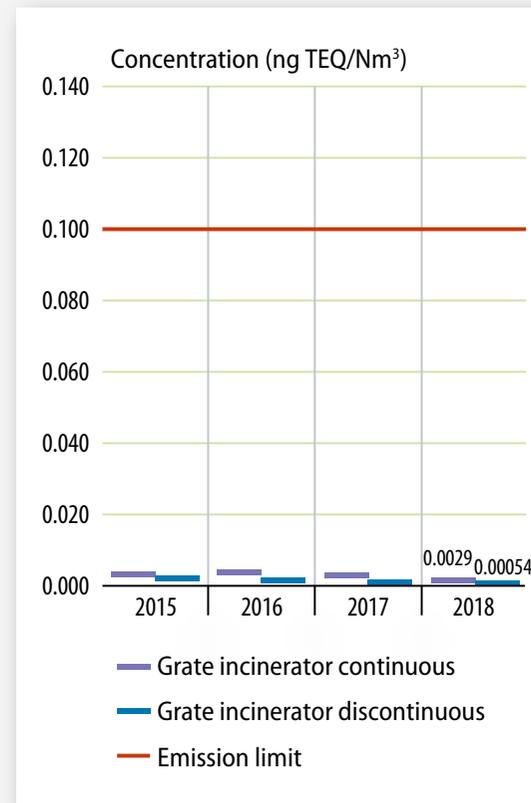


■ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2018

(*) Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

3. Dioxin measurements



Dioxin pollutant volume = 2,2 mg TEQ (in normal conditions)

4. Volume of pollutants

Dust	0.14
CO	5.77
TOC	0.36
HCl	2.11
SO ₂	48.55
NO _x	194
Cd, Tl	0.0002
Hg	0.0002
Metals*	0.0078

* Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

ARP IJMUIDEN

Emissions and environmental impact

Mass balance



IN		OUT	
Waste acid	140,157 tonnes	Regenerated acid	146,498 tonnes
Energy		Emissions to atmosphere	
Natural gas	10,437,652 m ³	Flue gases	148,096,913 Nm ³
Electricity	5,171 MWh	Water discharged	
Additives		Waste water	310,336 m ³
Fresh acid	2,760 tonnes	Residual products	
Compressed air	47,737 m ³	Iron oxide	31,210 tonnes
Water			
Industrial water	99,802 m ³		
Acid rinse water	331,279 m ³		
Demineralised water	92 m ³		

IMPACT ON WATER

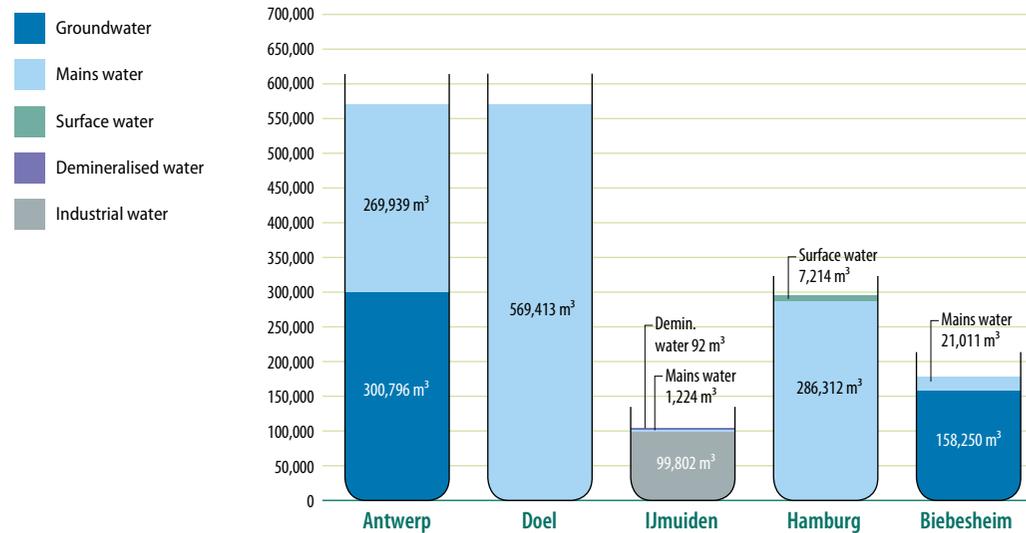
Indaver uses water frugally. We monitor our consumption of water from primary and secondary sources, recover rain water where possible and limit our use of primary water sources. We invest in new technologies and methods to further reduce our water consumption and our impact on the ambient water.



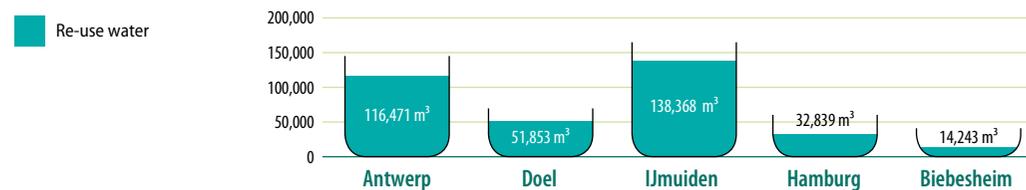
Water consumption per site

2018

Primary water consumption



Secondary water consumption



Components of potential concern: Indaver takes the lead

At the end of November 2017, the state secretary of Infrastructure and Water Management in the Netherlands established the National Waste Management Plan 2017–2029 (LAP3). The policy on substances of very high concern (Zeer Zorgwekkende Stoffen ZZS), as described in LAP3, seems difficult to implement in practice. Environmental services are wrestling with the interpretation of the directive on potential substances of very high concern, which are not stated specifically in licenses and for which there is a lack of reliable measurement methods.

Task force

In 2018, there was concern when minimum quantities of GenX were found in the wastewater from IWS Terneuzen. In response, Indaver took the initiative and set up a task force to come up with a simple and substantiated standard for GenX.

PROTECTING THE SOIL AGAINST POLLUTION

We meet all of the statutory provisions for soil remediation and take all the necessary preventive and technical measures to limit the risk of soil and groundwater contamination:

- all of our activities are carried out on hard-surfaced areas
- separate drainage systems safeguard the quality of the water discharged into the public sewage system
- storage tanks for hazardous substances are installed above the ground, fitted with containment walls and equipped with the necessary monitoring and alarm systems
- with regular checks and detailed procedures, we reduce the risks to an absolute minimum and are able to respond immediately to any anomalies.

Storage tanks in Antwerp are equipped with containment walls and alarm systems



Landfill sites: the end of the line for substances that the circular economy can't use

For waste products that we can't find a useful application for or treat chemically, landfilling is a necessary option for sustainable waste management. We are thus creating a sustainable solution for waste that we remove from the loop.

In Belgium, Indaver uses an **electronic leak detection system** to check we are protecting the soil sufficiently against seepage from waste. In Billigheim, in Germany, there is a comprehensive

groundwater monitoring system with onsite/offsite control wells from which we take regular samples.

Also, once we have filled the landfill site and it can no longer be used, we ensure that there are sufficient financial reserves for the final capping and aftercare.

[Watch the video](#)



SUPPORTING HEALTHY ECOSYSTEMS AND BIODIVERSITY

In every aspect of our business activities we ensure that our use of natural resources, such as raw materials and energy, is sustainable. This also means that we make every effort to promote biodiversity and to recognise the diversity of various ecosystems and genetic diversity. Biodiversity forms an important part of every environmental license for any new location, adaptation or expansion. Consequently, we can guarantee this in and around our sites and throughout the entire chain.



Indaver focuses on maintaining biodiversity:

- in the selection of raw materials;
- concerning emissions into the environment;
- on production locations and by minimising or compensating for the impact of our constructions on nature (for example, Meath/Cork: the horizon-line of the facility follows the undulations of the landscape);
- innovative processes for recovering materials and energy from waste;
- with the production and sale of compost, Indaver is making a contribution to the fertility of soil and biodiversity;
- by supporting local projects that promote biodiversity.



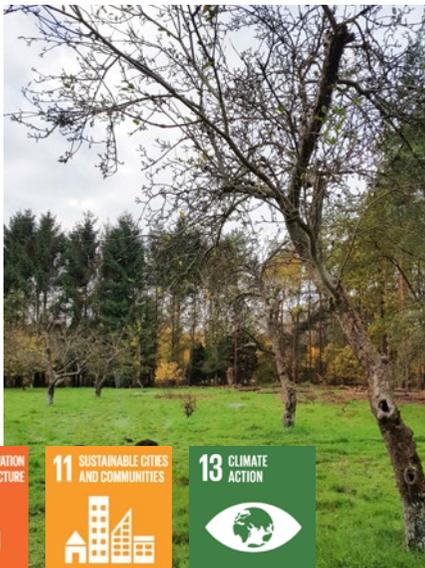
IndaChlor®: limiting impact on marshlands

The area where Indaver is building IndaChlor®, is classified as a 'wetland area' - or 'marsh'. Due to the composition of the soil and the geohydrology, specific fauna and flora can develop there. We have planned the site and the parts of the facility to limit the impact on the 'wetlands area' as much as possible. In accordance with French regulations, where an impact on the surface area is unavoidable, similar areas have been created using habitat management, in other areas of the port. The license also includes prerequisites to leave the fauna present as undisturbed as possible, in part by using adapted lighting, amphibian ladders, reservoirs and bat boxes.

SUPPORTING HEALTHY ECOSYSTEMS AND BIODIVERSITY

Repair of former heathland & orchard near to the Antwerp site

Since 2016, Indaver in Belgium has been a sponsor to the Huzarenberg nature area (Antwerp). The environmental organisation Natuurpunt has a number of separate small areas of heathland, like Huzarenberg, which it manages as one area. Partly thanks to Indaver, over the last few years Natuurpunt has bought plants and equipment for pruning or replacing trees to get the area ready for grazing sheep. In 2017, and with our support, it started to repopulate an orchard on the edge of the polder with old varieties of apples and pears. In 2018, workers from the employment programme Natuur- en Landschapszorg assisted with the further design.



Huzarenberg nature area (Antwerp)

Protection of bats' natural habitat

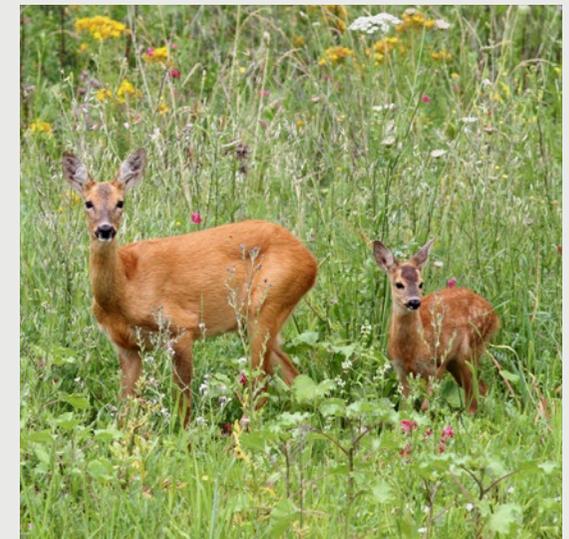
On the Schans van Smoutakker and the nearby Elzenbos in Stabroek, near to the Port of Antwerp (Belgium), there are bunkers from the Second World War that provide an ideal hibernation roost for bats. With financial support from Indaver, new vandal-proof doors were fitted onto the bunkers, to ensure the animals can hibernate in peace. Every year, the Agentschap Natuur & Bos and Natuurpunt organise a guided tour - with bat detector - to raise awareness of and educate people about the bats' biotope.



Schans van Smoutakker in Stabroek (Antwerp)

Peace for roe deer

Our landfills provide a home to a number of wild species, including roe deer, who have found a safe haven within our fences. During calving season, Indaver stops all excavation and cutting works until the calves are able to stand safely and independently.



MEATH: A BOOST FOR BIODIVERSITY



In 2018, field research was carried at the Meath waste-to-energy centre to examine the status of biodiversity on the site, seven years after it went into operation. An initial biodiversity study was conducted within the framework of an environmental impact report. At that time, there appeared to be fewer species than expected in an agricultural area. The area was considered to be an area with little biodiversity and ecological value. To limit the ecological consequences, Indaver have put a (re)planting plan in place.

Green zone developed

Of the 10 hectares that Indaver developed, 2 hectares were replanted with 15 species of indigenous Irish trees, five species of indigenous Irish shrubs and a mixture of indigenous species of meadow and wild flowers. The study identified 16 types of wild flower, which are a source of pollen and nectar for pollinating species of insects.

Home to hares, foxes and bats

In 2018, a stable population of Irish hares moved into the area and foxes have also been spotted occasionally. During the study, 11 species of birds were observed. Six bat boxes installed on the site are now showing signs of use by bats (bat droppings). Three species of bumblebees were also observed. One of them, the red-tailed bumblebee, has 'near threatened species' status in Ireland. In addition, seven species of butterfly and moth were identified.



The pond is alive

A pond was dug on the site to store clean rainwater run-off before it is removed from the site. The pond has become a habitat for small newts and every now and then frogs can be seen. During a newt study, 65 species were counted, which indicates a very healthy population. Nine species of fresh-water invertebrates also live in the pond and sometimes a breeding pair of wild ducks can be seen foraging there.



SUSTAINABLE WASTE MANAGEMENT IN THE CIRCULAR ECONOMY

*Annelies De Laet, Outlet Manager and
Jan Van Houwenhuyse, International
Project Manager during a guided tour at
the IndaMP installation in Antwerp*





Prosperity

In order to respond to the challenge of transitioning to a circular economy, we have developed a growth model that focuses on three priority areas: improving process efficiency; focusing on organic growth; fostering breakthrough innovation.

This growth model ensures that while we continue to expand and to develop new services and technologies, we remain focused on improving efficiency within our core activities. Indaver is proof that good business and sustainability go hand-in-hand.





CONTRIBUTING TO PROSPERITY

Prosperity

Context

Every economy focuses on value creation, including the circular economy. But in a circular economy the value is not just financial, it is also qualitative. The benefits to society are also important, such as the well-being of local residents, the safety and quality of the living environment, sustainable mobility, and commercial practices based on the principles of corporate social responsibility.

Our approach

Core values

At Indaver, value creation is an integral part of our vision for sustainable production and consumption practices within a circular economy. As a waste management company active in the industrial and municipal waste sector, we have defined economic goals (concentrating on achieving results), social goals (demonstrating concern for people and building relationships based on mutual trust) and environmental goals (focused on minimal climate impact).

These core values are fundamental to all of our activities. They guide our strategy, our decision-making process and our relationships with each of our stakeholders. They guarantee that we do good business in a complex world: with integrity and a clear sense of social responsibility.

Policies

To support this vision we have drawn up various internal policies, including a Charter for Sustainable Purchasing for Suppliers. But we have taken this a step further and have translated our vision and expectations into a Supplier Code of conduct.

These are available for all stakeholders to consult on our website. In the regions where we operate and in the companies we acquire, we always remain true to our own vision and values. Indaver is proof that good business and sustainability can go hand-in-hand.

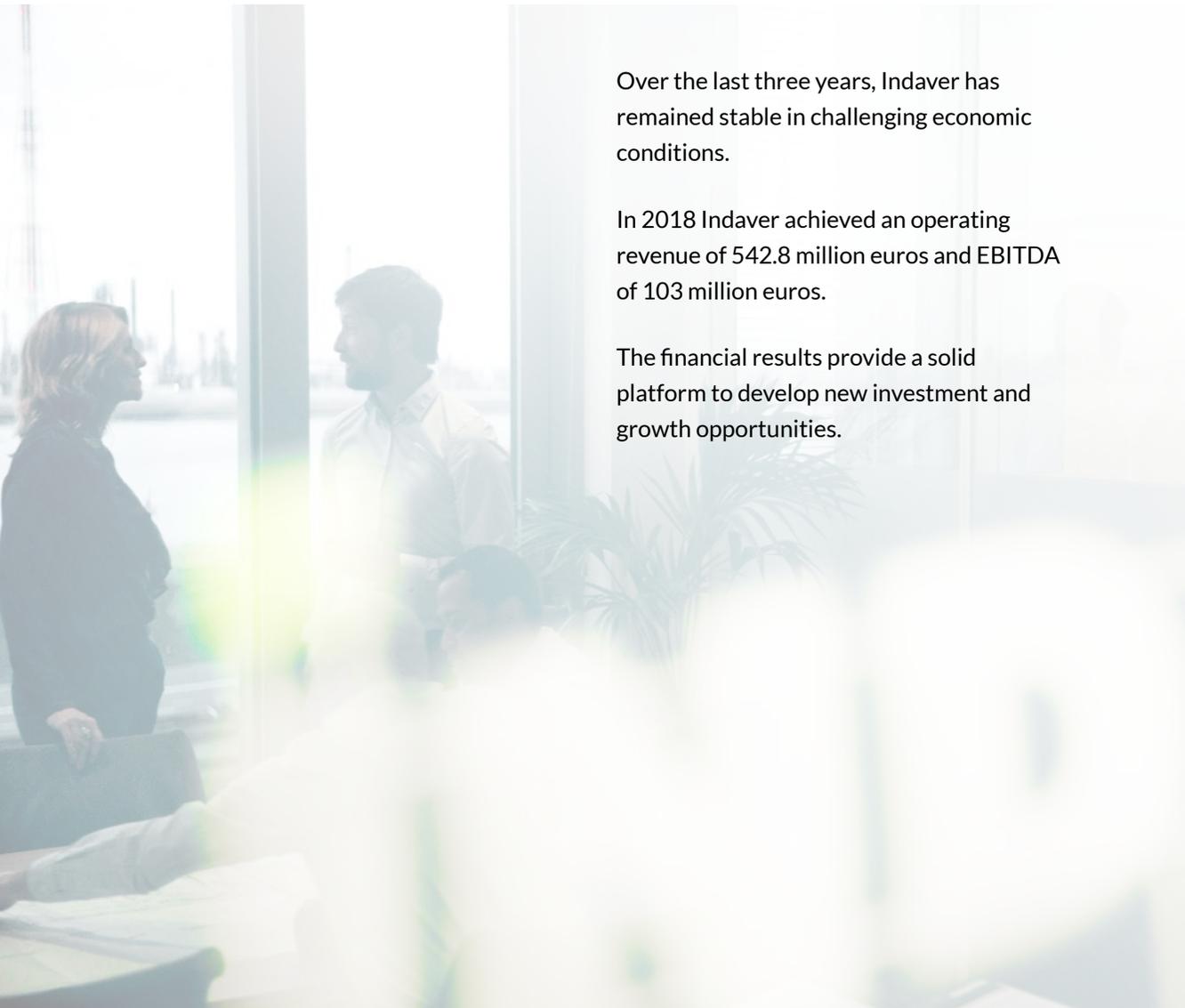
8 DECENT WORK AND ECONOMIC GROWTH



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



SOLID FINANCIAL BASIS MAKES SUSTAINABLE GROWTH POSSIBLE

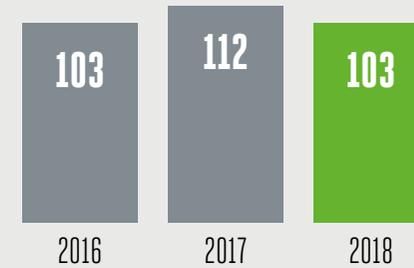


Over the last three years, Indaver has remained stable in challenging economic conditions.

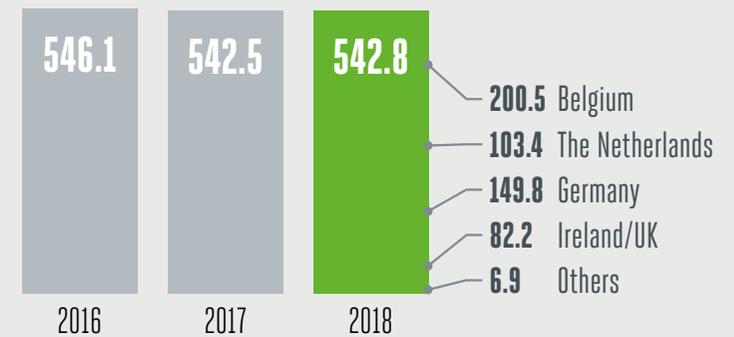
In 2018 Indaver achieved an operating revenue of 542.8 million euros and EBITDA of 103 million euros.

The financial results provide a solid platform to develop new investment and growth opportunities.

Group EBITDA
(in million Euro)



Group operating revenue
(in million Euro)



POLICIES FOR SUSTAINABLE BUSINESS

Sustainable supply chain with suppliers

Indaver is a responsible service provider. We get involved with partners and suppliers who also place a high value on sustainability. In 2018 we have clarified our vision and our policy in a Sustainable Procurement Charter. In addition, we put together a Code of Conduct setting out our expectations for all suppliers and partners as an addition to the contractual agreements.



► [more information](#)

Sustainable Procurement Charter and Supplier Code of Conduct

The Charter and the Supplier Code of Conduct highlight our focus on sustainable development and business practices. We do everything possible to ensure we do business with our partners in an ethical, legal and socially responsible manner. We are constantly improving in the areas of human rights, work standards and the environment, and we tackle all forms of corruption.

Indaver's Supplier Code of Conduct is in line with all the relevant internationally recognised principles and corporate social responsibility (CSR). It is the supplier's responsibility to uphold these principles. We ask partners to translate these to their supply chain. We prefer to work with suppliers who can demonstrate that they follow our Code of Conduct. (The Charter and the Supplier Code of Conduct are available on our website.)



PARTNERSHIPS

Fruitful Office: afforestation in Malawi

Fruitful Office, which delivers fruit baskets to our staff in Belgium every week, is a supplier that has put its efforts at corporate social responsibility into practice and makes this clear to its customers. Fruitful Office got involved in the fight against deforestation in Malawi, Africa, and in collaboration with 'Ripple Africa' it plants new guava and papaya fruit trees and also fast-growing trees, such as senna siamea, pines and eucalyptus. This planting reduces the impact of global warming, protects indigenous trees and creates work and income for local communities. Fruitful Office plants 1 fruit tree in Malawi for every 40 portions of fruit they deliver to Indaver. Thanks to our partnership with Fruitful Office, Indaver planted 2 465 fruit trees in Malawi (Africa) in 2018.

► [Click to read the full story](#)

► [Watch the video](#)



"Fruitful Office is a company that makes local, social and sustainable fruit deliveries to offices. Local because we buy the fruit directly from Belgian and Dutch growers. Social because we work with people who are distanced from the labour market. Sustainable because for every basket of fruit we plant a tree in Malawi. Our partnership with Indaver gives us huge encouragement to continue with these three aspects."

Jacob Nawijn, Director of Fruitful Office Benelux

SOCIAL DEVELOPMENT AND COMMUNITY BUILDING: INVESTING IN RELATIONSHIPS WITH THE ENVIRONMENT AND SOCIETY

Indaver's activities can have an effect on the environment. We are trying to be a good neighbour to the residents living near to our facilities and to be a good partner in the regions where our sites are located. We do this in various ways.

Social work companies

We help people who are at a distance from the labor market through green work and outsource customized production work to a social work company:

- For the maintenance of the green areas on a few sites in Belgium, Indaver uses a public employment programme with a 'Green' division that specialises in sustainable land management. They don't use any pesticides and use only electrical gardening equipment and electric lawnmowers to produce less CO₂ and less noise nuisance. The green maintenance of Bio Power Alphen is also carried out by a public employment programme.
- Indaver IWS outsources various international projects to a public employment programme. They label commercial packaging and gadgets and put up the display system for internal and external signs.
- In 2018, Indaver in the Netherlands signed a new, multi-year contract for the cleaning on its sites. Where possible, the staff are people who have been long-term unemployed. They usually clean during office hours to promote visibility and a sense of unity and being part of the company.
- Indaver in Germany works with a local organisation that works with people with disabilities. Once a week they carry out all the garden maintenance on the Indaver site in Biebesheim.
- Our site in Hamburg employs a refugee from Eritrea as an industrial technician. Even with no valid documents on his apprenticeship, he was given the chance to demonstrate his skills.
- Every year in September, the Stichting Truck Roll Zeeland organises a truck tour whereby people with a mental or physical disability can go for a ride in a truck as a passenger. Indaver also took part in 2018, this time with three drivers from Indaver IWS (Terneuzen) and their trucks.

Neighbourhood councils

We use neighbourhood councils and consultation committees to keep our neighbours up-to-date with our activities, projects and (re)licensing applications and we make time for their questions.

- In Belgium, we organised two consultations for neighbouring companies in the Waasland port in June and October. On the agenda, amongst other topics: mobility and new investment in the port. For residents and local authorities near to our Antwerp site, there was a consultation in the spring and several meetings in the autumn. With the monitoring committee for Doel there was a consultation where we announced the emissions results and gave the public more information about the modal shift and new projects.
- Indaver in the Netherlands organised In March 2018, an information meeting for local residents and those interested in Bio Power Alphen, where we clarified the improvement plan for the biofilter, which needs to reduce the odour nuisance, and the schedule for the works. In June 2018, we informed residents living near to the former landfill site Derde Merwedehaven about the schedule and phased implementation of converting this space into a recreation area. Progress can be followed through news reports on the www.merwedehuevel.nl website.



8 DECENT WORK AND ECONOMIC GROWTH



11 SUSTAINABLE CITIES AND COMMUNITIES



17 PARTNERSHIPS FOR THE GOALS



SOCIAL DEVELOPMENT AND COMMUNITY BUILDING: INVESTING IN RELATIONSHIPS WITH THE ENVIRONMENT AND SOCIETY

Open days

We believe it's important for neighbouring companies and local residents to get to know our company. We organise open days and site visits to give our neighbours a peak behind the scenes:

- Indaver Ireland employs a dedicated liaison officer who runs public visits to the Meath site. In 2018, we were able to receive 750 visitors.
- In Belgium, 661 visitors came through our doors in 2018. Through these visits, we illustrate the role of waste management in the circular economy, answer stakeholders', customers' and suppliers' questions, and encourage people to learn out about our sustainable approach. We want to entice potential staff into a job in a sector with huge social relevance.

Supporting social projects

The circular economy is everyone's responsibility. On a local level, citizens and companies are also making efforts. Indaver supports their community projects that reflect its values.

- The Fonds Duurzaam Materialen-Energiebeheer [Sustainable Materials and Energy Management Fund] supports local projects that are fighting climate change, that organise mobility better and that encourage people to live differently and consume more sustainably. In 2018, 26 local associations, youth movements, environmental councils, schools, neighbourhood committees or other local organisations received a helping

hand. In 2018, there was also support for regional projects that demonstrated concern for sustainability, innovation and behavioural changes throughout Flanders.

- For every ton of waste treated by our waste-to-energy facility in Meath, Indaver supports a charity for local projects. In 2018, money went to Ablevision, a media production and training company for people with an intellectual disability. There they learn how to tell their own stories and challenge other people's perceptions and expectations. They spread their message using video reports and other media. In this way, they become role models for their peers.



Indaver supports Ablevision, a company for people with mental disabilities

CSR distinction for Indaver Ireland

In October 2018, Indaver received an award from the Drogheda Chamber of Commerce for its **Corporate Social Responsibility**. This award recognises businesses and their staff who go the extra mile to support local worthwhile causes.



INVEST IN RELATIONSHIPS

QESH Policy: Demonstrating concern for people, safety and the environment.

In 2018, Indaver put its QESH (Quality, Environment, Safety & Health) policy under the microscope and summarised it in a policy vision. In this vision, we emphasise, among other things, the importance, for Indaver, of operational excellence, efficient management systems, risk management, compliance, safety and the economical use of resources. We develop a QESH handbook for each region, because the legislation and regulations can differ. However, our core vision on QESH is the same for all of Indaver's regions.



► Read our [Company Code](#) for more information about how our values determine our relationships with our stakeholders.



OUTLOOK FOR 2019

Data protection: a priority

IT security is constantly moving up the list of priorities for all companies. The implementation of the European guideline for data management (GDPR/AVR) in May 2018 was an incentive for many companies to look at their data management and make improvements, where necessary. Indaver has a lot of third-party data, including intellectual property and personal identification information. Employees, customers and business partners want their personal information to remain confidential and protected, especially where it concerns sensitive information, such as managing hazardous waste streams. Indaver has always invested heavily in strong and secure data management systems that protect this data against theft or loss. In 2018, we took extra actions to strengthen data security: authorised viewing (access levels on MOSS); penetration tests by external specialists; training and raising end users' awareness about screen protection and cyber security tips, among other things.

To prevent damage to our reputation, to ensure business activities are not compromised and to prevent a negative impact on our customers, this security policy now forms a major part of our IT strategy.

In addition to our current data protection policy, we are currently developing our 'Information Security Policy'. It will be implemented by the end of 2019.



OPERATIONAL EXCELLENCE

Prosperity

Context

As a business we grow by continually refining our processes, by evaluating them and organising them more efficiently. That way we are better able to meet our customers' and society's expectations, to respond to changing legislation, to improve our service provision and to keep costs down. This strengthens our stakeholders' faith in our organisation and helps to prepare us for expansion into new sites and into more complex service provision.

Our approach

With Lean Six Sigma (LSS) we tackle complex recurring problems using a systematic and structured approach. We thereby improve the efficiency of our facilities and processes, we prevent waste in business processes and we increase profitability and compliance. This generates better service provision.

Our staff proactively look for ways to improve the processes in their own or other departments and to make them run more efficiently. We want them to automatically question why they are doing what they are doing and whether there is a better way to do it.

There are Yellow Belts, Green Belts and Black Belts working on LSS projects in all of Indaver's regions. **Black Belts** lead large-scale, often international project improvements; **Green Belts** conduct more targeted improvements in regions and within departments. **Yellow Belts** implement improvement projects within their own working environment.

8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



CONTINUOUS IMPROVEMENT

Moerdijk: sustainable treatment of wastewater

In 2018, we are focusing on improving the quality of the leachate from our green compost location in Moerdijk (the Netherlands). The wastewater from it does not satisfy the discharge standards and is therefore treated externally.

OUTLOOK

The research results will be analysed in 2019. After that, we will research the various options.

ARP IJmuiden: continual improvement system

At Indaver ARP in IJmuiden (the Netherlands), a Lean scan was performed to identify potential points for improvement. There were five points, relating to maintenance processes, coordinating maintenance activities and the weekly meeting, among other things. The staff and the key customer, Tata Steel, are enthusiastic about tackling these improvements and considerable progress has already been made.

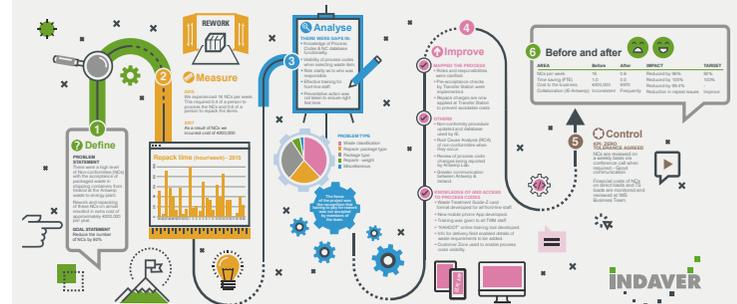
LSS project for the delivery of packaged waste.

It is important for waste products to be packaged and labelled correctly with a view to safe treatment. In the past, Indaver ascertained through checks conducted in Antwerp (BE) that packaged waste from Ireland was not always labelled according to our strict criteria. Lean Six Sigma provided more insight into the labelling method and brought the Irish and Belgian teams together to work out an improved approach. They examined the acceptance criteria and looked for ways to reduce work pressure. This new approach is already paying off. There has been a significant reduction in the number of non-conformities from 1.7 per week to 0.6 per week. Furthermore, thanks to this project, the workload in Antwerp has reduced and the risks are being managed better.



IWS Terneuzen: logistics flow improved

At IWS in Terneuzen the reporting system for drivers who want to deliver waste has been adapted. By altering the routing, waiting times are greatly reduced on the site and the through-flow has improved.

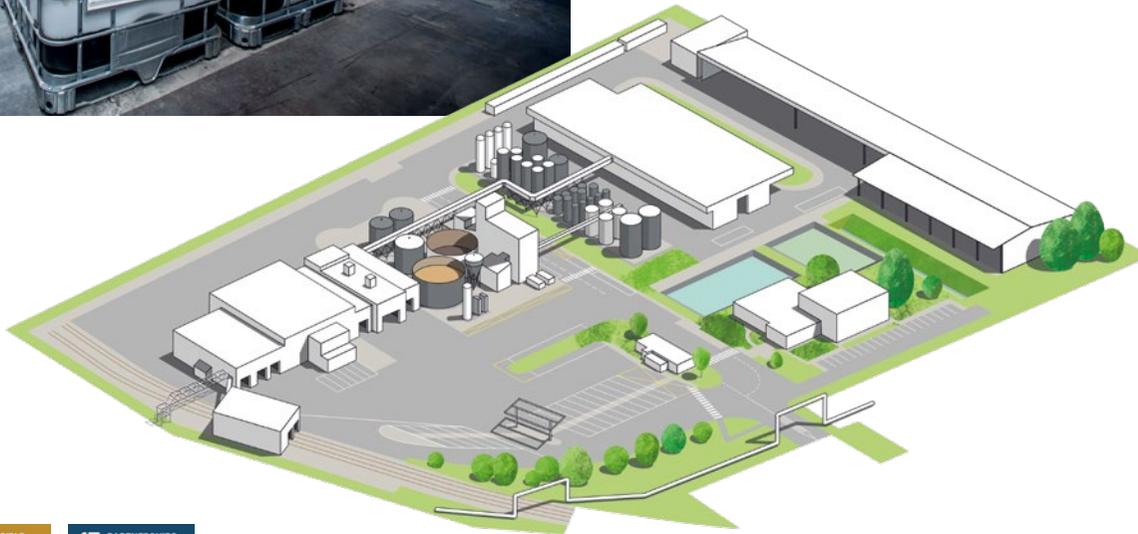


OPERATIONAL EXCELLENCE: RESPONDING TO THE EXPECTATIONS OF CUSTOMERS



Expand storage capacity in Terneuzen

Chemical waste from Dutch industry comes to Indaver IWS (Industrial Waste Services) in Terneuzen, where it is repackaged (Waste Transfer). Industrial waste with the right composition goes to the lime and cement industry. This waste has the high calorific value that this industry needs in its production processes and replaces fossil fuel. The remaining chemical waste goes to our treatment facilities in Antwerp.



Storage+

In 2018, Indaver IWS completed the license projects for Storage+ with positive results. The aim of this project is to increase the buffer and blending capacity on the tank park. The extra storage ensures increased quality and efficiency. We can better respond to the demands of outlets and customer requests. Customers will have more continuity in the treatment of their industrial waste.

OUTLOOK

There are nine new tanks in total, including a blending platform for waste with equivalent parameters. This ensures a higher quality end product for our customers. Storage+ provides better buffer capacity, which gives Indaver IWS more control over supply and demand. The construction of the nine tanks will commence in 2019.

Synergy with Katoen Natie

Indaver IWS works in collaboration with Katoen Natie for logistics services and to provide sufficient storage capacity. Riga Natie in the Port of Antwerp is a great example of this.



GROWTH AND INNOVATION

Prosperity

Context

Competitive market

The waste management market is very competitive. Developments such as the circular economy are challenging waste treatment companies to adapt even faster to a changing environment. Even the legislation and regulations never stand still. Furthermore, the waste market is dealing with a shortage of available treatment capacity, partly through the Chinese ban on the import of

contaminated plastics. All waste treatment companies are organising themselves to find innovative and sustainable solutions that are cost-efficient and safe.

Changes

Waste management is a complex business that is constantly changing as the market evolves. Customers want to keep up in a fast-changing world and are looking for service providers

who can come up with flexible and appropriate tailored solutions that respond to new challenges. In the meantime, the European goals for climate and energy are becoming ever stricter, as is waste legislation. We need new technologies to respond to that.

Our approach

Controlled growth

Indaver is always looking for ways to strengthen its market position. One way we do this is through building and operating our own facilities and applying our own existing technologies, services and processes to new locations. A second approach is to acquire existing facilities and align them with our way of working. By doing so, we are able to offer our knowledge and high service standards to more customers in more locations. By strengthening our portfolio, we also gain a stronger negotiating position in the market and we achieve economies of scale. We grow in a controlled manner. We invest only in proven technologies. Acquisitions take place only if they fit with our strategy and don't jeopardize the future of our organisation.

New business models

We encourage new technological and/or business models. We are interested in opportunities that align with our focus on developing the circular economy, and that are feasible from a technological and economic point of view and take into account expected energy and material price developments. Our innovation projects and business cases are chosen carefully – they must be technologically reliable, ecologically sound and financially responsible. When we look for and evaluate new opportunities, we ensure that they are a good fit with our strengths and our strategy.

Indaver Ireland/UK has reviewed the company's operations in the light of Brexit discussions

Indaver Ireland/UK has reviewed the company's operations in the light of Brexit discussions and concluded that the services supplied by Indaver to our customers are not expected to be significantly impacted by Brexit or a no-deal scenario. Nevertheless, Indaver has business continuity plans to deal with any short-term logistics difficulties that might ensue. Indaver will continue to service our customers to the highest degree. Indaver will continue to invest our staff and customers located throughout the UK and Ireland and in capital projects.

8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



17 PARTNERSHIPS FOR THE GOALS



NEW INSTALLATIONS: RECOVERING MATERIALS AND ENERGY

E-Wood: authorisation process is underway

Indaver and SUEZ are planning a new treatment facility in the Waasland port in Antwerp, Belgium, for **non-recyclable wood waste**, E-Wood. E-Wood stands for energy from wood waste. The new facility will treat around 180,000 tonnes of wood waste per year, including, for example, treated wood waste or woody material from composting facilities. This waste can no longer be recycled into wood products, but it can be used as a raw material in green energy production.

We convert the energy that is released during treatment into electricity, or we use it as steam on the Ecluse industrial

steam network. E-Wood will be integrated into our location in Doel, where Indaver and SUEZ have already developed other facilities. The infrastructure to produce energy is already there, such as three turbines and a steam pipe for high-pressure process steam. By using this wood waste as a raw material for the production of green energy, this facility fits in with the sustainability goals for Flanders and for Europe.

Together, Indaver and SUEZ will invest 100 million euro in the facility. The authorisation process for the facility is underway.

Operating licence for IndaChlor®

In 2018, Indaver successfully completed the extensive licensing procedure for IndaChlor®, the entity that converts chlorinated residues from the PVC industry into hydrochloric acid. To obtain the operating license, Indaver was subjected to an extensive public investigation, in which the inhabitants and various stakeholders were informed about the project. The construction of the installation started in the summer of 2018.

► *Read more on p 43.*

Plastics2chemicals

Indaver wants to build new installations to extract materials from the end-of-life plastics for the chemical industry.

► *Read more on p 47.*



STRENGTHEN POSITION

Resource Recovery Centre Ringaskiddy

In May 2018, Ireland's statutory planning body, An Bord Pleanála, granted permission to Indaver to build a €160 million, 240,000-tonnes-a-year waste-to-energy facility at Ringaskiddy, which is located on the western side of Cork Harbour, 15 kilometres from Cork city.



The proposed facility, Resource Recovery Centre Ringaskiddy (RRCR), will be a sister site to Indaver's facility in Meath. It will treat household, commercial, industrial, non-hazardous and small hazardous waste and will generate approximately 18.5MW of electricity for export to the national electrical grid. This will be enough to supply the power needs of approximately 30,000 households.

The facility will offer waste treatment services for the industries in the region and provide economic benefits to local service providers. With an investment of approximately €160 million, its development will provide 40 full-time jobs and 350 jobs during construction.

In 2018, An Bord Pleanála granted 10-year planning permission with a 30-year operational life. An Bord Pleanála concluded that the proposal adhered to European policy requirements for waste management, as well as to national and regional waste and spatial planning policies. In 2019 there will be a judicial review of the planning decision.



Impex builds sludge dewatering unit for TATA Steel in UK

Impex, the sludge dewatering expert within the Indaver Group, has been selected by Tata Steel to provide a 'Build-Own-Operate' (BOO) installation in Port Talbot, Wales, in the United Kingdom. It is a chamber filter press that will be in operation continuously and located permanently on the site. The plant will dewater 120,000 tonnes of wet sludge annually using the latest technologies. In summer 2018, the necessary analyses took place on the basis of samples and a test campaign ran for seven weeks. On the basis of those specifications and results, Impex submitted a proposal to Tata Steel to build the new installation.

Indaver is no stranger to Tata Steel. In the Dutch city of IJmuiden, Impex built an impressive dewatering installation on the Tata site. In addition, there is the Indaver ARP (Acid Recycling Plant), which converts the waste pickling liquid that is released during Tata's production processes into pure hydrochloric acid and iron oxide. The materials these facilities produce are reused by Tata in its production processes. This is the circular economy in practice.

In the coming months, Impex will support the site in Wales with mobile dewatering facilities. When the new BOO installation is operational, probably mid-2019, the long-term contract will commence. Indaver is expected to employ eight operators from that region to provide 24/7 service for the best possible cost-efficiency for the installation.



STRENGTHEN POSITION

Indaver enters agreement on waste management facility project in Rivenhall, Essex

Indaver has entered into an agreement with Gent Fairhead & Co Limited (GFC) to work together on the final developmental stage of an Integrated Waste Management facility in Rivenhall. Indaver will now work alongside GFC in finalising the detailed design and planning and obtaining permits for the facility. Once the permits have been finalised, construction is planned to commence in summer 2019.

The Rivenhall facility, set to be built in the footprint of a quarry on a former airfield owned by GFC, will produce renewable electricity, divert waste from landfill and provide an alternative to the export of waste. The integrated waste management facility will also provide employment opportunities in construction and operation. In addition, the project includes the refurbishment of the derelict 17th-century Woodhouse Farm.

The proposed 49 MW Energy from Waste (EfW) facility will strengthen the recycling efforts of the local community. Furthermore, it will supply enough energy to power over 60,000 homes.



PROJECTS



Aberdeen: new Energy-from-Waste facility

Aberdeen City, Aberdeenshire and Moray Councils in north-east Scotland have joined forces to build an energy-from-waste facility to process non-recyclable waste from 2021 onwards. Indaver is part of a consortium, with Acciona, a Spanish multinational construction company, that will carry out this NESS Energy Project.

The Aberdeen facility has been designed to treat 150,000 tonnes of Council residual municipal waste; this is the waste that remains after all efforts to recycle it. The facility will generate sufficient energy to provide heat to the proposed Aberdeen District Heating Scheme and also deliver electricity to the national grid.

Indaver will run and maintain the facility for the duration of the 20-year contract. It is anticipated that the facility will be accepting waste for commissioning by August 2021, and fully operational by April 2022.



STRENGTHEN POSITION

Sharing knowledge

We also organise visits for foreign visitors who want to get new ideas from our sites for sustainable waste management in their own countries. We share our good practices on trade missions abroad.

In November 2018, Indaver in the Netherlands organised a seminar for policy officials and government advisers. The seminar revolved around the main product from VGF: compost.

Indaver practical example on the EU Cleantech Forum

Sharing knowledge, bouncing ideas off each other, seeking partners to put ambitious plans into practice and finding the right investors for them: that was the goal of the annual Cleantech Forum, which arrived in Antwerp from 14 to 16 May 2018 and brought together hundreds of start-ups, business leaders and investors from 25 countries. Indaver was the co-sponsor of the Forum. Visitors to the Forum were able to get a glimpse behind the scenes in Doel, where Indaver showed how waste management is an essential link in the circular economy. During a workshop on 16 May, Indaver provided further information about our Molecule Management, the recovery of high-quality feedstock down to a molecular level. Indaver hoped these examples would inspire other participants.



Indaver entertains visitors with molecules at the IFAT trade fair in Munich

In May, Indaver met up with its industrial customers and relations at IFAT, a European trade fair for waste, water and materials management, in Munich, Germany. The theme of the 2018 fair revolved around the circular economy. Over the course of a week, around 3,000 exhibitors were able to show their services and solutions to 150,000 visitors.

The international trade fair is the ideal setting for the German sales team to strengthen existing relationships and to clarify our role in the circular economy using videos. The great attraction was the

big molecule construction floating above the central entrance to the stand. This shows instantly how Indaver is making the circular economy into a reality in practice. With projects like IndaChlor® and plastics2chemicals, Indaver has shown that industrial partnerships are the key to reusing materials recovered from industry waste, such as hydrochloric acid. With the Ecluse heating networks in Doel and Hamburg, we have shown that we supply the energy created during the treatment processes in our facilities to neighbouring companies or the nearby town.



The large, floating molecule construction at the IFAT trade fair was re-homed in the entrance hall of the Indaver offices. It is a great interpretation of our vision on the circular economy.

INDAVER AND GRI REPORTING

At Indaver, sustainability is integral to our commitment to the circular economy. In this Sustainability Report, we refer to the GRI criteria that are relevant to our sector. This report has been prepared in accordance with the “GRI Standards core option.”

See the table for ease of reference.

GRI is an international independent organisation that helps businesses, governments and other organisations understand and communicate the impact of business on critical sustainability issues such as those described in the UN’s SDGs. While business and government leaders can agree with international principles, GRI’s guidance helps to put these principles into practice.

GRI provides the world’s most widely used standards on sustainability reporting and disclosure, enabling businesses, governments, civil society and citizens to make better decisions based on information that matters.

GRI Standard	Disclosure	Page number(s) and/or URL(s)
GRI 101: Foundation		
GRI 102: General Disclosures	Organizational profile	
	102-1 Name of the organization	Indaver, pg 1
	102-2 Activities, brands, products, and services	Our Services, pg 12-14
	102-3 Location of headquarters	Indaver Mechelen, Dijle 17a, 2800 Mechelen, pg 7
	102-4 Location of operations	The Indaver group in Europe, pg 16
	102-5 Ownership and legal form	Indaver nv, pg 15; https://www.indaver.com/be-en/disclaimer-navigation/company-data
	102-6 Markets served	Our Services, pg 12-14
	102-7 Scale of the organization	Financial results, pg 88
	102-8 Information on employees and other workers	Committed and engaged employees, pg 31
	102-9 Supply chain	Enabler and gatekeeper of the circular economy, pg 11-12
	102-10 Significant changes to the organization and its supply chain	Operational excellence, pg 93-95; Growth and innovation, pg 96-99
	102-11 Precautionary Principle or approach	Sustainable Development Goals, pg 8; Our mission: leading the field in sustainable waste management, pg 9; Our core values, pg 10
	102-12 External initiatives	Sustainable Development Goals, pg 8; Audits: improving the quality of our processes, pg 18
	102-13 Membership of associations	Partnerships, pg 7; Sustainable Development Goals, pg 8; Indaver is a member of the following organisations, https://www.indaver.com/be-en/in-belgium/memberships
Strategy	102-14 Statement from senior decision-maker	Your partner in circular economy, pg 2
Ethics and integrity	102-16 Values, principles, standards, and norms of behavior	Our mission: leading the field in sustainable waste management, pg 9; Our core values, pg 10
Governance	102-18 Governance structure	Website Indaver, Organisation, https://www.indaver.com/be-en/in-belgium/organisation
Stakeholder engagement	102-40 List of stakeholder groups	Involving stakeholders, pg 15
	102-41 Collective bargaining agreements	Committed and engaged employees, pg 31
	102-42 Identifying and selecting stakeholders	Involving stakeholders, pg 15
	102-43 Approach to stakeholder engagement	Involving stakeholders, pg 15
	102-44 Key topics and concerns raised	Sustainable Development Goals, pg 8
Reporting practice	102-45 Entities included in the consolidated financial statements	Financial results, pg 88
	102-46 Defining report content and topic Boundaries	Your partner in circular economy, pg 2; Sustainable Development Goals, pg 8; Involving stakeholders, pg 15

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	102-49 Changes in reporting	Sustainable Development Goals, pg 8; working from the new material SDG's is new in the sustainability report 2018
	102-50 Reporting period	2018', pg 1; https://www.indaver.com/be-en/sustainability/sustainability-reporting
	102-51 Date of most recent report	Sustainability report 2018; https://www.indaver.com/be-en/news-media/publications
	102-52 Reporting cycle	Yearly; https://www.indaver.com/be-en/sustainability/sustainability-reporting
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GRI 404: Training and Education	404-1 Average hours of training per year per employee	Structured learning: acquiring the right knowledge, quickly and efficiently, pg 25
Local Communities		
GRI 103: Management Approach	103-1 Explanation of the material topic and its Boundary	Community building: investing in relationships with the environment and society, pg 90-92
	103-2 The management approach and its components	Community building: investing in relationships with the environment and society, pg 90-92
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GRI 413: Local Communities	413-1 Operations with local community engagement, impact assessments, and development programs	Community building: investing in relationships with the environment and society, pg 90-92

GLOSSARY

Anaerobic composting (digester) A method to convert organic waste into compost via bacteria. This method does not require oxygen.

ARP Acid Recovery Plant

Biomass A feedstock for energy generation which replaces fossil fuel.

Circular economy An economic system in which primary raw materials and waste and energy loss are minimised by slowing, reducing and closing material and energy loops. This can be achieved through sustainable design, maintenance, repair, re-use, re-manufacturing, refurbishing, and recycling.

Climate neutral Achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset.

Co-operation Agreement The agreement ensuring that Indaver's operating procedures and service provision are the same across the regions in which it operates.

Dioxins Compounds that are toxic environmental persistent organic pollutants; often, they are the by-product of industrial processes.

EcoVadis Independent assessment agency that evaluates the commitment to corporate social responsibility of businesses worldwide under assignment to purchasing departments.

Emission limit value Emission standard; the maximum volume/concentration that may be emitted.

Emission measurement The measurement of the volume/concentration of a particular substance emanating from a particular place.

Emission The release of a particular substance from a particular place (e.g. a chimney) expressed in volume/m³.

Enabler (facilitator) Indaver's role in the circular economy in which we recover energy and high-quality materials from waste safely and efficiently.

Energy cluster Heat from Indaver's plants supplied to neighbouring companies and residential areas.

Environmental performance The performance of an organisation with respect to the environment.

Frequency rate Legally determined safety indicator that charts the number of accidents involving more than 1 calendar day off work $Fr = (A * 1,000,000) / B$ A = number of accidents involving time off work B = number of hours exposure per year (sum of all personnel)

Gatekeeper Indaver's role in the circular economy, in which we must keep hazardous components out of the food and materials loops before, during and after waste treatment.

Grate incinerator Incinerator with energy recovery for thermal treatment of non-recyclable fractions of non-hazardous household waste and commercial waste.

Green gas Gas reprocessed from biogas, which in turn is obtained from digested wet organic residue. This green gas is of a very high quality and can therefore replace fossil natural gas.

Green heat Heat derived from renewable energy sources, in Indaver's case the source of renewable energy is biowaste.

Indachlor® Recycling facility for chlorinated waste residues

Indaver Molecule Management Recovering molecules from pharmaceutical and chemical waste for re-use in industrial processes.

Industrial symbiosis System in which raw materials are recovered from one company's waste to be used in another company's manufacturing processes.

Intermodal transport The combination of different modes of transportation, i.e. road, water, rail, to transport waste.

ISO International Organisation for Standardization

IWS Industrial Waste Services

LSS Lean Six Sigma

GLOSSARY

Mass balance The mass balance is the visual representation of each thermal process. The 'in' side shows the quantities of additives, water and energy needed to treat the waste efficiently. The 'out' side shows the quantity of solid residual materials remaining after the process, the quantity of flue gases emitted and the quantities of waste water and energy released during treatment.

Materials loop System in which raw materials are being constantly recovered, reused or recycled in a safe manner.

Physico-chemical treatment Immobilisation, fixation, solidification and stabilisation - techniques or methods for the treatment of hazardous waste, so that the waste can be stored safely in a class 1 landfill site.

PMD Plastic bottles, metal packaging and drinks cartons (selectively collected).

Pollutant volumes Pollutant volumes equate to the quantity of contaminated components that the incinerator stacks emit a year. These volumes are expressed in tonnes.

QESH Quality, Environment, Safety and Health – usually referring to an Indaver policy or department.

Residues Waste materials that cannot be further recycled or treated after sorting, purification or treatment.

Rotary kiln incinerator An incinerator with energy recovery for the thermal treatment of hazardous waste.

Rotary kiln incinerator An incinerator with energy recovery for thermal treatment of hazardous waste.

Safe Sink Destruction by Indaver of unrecoverable elements in waste and capture of the remaining potentially hazardous components in our high-tech final treatment facilities, thus removing them from the materials loop.

Safety index Weighted average of the number of accidents (in which the severity of the accident is the determining factor for the weighting assigned) relative to the number of employees.

SDG Sustainable Development Goals defined by the United Nations.

SEVESO European Directive on the management of risks associated with the storage and handling of hazardous waste.

Sustainable employability HR-policy for sustainable measures for healthy, pleasant and productive long-term participation in the work process.

Total Waste Management Service model which provides industrial clients with a worry-free customised solution.

VGF Vegetable, fruit and garden waste.

Waste-to-energy Recovery of energy from the thermal treatment of waste, which is then converted into steam or electricity and supplied to neighbouring companies, commercial users (district heating) or the electricity grid.



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