

INDAVER GROUP

LEADING THE FIELD IN SUSTAINABLE WASTE MANAGEMENT

*Sustainable approach
to materials and energy*

SUSTAINABILITY REPORT 2011



INDAVER



Sustainable approach to materials and energy

1. INTRODUCTION 4

2. POLICY AND VISION 12

3. PROCESSES 20

4. ENVIRONMENTAL RESULTS 42

5. HUMAN RESOURCES 68

6. CUSTOMER SATISFACTION 80

7. FINANCIAL RESULTS 86



STRATEGY

Indaver guarantees all its customers a sustainable solution for their industrial waste, hazardous waste, household and comparable industrial waste and bio-organic waste. To do so it successfully develops intelligent waste management systems and runs complex and innovative processing installations, with a single aim in mind: achieving maximum material and energy recovery in accordance with the most stringent environmental standards.



WASTE AS A RAW MATERIAL

Indaver wishes to close circuits, and so it is very active in the efficient recovery of materials for useful application or recycling. By effectively sorting and purifying waste, Indaver is doing everything in its power to keep harmful components out of recycled products or the food chain.



WASTE AS ENERGY

By incinerating waste, Indaver generates energy that it uses for its own installations or delivers to third parties. Countries with a well-developed Waste-to-Energy infrastructure score high on recycling as well. We are also pursuing this path in Ireland, where the new Waste-to-Energy facility, an incineration plant with energy recovery, has begun to operate in Meath.



CONNECTED BY INNOVATION

In order to attract talent, Indaver has to have an appealing employer's image. One of the ways Indaver is burnishing its reputation is via a new international career site. Indaver employees are *connected by innovation*, as the site's slogan says, with a career at the cutting edge of waste management.



FLEXIBLE SERVICES

Indaver has a customer-focused approach that is tailored to specific needs. With our Total Waste Management, where desired we take over the entire waste management for industrial customers, from on-site collection to processing and administration. For governments Indaver wishes to be a reliable partner and to help with a sustainable and cost-efficient waste policy via Public waste PartnershipS.



MEDIPOWER

Indaver is constantly striving for even newer and better techniques. The nec plus ultra at the moment is the new MediPower facility for the thermal processing of medical and sensitive waste on the Antwerp site. There Indaver offers its customers the most sustainable solution, avoids risks and recovers as much energy and as many materials as possible at the best price.

FOREWORD

Indaver champions sustainable waste management with an emphasis on sustainable materials and energy management. Our core business is clearly delineated, with a clear geographical focus. We develop efficient and flexible waste management systems, and operate complex and innovative waste treatment facilities. Indaver offers high-quality, sustainable and cost-effective total packages to provide customised waste management for businesses and public authorities.

With the Flemish government and a number of industrial companies as strategic stakeholders, Indaver is firmly rooted in Flanders. The same applies in the Netherlands with DELTA, based in Zeelandic Flanders, as the principal shareholder. With its Public waste PartnershipS outsourcing concept for sustainable management of household and comparable industrial waste, Indaver is a leading partner for public authorities in Belgium and the Netherlands. Indaver Ireland also supports sustainable management of municipal waste with its new Waste-to-Energy facility in County Meath, north of Dublin.

Over the past years Indaver has built a strong position in the European market for hazardous waste. Industrial companies need integrated packages for their waste management and often prefer to work with pan-European service providers. Indaver responds to these requirements with its flexible Total Waste Management approach. We are currently number 2 in Europe for high-grade hazardous waste treatment. We focus consistently on material and energy recovery. Completion of the MediPower facility in Antwerp, Belgium, for medical and sensitive waste raises thermal treatment of medical waste to a higher level. It is the perfect fulfilment of Indaver's philosophy of providing customers with the most sustainable system, with the right balance between risk prevention and maximising energy recovery at the best price.

We attach a great deal of importance to corporate social responsibility. We aim to live in harmony with our environment from which we draw our business resources. This is our best guarantee of being able to pursue our development in Europe successfully, building on our past achievements and with an open mind for the challenges of the future. Indaver is continuing to build on the solid foundations laid down by Ronny Ansoms over 25 years in his capacity of CEO. Last year he passed the torch to me. Indaver's achievements under his inspirational leadership are the solid foundation for further growth in our business.

We believe in the future, since we possess a great many strengths. We would like to thank all our stakeholders, particularly our customers, for their trust in our sustainable waste management. We thank our employees too, for their dedication day after day in putting our sustainable approach into practice, with our mission 'Indaver, leading the field in sustainable waste management' and our core values constantly in mind.



*Frank Verhagen,
Chairman, Board of Directors*



*Paul De Bruycker,
CEO*

1.

INTRODUCTION

‘Ensuring transparency in communications and actions’ is one of Indaver’s core values. We fulfill this promise through our annual Sustainability Report. It is our intention that the impact of our business activities on people and the environment should be transparent for all our stakeholders. All figures and results in this report are the outcome of systematic measurements in our management systems. Moreover, they are externally audited.

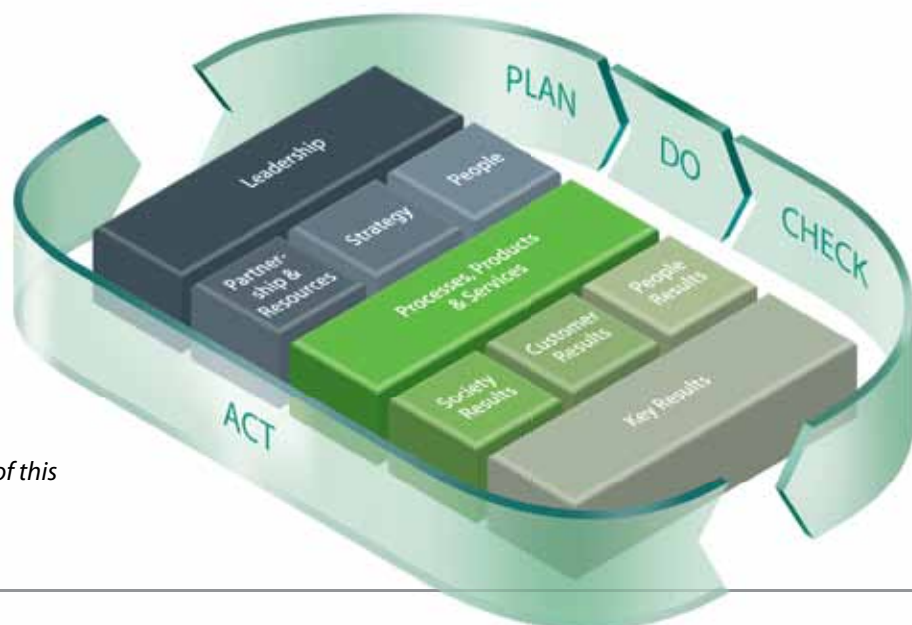
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SUSTAINABLE BUSINESS MODEL AS A STEPPING STONE

The Indaver Sustainability Report is structured in accordance with the EFQM business model. This business model – developed by the European Foundation for Quality Management – outlines the principles of sound operational management. Indaver believes that leadership, policy and strategy, employees, partnerships and resources are essential factors for success in managing processes, products and services efficiently. In addition to the financial operating results, Indaver also continuously monitors results for customers, in-house employees and society.

This is how Indaver interprets the principles of sustainable business, in which economic performance (profit) is achieved while maintaining respect for society (people) and the environment (planet), known as the triple ‘P’ approach.

The dynamic Plan-Do-Check-Act cycle is at the core of socially responsible business – and of the EFQM model, and is the basis for continuous improvement in our business processes and provision of services.



We position each chapter of this report in the EFQM model.

RELIABLE AND VERIFIABLE INFORMATION

■ Global Reporting Initiative – the source of inspiration

Indaver has drawn inspiration from the Global Reporting Initiative (GRI) guidelines for its Sustainability Report. GRI is an internationally recognised system for reporting on socially responsible business, setting out a company's performance in economic, social and environmental terms.

■ Scope of the report

In this report, Indaver sets out its performance in terms of socially responsible business. We consider the activities carried out by Indaver at our various European sites. The business activities of subsidiaries in which Indaver has a stake greater than 50%, as well as 50%-owned subsidiaries where operations take place at an Indaver site are also covered. The financial results are consolidated in line with Indaver's corresponding stake in accordance with the IFRS (International Financial Reporting Standards) reporting method.

■ Anticipating expectations

Indaver also gears the contents of the Sustainability Report to the expectations of the various stakeholders. A working party consisting of staff from the various regions and departments determines the content and scope of the report. In this way we ensure that it is balanced and representative of the entire organisation.

The Sustainability Report is an important tool in our communication with the outside world. In Belgium, the Netherlands and Ireland, Indaver sends the report out to customers and government accounts, in Germany it goes to all employees and major customers. We use the report actively in external audits. Visitors, suppliers and business partners can also obtain a copy. This enables our stakeholders to see how we translate socially responsible business into a sustainable approach. It is how the report gives substance to our 'Ensuring transparency in communications and actions' core value.

It goes without saying that in our quest for continuous improvement we also take account of feedback we receive from our stakeholders, for instance at advisory panels, site visits, consultative forums, customer visits and press contacts. We use this as a basis for determining the emphasis in the report. Our stakeholders consistently appreciate the clear structure, layout and content of these reports. We take observations and suggestions on board when drafting the next edition.

To submit feedback on this report you can either fill in a form on our website www.sustainabilityreport.indaver.com, or contact Jos Artois, Corporate Communication Manager on +32 15 28 80 40 or by e-mail to jos.artois@indaver.be.

■ External validation

Bureau Veritas Certification Belgium has verified and validated the report content and data. This certification agency confirms that the information which has been selected on environmental, social and economic aspects is relevant and covered adequately. The information and data are reliable and reproducible.

The section on financial information and consolidated annual accounts was approved by Mazars Corporate Auditors in their report to the general shareholders' meeting.

■ New: Sustainability Report online

Information in the Sustainability Report can also be found on our purpose built website. The website is consistent with the logic of the report. Each web page provides a concise summary of a chapter. A visitor can compile his or her report at will using a shopping basket.



“
We are continuously investing
in new technologies and
methods that further reduce
our emissions into the air,
water and soil.”

OPEN COMMUNICATION

■ Open communication for stakeholders

Indaver bears in mind the safety of its stakeholders and the impact of its operations on the environment. Indaver's stakeholders are its employees, the local community, public authorities, customers, suppliers and shareholders. How Indaver wishes to deal with them and what it expects from them is set out clearly in its company code.

Indaver discloses its business activities and projects openly and transparently. Along with the web-based information, the annual Sustainability Report is at the core of this disclosure. This report is an important source of information for all stakeholders. Every year Indaver takes an in-depth look at how best to provide them with information, since waste treatment is a complex and fast changing domain.

■ Websites

Indaver devotes a great deal of attention to the information on its website, regularly updating it. Websites for the group and its various subsidiaries are similar in structure and layout. The www.Indaver.com umbrella website has two functions. It is the corporate website for the Indaver Group, featuring all the general information on the Group; it also acts as the portal for the websites for all the regions in which Indaver operates. This year, for the first time, we also have an interactive version of the Sustainability Report on our website in addition to the printed version.

■ Advisory panels and consultative forums.

Indaver endeavours to provide transparent communication always and everywhere. Advisory panels and consultative forums embody its 'Ensuring transparency in communications and actions' core value. In Belgium the Indaver Antwerp advisory panel celebrated its twentieth anniversary in 2011. Over this period it has grown into a valuable forum where Indaver meets and informs companies and municipal authorities.

The first advisory panel, in April 1991, was intended systematically to inform 'neighbours' about the Antwerp site, listen to questions and provide information rapidly if there should be an incident. This mission statement still holds true. This form of communication has become an example for other Indaver sites. Regular consultative meetings are held in Flanders; this is required by the licence for a number of activities.

In Biebesheim, Germany there are also six-monthly consultations on the environment with stakeholders through the Environmental Advisory Council, where our managers provide the surrounding municipal authorities and the environmental movement directly with information on the routines at Indaver. In Ireland there is a consultative forum for the new Waste-to-Energy facility in County Meath, the first of its kind in the country. The Indaver Community Liaison Committee, made up of local politicians, neighbouring residents, the local government and Indaver, was set up in 2008 and confers on a regular basis.

■ Open days and site visits

Open days and site visits are an ideal opportunity in all regions to allow Indaver's stakeholders a glimpse behind the scenes and give Indaver a chance to profile itself as the partner of choice for waste management.

In May 2011 Indaver demonstrated its safe way to treat industrial and hazardous waste during the Plant Open Days for the Chemical Industry in Belgium. In Ireland Indaver organised an open day in August 2011 for the residents living around the Waste-to-Energy facility in County Meath. It also arranged site visits to the new facility for local professional bodies and educational institutions throughout the year.



Open Days are an ideal occasion to give Indaver's stakeholders a peak behind the curtains.

1. INTRODUCTION

7



Control room of the new Waste-to-Energy facility in Meath

■ Social role

Unique collaboration with the environmental movement in Belgium

Indaver takes its social role seriously. In October 2011 Indaver Belgium celebrated five years of the Sustainable Materials and Energy Management Fund, a unique partnership with the local and regional environmental movement. The Fund supports innovative projects to encourage the population of the Flemish Region to handle materials and energy in a more sustainable manner. This is consistent with Indaver's objective to convert as much waste as possible into raw materials and renewable energy. Indaver and Sleco NV make 130,000 euro available every year, for a period of 30 years. The Fund is managed by the King Baudouin Foundation. Since 2006, a total of 42 projects have been given backing totalling 671,000 euro. Each of these projects has a permanent outcome, which is consistent with our values 'concentrating on achieving results' and 'demonstrating concern for people, safety and the environment'.

Community fund in Ireland

In County Meath, Ireland, Indaver has launched a partnership with the local community and local authorities. This is the 'Carranstown Environmental Community Projects Grant Scheme'. Every year Indaver makes a budget available to support local initiatives, mainly in the Carranstown/Duleek area, in the immediate vicinity of the facility. The fund is managed by a steering committee comprising representatives of the local residents, local councillors, Meath County Council and Indaver. Funding in 2011 went towards good causes including renovating the playground at Duleek Girls National School, infrastructure at sports clubs and renovating Donore Cemetery.

Hope for children in crisis with Indaver Germany

Indaver Deutschland sponsors numerous social projects. Thus it has given generously on repeated occasions to Friedensdorf International, an institution in the Ruhr that cares for injured children from war and crisis-hit zones. As they cannot be (adequately) treated in their home country, they are given appropriate treatment and rehabilitation in Germany before returning home. Indaver Deutschland also supports projects for the immediate surrounding area, such as renovating a school or a care institution for disabled people.

Seminars and workshops

In **Ireland**, since commissioning the country's first Waste-to-Energy facility, Indaver has acquired a significant voice in the debate on waste policy. Accordingly, Indaver Ireland & UK maintained a high profile on technical and policy forums. Its reputation as a reliable and authoritative voice on waste infrastructure and treatment is still growing. Indaver representatives spoke at conferences on waste management and sustainable energy.

In **Belgium** appearances by CEO Paul De Bruycker at the Environment Committee of the Flemish Parliament and at the celebration of 30 years of OVAM (Flemish Public Waste Company) did not pass unnoticed. At these events he emphasised the switch in mindset over the past 30 years from waste as a problem to waste as a raw material and Indaver's role in this. Alain Konings, Director of Quality, Environment, Health & Safety – Belgium, delivered various seminars and guest lectures for training and refresher courses on environmental technology and coordination. When Ronny Ansoms stepped down as CEO of Indaver Belgium in May 2011, stakeholders were given information in the course of a symposium about our corporate strategy and developments.

KEY FIGURES

Total volume of waste managed (in tonnes)

	treatment		trading	total
	in-house	transfer		
Belgium	1,697,594	84,367	176,487	1,958,447
The Netherlands	1,010,706	245,763	249,678	1,506,147
Ireland / UK	1,163	17,708	56,624	75,496
Germany	545,800	31,523	486,959	1,064,282
Other (Italy/Portugal)	0	16,105	48,961	65,066
total	3,255,263	395,466	1,018,709	4,669,438

Number of employees in 2011

	man	woman	total
Belgium	479	180	659
The Netherlands	241	49	290
Ireland	117	48	165
United Kingdom	20	3	23
Germany	419	115	534
Portugal	6	2	8
Italy	3	3	6
total	1,285	400	1,685

Financial results 2011

	in million Euro
Operating income	520
Operating charges	490
EBITDA*	93
Operating result (EBIT)	30.1
Profit after tax	30.9
Equity capital	295.9

* EBITDA = earnings before interest + taxes + net depreciation + amortisation + IAS 19 employee benefits including charges and costs + share in profits of minority interests – the part of the capacity rights paid in advance in the result.

Key figures for 2011 against 2010

- Operating profit: EUR 520 million (+ 26%)
- Operating costs: EUR 490 million (+ 25%)
- Operating cash flow (EBITDA): EUR 93 million (+ 22%)
- Operating result including profit or loss on the transfer of fixed assets and result contribution of the participating interests: EUR 49 million (+ 35%)
- Operating result (EBIT): EUR 30.1 million for 2011 (+ 33%)
- Net financial result: EUR -9.7 million against EUR -7.8 million for 2010.
- Net contribution to minority stakes and 50% joint ventures: EUR 17.8 million (+ 36%)
- Group profit before tax: EUR 39.0 million (+ 38%)
- Group profit after tax: EUR 30.9 million (+ 26%)

1. INTRODUCTION

MAIN ACCOMPLISHMENTS IN 2011

- Implementing the Cooperation Agreement in order to streamline operations in the four regions.
- Strengthening the matrix structure in order to be able to provide the optimum response to customer expectations and market developments and to be able to make maximum use of synergy in the Indaver Group.
- Continuing development of SAP in Ireland in order to monitor waste management and Indaver Nederland ICT integration.
- Commissioning the waste treatment facility in County Meath, Ireland.
- Successfully expanding Total Waste Management in Ireland, Belgium, Germany and the Netherlands.
- Continuing MediPower construction on the Antwerp site in Belgium for environmentally safe treatment of medical and sensitive waste.
- Setting up an energy cluster around the Antwerp site where Indaver and Hooge Maey will supply energy in the form of heat and electricity.
- Generating good profits and substantial cash flow, which will underpin Indaver's on-going growth opportunities.







STRATEGY

Indaver guarantees all its customers a sustainable solution for their industrial waste, hazardous waste, household and comparable industrial waste and bio-organic waste. To do so it successfully develops intelligent waste management systems and runs complex and innovative processing installations, with a single aim in mind: achieving maximum material and energy recovery in accordance with the most stringent environmental standards.

2.

POLICY AND VISION

Sustainable business starts with a clear strategy. Indaver develops efficient waste management systems and operates complex and innovative treatment facilities. We treat industrial waste, hazardous waste, household and comparable industrial waste and biowaste. In doing so we have a single aim in mind: maximum material and energy recovery in accordance with the most stringent environmental standards. This means our customers – businesses and public authorities – can always count on the most sustainable process for their waste. Indaver’s core business activities and range of services are sharply delineated with a clear geographical focus.

STRATEGY


■ Strategic alignment

The Indaver company code sets out clearly how we wish to give shape to our mission and core values for our stakeholders. Indaver’s management is actively engaging in a sustainable (long-range) strategy which allows for the needs of all stakeholders, including our shareholders and customers. ‘Strategic alignment’ consists of making all business activities consistent with this corporate strategy. Indaver can only fulfill its mission to be a leader in sustainable waste management if all employees pull together and everyone makes a contribution.

An important tool in our annual objectives system is the ‘strategy chart’: each objective is linked to one of the success factors on this chart. The strategy chart is divided into a what section and a how section.

The what section describes the results we want to achieve for our shareholders and customers. Indaver intends thus to create value for shareholders in a sustainable manner by concentrating on productivity and growth. In addition it is Indaver’s intention to position itself vis-à-vis its customers as a partner for sustainable waste management. Indaver’s image, personal customer relationships and outstanding service are major success factors in bringing this about.

The how section describes the resources and the procedure. Here, Indaver, in addition to financial resources, also commits human, information and organisational capital, such as robust systems for knowledge management, efficient data and document platforms (SAP, LIMS and MOSS) and focus on a values-driven organisation in which everyone shoulders their responsibility.



“We have a single aim in mind: achieving maximum material and energy recovery in accordance with the most stringent environmental standards.”

2. POLICY AND VISION

■ Service concepts

Indaver has a clear strategy with two strategic service concepts in mind. In the industrial and hazardous waste business segment, Indaver intends to apply its **Total Waste Management** concept to become a leading European player in managing and treating these waste flows, with its core activity being thermal processing at complex, high-tech facilities.

In the household and comparable industrial waste business segment, Indaver aims, through its **Public waste PartnershipS** outsourcing concept, to become a leading partner for public authorities in Belgium and the Netherlands with thermal treatment plus energy recovery and high-grade recycling as its core operations. In Ireland, Indaver aims to lead the development of waste-to-energy infrastructure, providing a recovery outlet for residual waste as an alternative to landfill.

Indaver offers high quality, sustainable and cost-effective total packages to provide customised waste management for industrial businesses and public authorities. It offers a flexible package for every type of waste thanks to a broad range of in-house facilities supplemented by third-party treatment capabilities.

■ Customer-focused

Indaver champions a customer-focused approach tailored to specific needs.

Indaver has developed an unambiguous total concept for customers and markets centred on five core ideas.

Sustainability, in which maximum recovery of materials and energy is consistently at the forefront. **Quality**, in which we consistently comply with all statutory provisions, ensuring

transparency and traceability. **Outsourcing**, a service concept in which customers contract out their total waste management or parts of it. **Fairness**, in which we aim to provide the lowest total cost of ownership for the customer. **Genuine pricing**, in which we aim to provide transparency on pricing structures and a reasonable quotation.

Industrial businesses are looking for pan-European service providers. Indaver concentrates on countries where our core customers, i.e. chemical, petrochemical, pharmaceutical, automotive, metallurgical and electronics industries, have a strong presence. Industrial businesses need integrated packages for their waste management. Indaver's Total Waste Management approach provides the perfect answer. It involves Indaver, where desired, taking over customers' entire waste management, from on-site collection to treatment and administration.

Indaver focuses on being a reliable partner for public authorities, helping them with a sustainable and cost-effective waste policy. Public waste PartnershipS, which are specific to Indaver, provide an appropriate response to the needs of municipal authorities and intermunicipal partnerships. By these means we work towards long-term collaboration, often within the context of intensive partnerships with joint investment in treatment capacity. The first objective is to have and retain a strong position in Belgium and the Netherlands where Indaver currently operates in PwPS. In this way, Indaver can make optimum use of its own plants, and continue offering cost-effective packages. In Ireland, we lead the field in Waste-to-Energy with our new facility in County Meath.

POLICY

■ Core values

Indaver is a values-driven company. We make every effort to conduct all our business activities in a socially responsible manner. We always employ the Best Available Technology, in order to minimise the impact on people and the environment, and maximise recovery of materials and energy. Moreover all our customers can count on the fact that we carry out treatment properly and transparently and in full compliance with standards and legislation.

Indaver never loses sight of the sustainability aspect. We have formulated our mission in a nutshell as 'Indaver, **leading the field in sustainable waste management**'. We translate this mission into the core values that govern our actions and make clear what we stand for as a company.

- *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*

■ Corporate governance

The board of directors and management of Indaver attach a great deal of importance to the principles of corporate governance. It is their intention that their corporate governance system be transparent and accessible to all stakeholders. They know that the trust of all stakeholders is an essential component in the long-term positive development of the company.

Indaver is not listed on the stock exchange and is therefore not formally bound to adhere to the corporate governance codes. Indaver nevertheless supports the principles of the Belgian Corporate Governance Code for listed companies and employs it as a reference framework for its own corporate governance model.

Indaver uses media including its website and the annual Sustainability Report to keep all stakeholders up to date on its corporate governance system.

Corporate Governance Charter

The corporate governance charter regulates the proceedings of the general meeting, the board of directors, expert committees and management. At the same time, it stipulates how supervision and control are implemented and contributes to sound corporate governance.

The board of directors has set up two expert committees to help with the execution of its duties: the audit committee and the HR committee.

The role, composition and operation of each committee are laid down in the respective committee charters approved by the board of directors. Ultimate decision-making rests with the board.

The board of directors appoints Indaver's management and lays down its responsibilities, authorities and duties. The management rules govern the workings of management. In principle, management is always present at meetings of the board of directors.

The corporate governance charter, the audit committee charter and the HR committee charter can be downloaded from the www.Indaver.com website.

■ Composition of board of directors

As of 18th April 2012 (date of the general meeting), the membership of the board of directors was as follows:

Chairman

Frank Verhagen
Chief Financial Officer, DELTA NV

Vice-chairman

Martin Smit
Management advisor, DELTA NV

Directors

Guy De Clercq, *Managing Partner, Verbaere, De Clercq & Partners*
P&E Management sprl, represented by Paul Vanfrachem, *Manager*
Oval bvba, represented by Achiel Ossaer, *Manager*
Yvan Dupon Consult bvba, represented by Yvan Dupon, *Manager*
Vlaamse Milieuholding, represented by Roland Van Dierdonck, *Professor at the Vlerick Leuven Ghent Management School*
Claudia Zuiderwijk-Jacobs, *Acting Manager, G&DA*

The directors do not hold any operational authority in Indaver NV, its subsidiaries or joint ventures. Four of the directors do not hold any administrative function at any of the shareholders either and are therefore considered as independent directors: Guy De Clercq, Paul Vanfrachem, Achiel Ossaer, Yvan Dupon.

Peter Boerma, Chief Executive Officer, DELTA NV, resigned as chairman on 1 January 2012. On 25 January 2012 Frank Verhagen was appointed chairman, Martin Smit deputy chairman.

Geertruida Wilhelmina van Montfrans-Hartman, director, resigned her directorship on 1 January 2012. She was succeeded by Claudia Zuiderwijk-Jacobs.

“Indaver attaches great importance to the principles of good governance.”

2. POLICY AND VISION

■ Reinforcing the matrix structure

The Indaver Group is structured by country with four regions: Belgium, the Netherlands, Ireland and the United Kingdom, and Germany. The sales organisation is organised on a European level. The day-to-day management of the group is in the hands of the CEO and the CFO. A matrix structure has been set up to promote cooperation between the regions. The matrix consists, across the group, of the International Management Team and vertically of four Regional Management Teams. The International Management Team, headed by the CEO, develops strategy, sets out annual targets, coordinates operational activities and ensures that synergies are fully utilised. The Regional Management

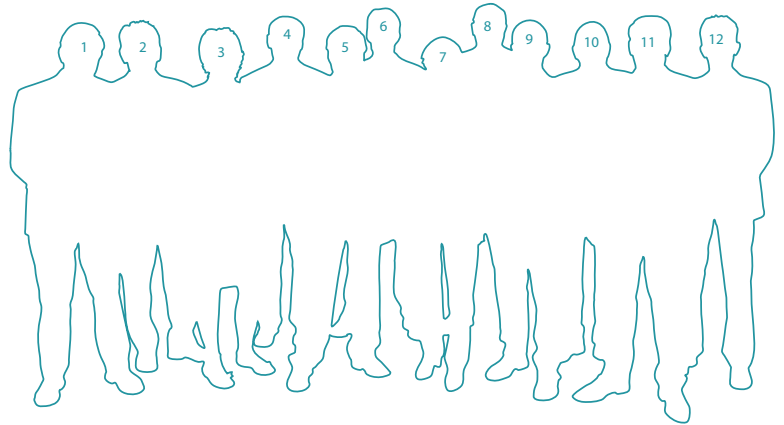
Teams are responsible for organising the activities within their region.

Business teams are answerable for the result in their business segment. They are close to the customer and the market, and are therefore able to respond quickly to opportunities. They are the guarantors of business excellence.

International Operational Competence Centres support the quest for operational excellence. Specialists from the various regions identify and implement best practices and exchange information on technological developments.

International Management Team

Paul De Bruycker · Chief Executive Officer⁵
 Michel Decorte · Chief Financial Officer¹
 Ann Raveel · Engineering Manager⁷
 Willy Groffils · Business Reporting Officer⁸
 Karin Smet · Group Human Resources Manager³
 Guido Wauters · Organisational Development and QESH Manager¹⁰
 Bart Goethals · Director of S&M IWS⁹
 Rob Kruitwagen · Regional Manager, Belgium¹²
 John Ahern · Regional Manager, Ireland & UK⁴
 Peter Louwman · Regional Manager, the Netherlands²
 Peter Driessen · International Field Coordinator, MSW and Biomass⁶
 Andreas Ellerkmann · Regional Manager Germany¹¹



Regional Management Team Belgium:

Rob Kruitwagen · *Regional Manager, Belgium*
Peter Vandendriessche · *Financial Director*
Geert Maes · *Director Sales & Marketing MSW*
Daniël Dirickx · *Plant Manager, Doel*
Wim Ooms · *Plant Manager, Antwerp*
Annick Van Driessen · *Director of Operations*
Eric Goddaert · *Production Manager, Recycling*
Alain Konings · *QESH Manager*
Evelyne Debeuckelaer · *Human Resources Manager*
Nathalie Vasseur · *Sales Manager IWS*
Jos Artois · *Communications Manager*

Regional Management Team The Netherlands:

Peter Louwman · *Regional Manager, the Netherlands*
Steven Vrolijk · *Financial Director*
Peter Driessen · *Director Sales IWS – Director ZRD*
Annick Van Driessen · *Director Operations IWS*
Jacob Vermeulen · *Director MSW, Sales, Development & Marketing*
Myra Latuheru · *Human Resources Manager*
Adrie Kaijser · *QESH Manager*
Vacancy · *Director Operations MSW*

Regional Management Team Ireland/UK:

John Ahern · *Regional Manager, Ireland & UK*
Grégory Cloquet · *Sales Manager, IWS*
Sonia Dean · *QESH Manager*
Jane Hennessy · *Communications Manager*
Conor Jones · *Infrastructure & services Director*
Gareth Jones · *TWM contracts UK*
Jackie Keaney · *Commercial Director, MSW*
Jenny Keenan · *Human Resources Manager*
David McGarry · *Finance & Development Director*
Ruth Robertson · *Business Support Manager*
Jane Smith · *Operations Manager*
Bart Verlinden · *Plant Manager*

Regional Management Team Germany:

Andreas Ellerkmann · *Regional Manager, Germany*
Joachim Pavel · *Chief Commercial Officer*
Christoph Brauneck · *Chief Financial Officer*
Siegfried Artmann · *Plant Manager, South*
Jörg Schmidt · *Plant Manager, North*
Andreas Neuss · *Sales Manager, South*
Stefan Kühnbach · *Sales Manager, North*
Jochen König · *Communications Manager*
Horst Suchomel · *QESH Manager*
Hartmut Hillnhütter · *Human Resources Manager*
Stefan Wirth · *IT Manager*
Rüdiger Hawly · *Legal Manager*
Mathias Kranich · *General Manager Gareg*
Eginhard Mett · *General Manager Panse*
Manfred Dörsam · *Procurement Manager*
Dominik Deinzer · *Remediation Manager*
Birgit Schmitt-Biegel · *ASG-Manager*

■ Cooperation Agreement

Indaver has grown to become an international organisation with subsidiaries and participating interests in various European countries. As a result of this growth the organisation has also become more complex. The challenge to organising strategy and further growth effectively and efficiently, is to get all the organisations and regions into line and thus maintain visibility of the overall picture.

A multi-regional team of senior Indaver staff has drawn up a Cooperation Agreement in order to support the new structure. This Cooperation Agreement provides a framework for how we cooperate across the regions. It formalises a number of minimum requirements and uniform agreements, and describes the relationship between central coordination and the regions. Indaver uses this Cooperation Agreement to ensure that our stakeholders receive the same high standard of service from every region while consistently propagating its values.

INDAVER GROUP

CEO Ronny Ansoms passes the torch to Paul De Bruycker

Paul De Bruycker succeeded Ronny Ansoms on May 1st, 2011 as CEO of Indaver. Under Mr. Ansoms' leadership Indaver has become an international service provider that relieves customers of their waste management headaches with the Total Waste Management concept for industry, as well as becoming the partner of choice for local authorities with the Public waste PartnershipS concept. Paul De Bruycker is continuing to build on these achievements, enabling Indaver to grow and carry on assisting customers with a sustainable system for their waste flows.



2. POLICY AND VISION

■ Supervision and auditing

The executive board is assisted by the audit committee for the important task of supervision and auditing. The audit committee is made up of directors who do not hold any operational authority in Indaver NV, its subsidiaries or joint ventures. The committee assists the board of directors in its supervisory function and specifically in checking financial data intended for both shareholders and other stakeholders, corporate safety and environmental policy, the internal audit system that the board of directors and management have set up and of the audit process.

The external audit is carried out by Mazars in Belgium. An internal audit department at Group level ensures regular audits within Indaver, the main subsidiaries and participating interests.

■ Shareholder structure

DELTA owns 75% of Indaver shares. 25% of the shares plus one share remain in the hands of Vlaamse Milieuholding and a number of industrial shareholders. Vlaamse Milieuholding itself has 16%, while a group of industrial shareholders (Janssen Pharmaceutica NV, BASF Antwerp NV, Solvay NV, Tessenderlo Chemie NV, Bayer Global Investments BV and Borealis Polymers NV) holds 9% of the shares. Shareholders' rights are declared in a shareholders' agreement.

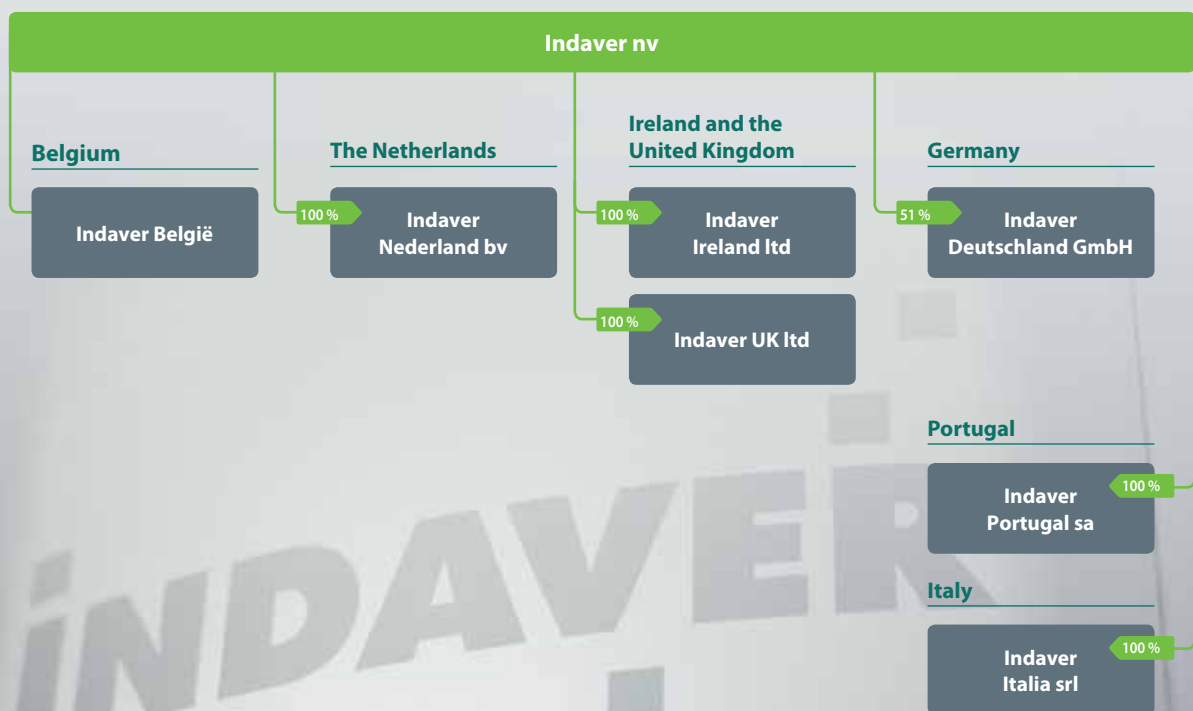
■ Group structure and participating interests

Indaver operates in Belgium, the Netherlands, Germany, Ireland, the United Kingdom, Portugal and Italy. The chart below illustrates the group structure by country organisation into four (main) regions. The structure with subsidiaries and participating interests by region is shown on the regional websites. In this report we will describe the activities at the Indaver sites both nationally and internationally and the activities of participating interests of over 50% or of 50% if the operation is carried out at an Indaver site.

Shareholders in Indaver nv

DELTA nv	75 %
Vlaamse Milieuholding nv	16 %
Group of industrial shareholders	9 %
Total	100 %

International structure of the Indaver Group







WASTE AS A RAW MATERIAL

Indaver wishes to close circuits, and so it is very active in the efficient recovery of materials for useful application or recycling. By effectively sorting and purifying waste, Indaver is doing everything in its power to keep harmful components out of recycled products or the food chain.

3.

PROCESSES

Industrial, hazardous, medical, household, biowaste: Indaver has high-quality packages for the most diverse types of waste. In these we opt consistently for sustainable and advanced treatment methods and have visibility of our business processes at all times. In this way we strive constantly for improvement, an Indaver core value.

20

INDAVER GROUP BUSINESS ACTIVITIES

■ Waste management in Europe

Indaver's core business activity is running intelligent and uniform waste management systems and operating complex, innovative treatment facilities in various European countries. The emphasis is always on sustainable materials and energy management in accordance with the most stringent environmental standards.

■ Belgium

Indaver treats a wide range of waste in Belgium at a variety of sites. We have transfer stations at various strategic locations. We have sales departments located in Singelberg (Kallo), Nivelles and Waregem. Indaver has its headquarters in Mechelen.

Indaver offers a package for industrial and hazardous waste at its high-tech facilities in Antwerp. In Doel we handle thermal treatment of non-recyclable household waste, comparable industrial waste and sludge. Additional facilities ensure an integrated system is provided at both sites. At the Milieupark in Willebroek Indaver treats selectively collected non-hazardous waste with a view to recycling and beneficial use. In Grimbergen we treat organic-biological industrial waste and green waste to produce valuable compost and biomass. Indaver Medical Services in Leuven was responsible until recently for thermal treatment of medical waste; these operations were taken over in 2012 by the MediPower facility in Antwerp. The Leuven facility was closed down in April 2012.

At the transfer stations in Willebroek and Grimbergen we transfer bulkier material and household waste for transport to our treatment facilities to proceed as efficiently as possible. The Waste Treatment Centre in Kallo is equipped for temporary storage of small volumes of hazardous waste. In this facility the waste is treated to meet the acceptance criteria of the final treatment facilities.

“
Indaver offers high-quality
and sustainable solutions
for the most wide-ranging
types of waste.”

3. PROCESSES

■ The Netherlands

Indaver Nederland offers businesses and public authorities a customised total package for non-hazardous and household waste. Indaver develops sustainable packages: composting VGF (Vegetables, Garden and Fruit), and green waste into high-grade compost, fermenting organic waste flows, re-processing green waste into biomass, paper recycling, thermal treatment and storage of waste. Indaver also operates in the field of sludge drying and has modern well-maintained facilities that operate with various dewatering technologies. Under the DELTA brand, Indaver is the partner of choice for the municipal authorities in Zeeland for waste collection, recycling and treatment. Our industrial customers can come to us for integrated waste management, thanks to our total waste management service.

AROC BV, an Indaver Nederland subsidiary, owns and operates a thermal process for regenerating hydrochloric acid on sites in IJmuiden operated by steel manufacturer Tata Steel.

Indaver Gevaarlijk Afval BV operates a transfer station for hazardous waste in Hoek, near Terneuzen. This site also has a cleaning facility for road/rail tankers and a water purification plant for its own and third-party waste water treatment.

■ Ireland and the United Kingdom

Indaver Ireland Ltd is the leading waste management partner for the country's large pharmaceutical industry. Our tailored Total Waste Management service provides our customers with the flexibility they need, while ensuring that the same rigorous approach is applied to the management of all their waste streams. For all our industrial customers, we ensure an integrated service with access to our processing facilities in Belgium and Germany with cradle-to-grave traceability as standard. Our Dublin Port Hazardous Waste Facility includes a laboratory for waste sampling, a transfer station and a solvent recovery facility.

Indaver Ireland Ltd built, owns and operates a Waste-to-Energy facility in County Meath. The plant started operation in 2011 and is designed to process 200,000 tonnes per annum residual municipal and similar commercial waste. Indaver Energy Ltd is a fully owned subsidiary of Indaver Ireland Ltd. and was set up to manage the electricity produced by the Meath Waste-to-Energy facility.

Indaver UK supplies high quality and cost-effective services in the specialised industrial and hazardous waste market in the United Kingdom. Our Total Waste Management service applies to the UK market also, with customers gaining a tailored approach to the management of their waste streams.

■ Germany

Indaver has a very active presence in Germany through its majority stake in Indaver Deutschland GmbH. Indaver Deutschland offers an integrated service package for industrial and hazardous waste, from collection to end-treatment. It has a great many customers from chemical and pharmaceutical industries. The Group also operates in soil remediation, in both Germany and other European countries.

Indaver Deutschland consists of HIM GmbH (Hessische Industriemüll) in Biebesheim, AVG mbH (Abfall-Verwertungsgesellschaft) in Hamburg and Frassur in Mörfelden-Walldorf, Gareg in Hamburg and Panse in Wetzlar, which are logistics companies. Frassur was sold in March 2012.

HIM and AVG operate industrial and hazardous waste treatment facilities at the Biebesheim and Hamburg sites respectively. The sales departments are also located here. At each of the sites in Kassel, Frankfurt and Stuttgart, we operate a physicochemical treatment plant and a transfer station. HIM also operates a transfer station in Wetzlar. HIM GmbH operates and markets a landfill site in Billigheim.

In the German waste treatment market these companies stand for performance capability, flexibility, customer focus and large-scale, high-quality waste treatment systems, both nationally, and through their involvement with Indaver, internationally as well.

Total Waste Management is of prime importance for Indaver Deutschland. The main building blocks here are the competence of all the businesses, the geographic spread in Germany and collaboration as a group.

■ Italy and Portugal

Indaver Italia provides safe collection and transport of hazardous waste to authorised treatment facilities. Hazardous waste is treated at sites owned by the Indaver Group or by partners. Indaver Italia has various Total Waste Management projects in operation, primarily with companies in the chemical and petrochemical sectors.

Indaver Portugal offers Total Waste Management services to industry. Indaver Portugal is responsible for collection, storage, transport and export of hazardous and non-hazardous waste. For waste treatment, Indaver Portugal relies on the services of Indaver Group treatment facilities in Europe, or operates jointly with external treatment centres. Waste is stored temporarily at the hazardous and non-hazardous waste transfer station in Abrantes.

OVERVIEW OF THE ACTIVITIES OF THE INDAVER GROUP

Indaver is present in several European countries. The following pages offer a complete overview of the waste management systems and treatment facilities in the various regions.

- Head office
- Regional office
- Regional office + Waste treatment
- Waste treatment installation(s)
- Transfer station
- Waste treatment + transfer

Ireland

Dublin

- Transfer station for industrial and hazardous waste
- Solvent treatment

Meath

- Thermal treatment
 - 1 grate incinerator for household and comparable industrial waste with energy recovery and comprehensive gas scrubbing

Cork

- Thermal treatment (project stage)

United Kingdom

TWM sites

- Thermal treatment of pharmaceutical waste

Portugal

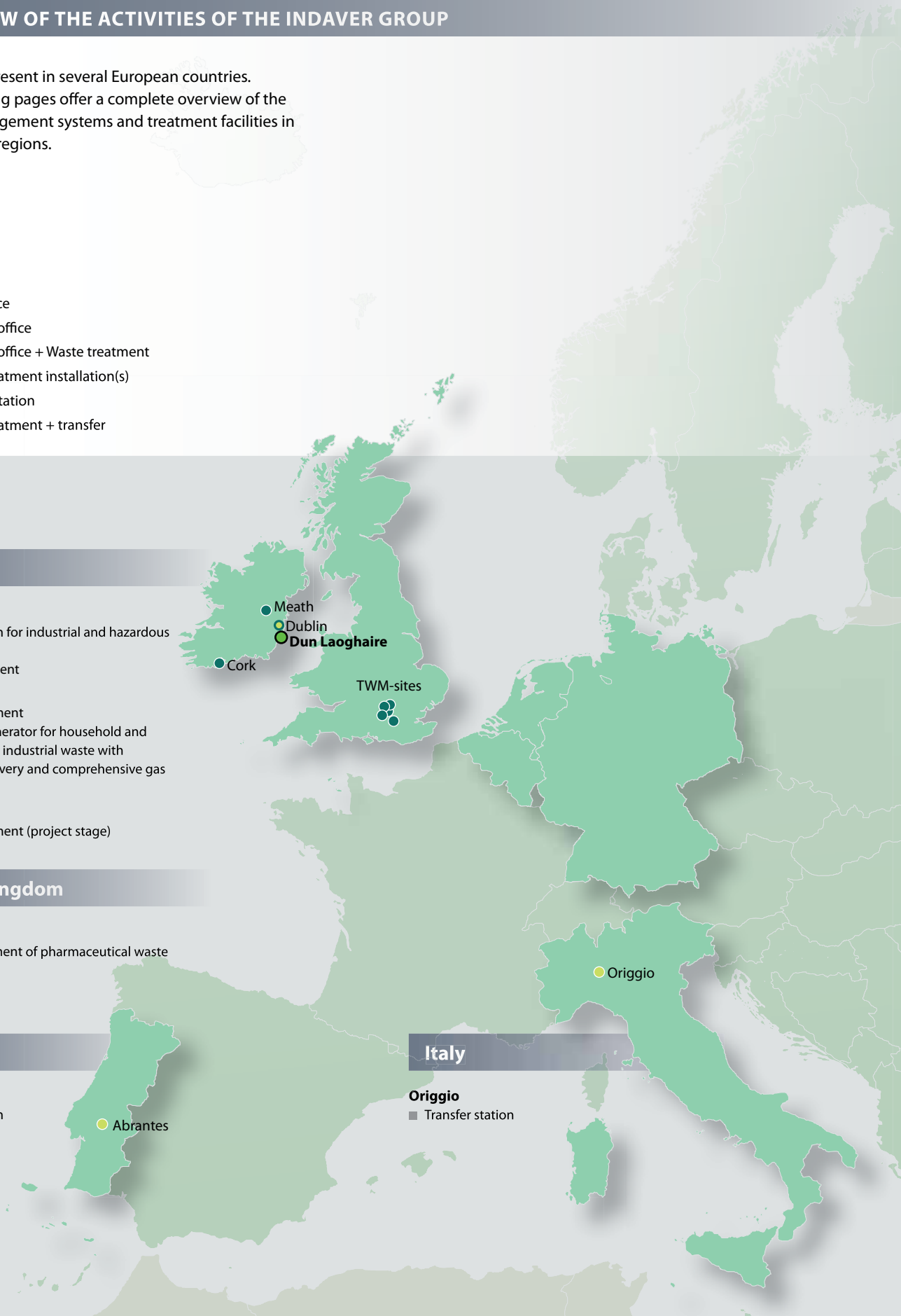
Abrantes

- Transfer station

Italy

Origgio

- Transfer station



3. PROCESSES

Belgium

Antwerp

- Thermal treatment
 - 2 rotary kiln incinerators for industrial and hazardous waste plus energy recovery and comprehensive gas scrubbing
- Physicochemical treatment
 - Physicochemical 1 for treating liquid inorganic waste
 - Physicochemical 2 for the solidification and immobilisation of solid inorganic waste
- Solvent recovery
- Landfill category 1 for hazardous waste and the residual fraction from the incineration and/or the treatment of waste

Doel

- Thermal treatment
 - 3 grate incinerators for household and comparable industrial waste with energy recovery and comprehensive gas scrubbing
 - 3 fluidised bed incinerators for industrial sludge and solid waste with energy recovery and comprehensive gas scrubbing
- Pre-treatment of high calorific value waste
- Ash treatment installation
- Treatment of mercury-containing waste
- Landfill
 - Category 1 for hazardous waste and the residual fraction from the incineration and/or the treatment of waste
 - Category 2 for exclusively inorganic non-hazardous waste with a low content of biodegradable matter

Grimbergen

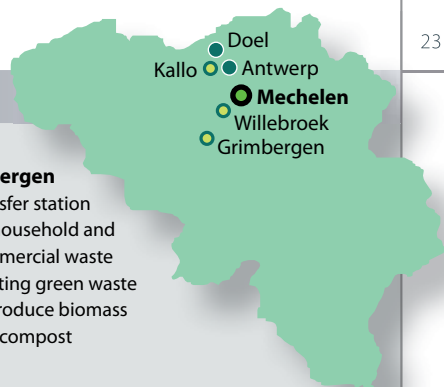
- Transfer station for household and commercial waste
- Treating green waste to produce biomass and compost

Kallo

- Transfer station for industrial and hazardous waste
- Logistical activities

Willebroek

- Transfer station for household and commercial waste
- Logistical activities
- Sorting and cleaning PMD
- Pre-treatment of plastics, paper and paperboard with a view to recycling



The Netherlands

IJmuiden

- Thermal facility for hydrochloric acid regeneration

Hoek (Terneuzen)

- Transfer station for industrial and hazardous waste
- Waste water treatment
- Cleaning facility for tankers (trucks and train carriages)

Alphen aan den Rijn, Bergschenhoek, Rotterdam Europoort

- VGF composting

Vlissingen Oost

- VGF composting
- Green composting

Moerdijk, Rijpwetering, Rotterdam Botlek, Voorschoten

- Green composting

Dordrecht (Derde Merwedehaven), Nieuwdorp (Noord- and Midden-Zeeland)

- Landfill site for non-reusable and non-combustible waste

Goes

- Pre-treatment of paper, paperboard and plastic (PMD: plastic bottles and packaging, metals and drinks cartons) with a view to recycling.

's Gravenpolder

- Mobile drying units

Koegorspolder, Sloe

- Transfer station for combustible household and industrial waste

ZRD [Zeeland Cleansing Department] household waste recycling centres

- Transfer stations for combustible household waste



Germany

Hamburg

- Thermal treatment
 - 2 rotary kiln incinerators for industrial and hazardous waste with energy recovery and comprehensive gas scrubbing
- Physicochemical treatment for inorganic waste
- Physicochemical treatment for organic waste – emulsion breaking facility
- Transfer station

Biebesheim

- Thermal treatment: 2 rotary kiln incinerators for industrial and hazardous waste with energy recovery and comprehensive gas scrubbing
- Physicochemical treatment for organic waste – emulsion breaking facility

Billigheim

- Landfill category 1 for hazardous waste and the residual fraction from the incineration and/or the treatment of waste
- Transfer station

Nieder-Ofleiden

- Operation of a landfill for non-hazardous mineral waste

Frankfurt, Kassel-Bettenhausen, Stuttgart-Hedelfingen

- Physicochemical treatment for inorganic waste
- Physicochemical treatment for organic waste – emulsion breaking facility
- Transfer station

Wetzlar

- Transfer station



MANAGED WASTE: QUANTITIES

In 2011 Indaver dealt with approximately 4.6 million tonnes of waste. We treated 80% in our own facilities and 20% at outside centres.

'Treatment' refers to waste treated in an Indaver facility (in-house treatment), or delivered to an Indaver transfer station (transfer).

Tonnages listed under 'in-house treatment' include waste treated directly by our customers or in an Indaver facility through an Indaver transfer station. This also includes internal waste flows.

Tonnages listed under 'transfer' include waste temporarily stored at an Indaver transfer station pending final treatment either at Indaver or in a third-party facility.

Trading comprises waste which, managed by Indaver or one of its subsidiaries, is taken directly from the customer to a third-party treatment facility or that of another subsidiary. Accordingly, we consider Indaver NV and its subsidiaries here as separate entities.

The table below gives an overview of the total volume of waste processed and the trading volume by region.

“ In 2011 Indaver offered a solution for 4.6 million tonnes of waste. ”



Total volume of waste managed (in tonnes)

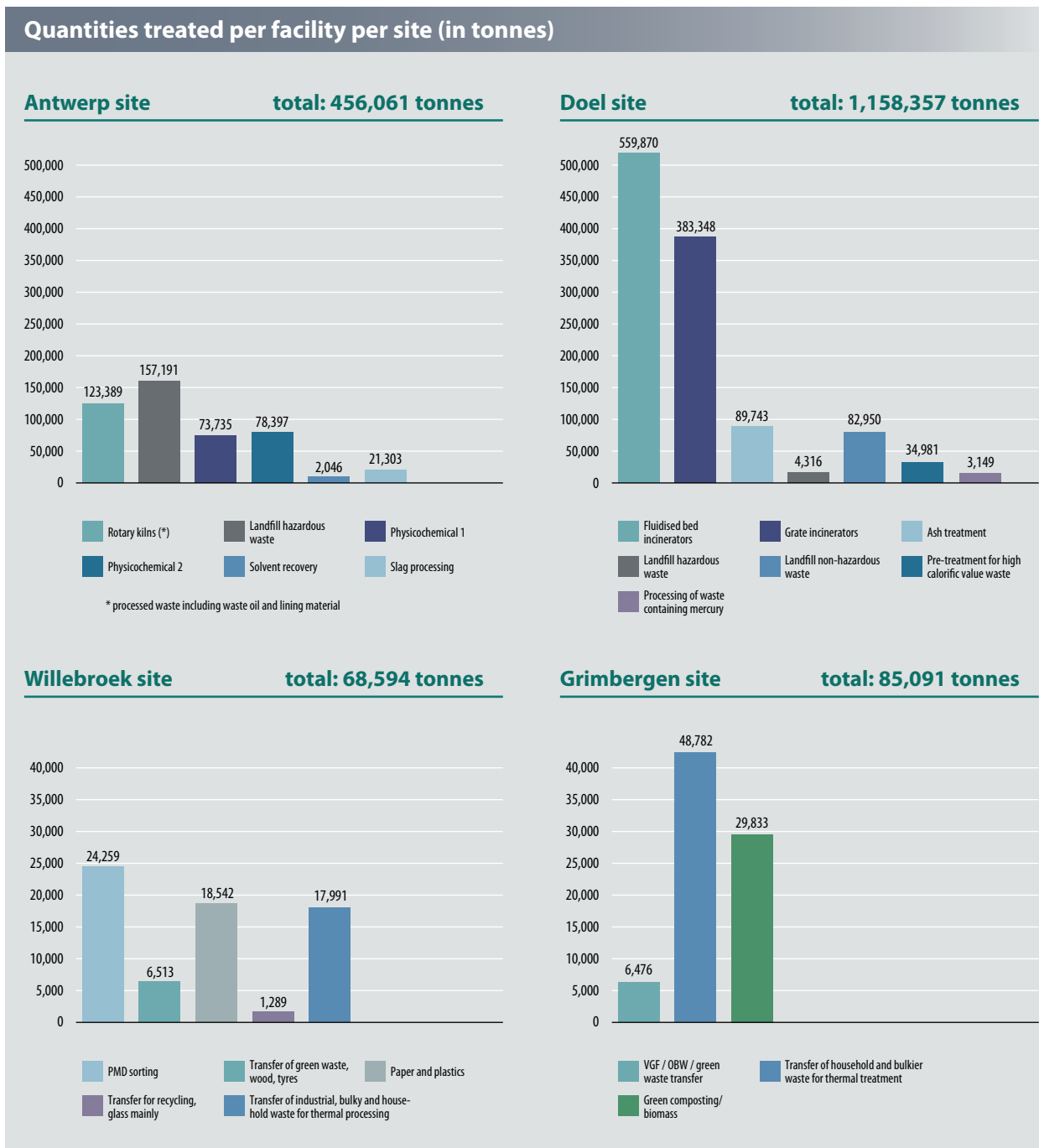
	treatment		trading	total
	in-house	transfer		
Belgium	1,697,594	84,367	176,487	1,958,447
The Netherlands	1,010,706	245,763	249,678	1,506,147
Ireland / UK	1,163	17,708	56,624	75,496
Germany	545,800	31,523	486,959	1,064,282
Other (Italy/Portugal)	0	16,105	48,961	65,066
total	3,255,263	395,466	1,018,709	4,669,438



3. PROCESSES

Treatment in Belgium

In 2011 Indaver processed 1,781,961 tonnes of waste at its Belgian sites (treatment facilities and transfer stations). The graphs below illustrate the quantities treated per facility per site. In total, we recorded 456,061 tonnes in Antwerp, 1,158,357 tonnes in Doel, 68,594 tonnes in Willebroek and 85,091 tonnes in Grimbergen. A total of 3,316 tonnes were treated in Kallo. 10,542 tonnes were treated at Indaver Medical Services in Leuven.



Treatment in the Netherlands

In 2011 Indaver processed 1,256,469 tonnes of waste at its Dutch sites (treatment and transfer operations).

At its Hoek site, Indaver has a water purification plant for purifying its own waste water and that from third parties, a transfer station and a road and rail tanker cleaning facility. 15,397 vehicles were cleaned there in 2011.

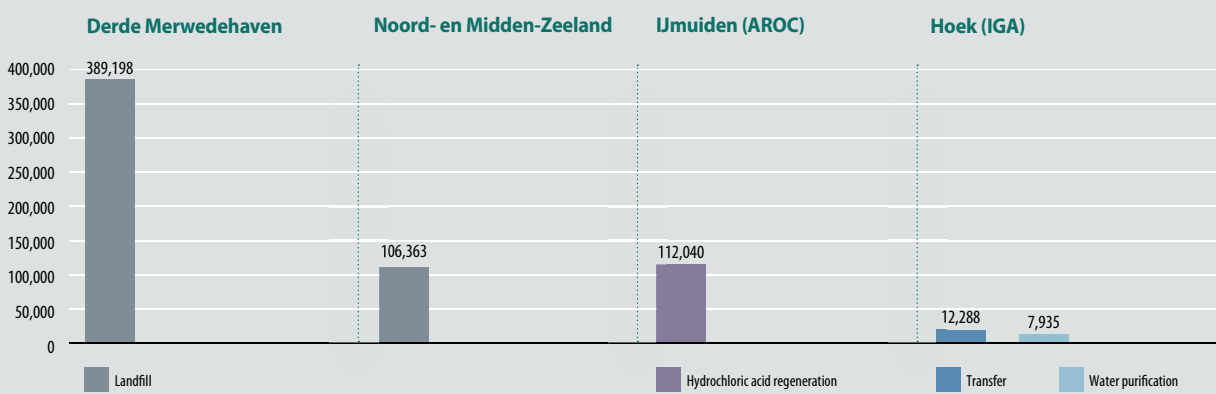
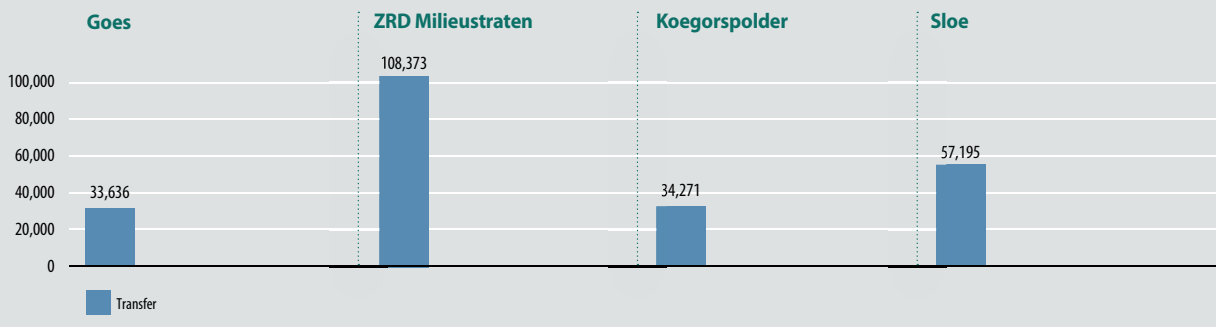
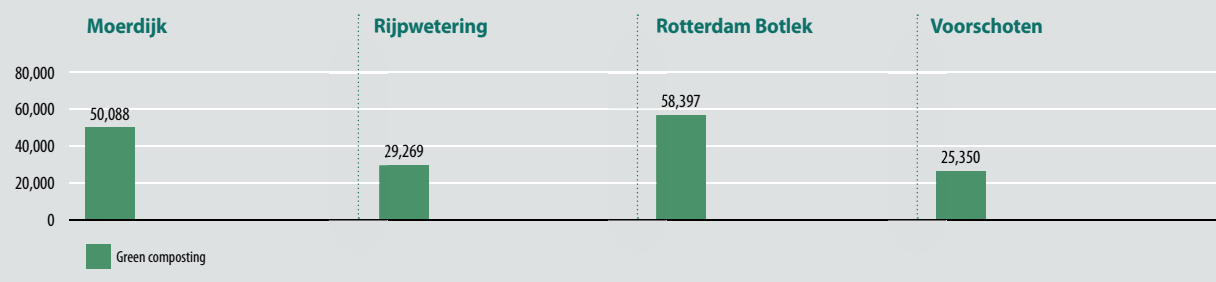
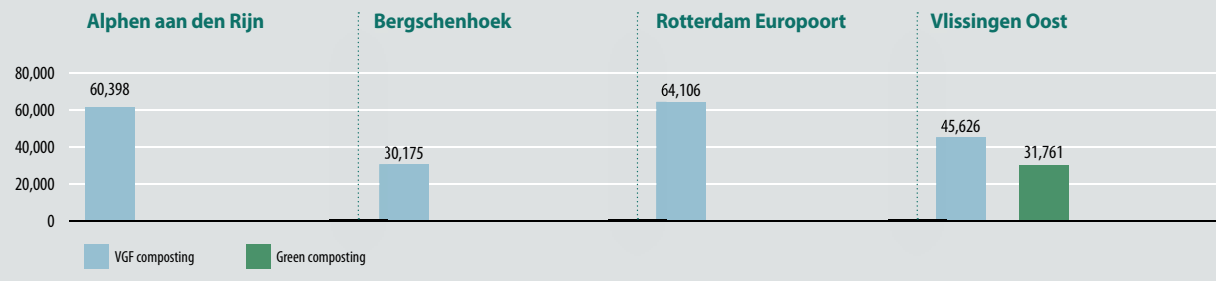
The AROC hydrochloric acid regeneration unit in IJmuiden regenerated 112,040 tonnes of spent hydrochloric acid into reusable hydrochloric acid.

Waste totalling 1,124,206 tonnes was transferred or treated at other sites in the Netherlands. The ZRD household waste collection service collected approximately 50,000 tonnes of waste transferred at one of our transfer stations.

Quantities treated per facility per site (in tonnes)

The Netherlands sites

total: 1,256,469 tonnes



3. PROCESSES

■ Treatment in Germany

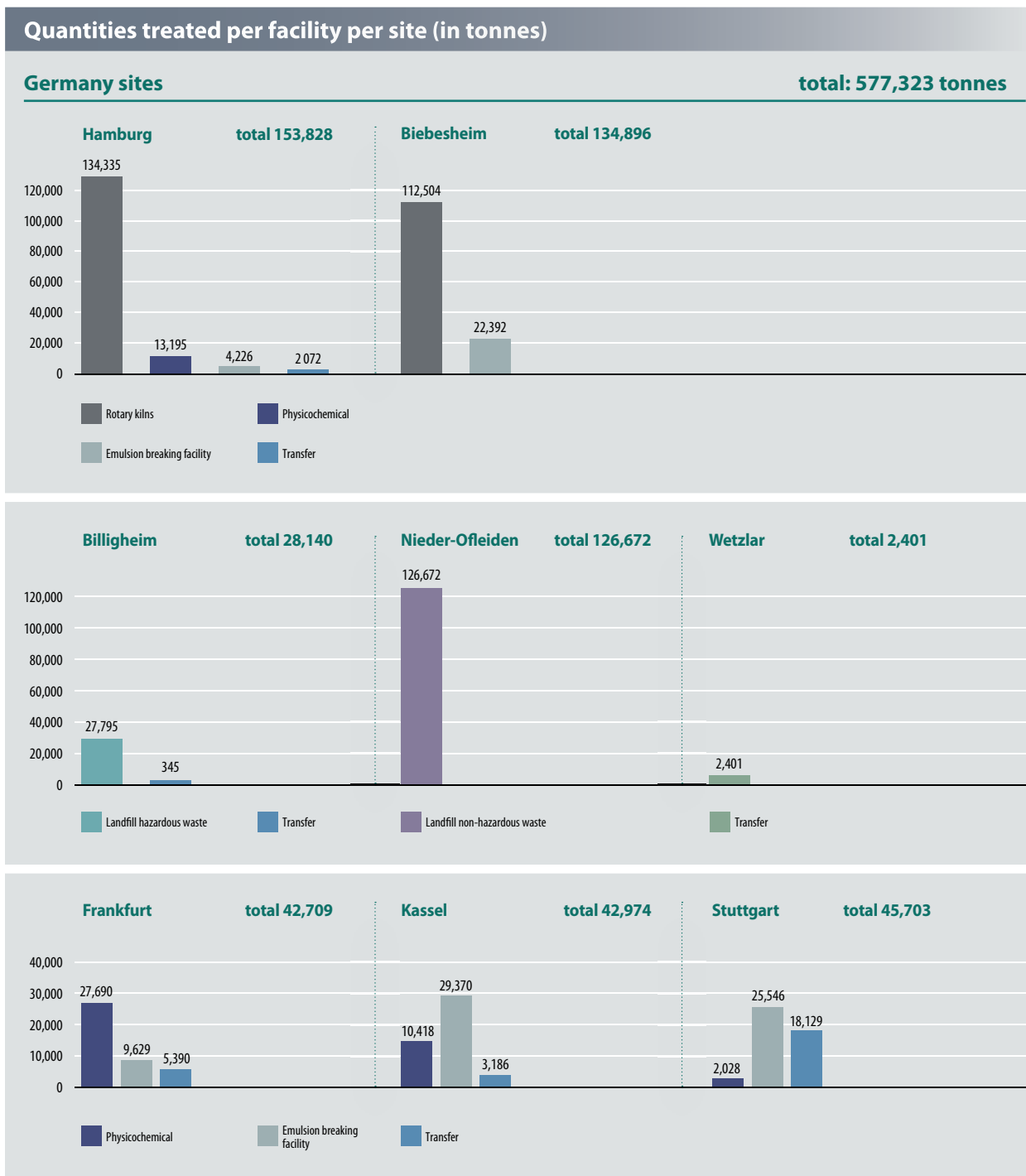
Indaver treated a total of 577,323 tonnes of waste products at its sites in Germany (treatment and transfer activities). Out of this we processed 545,800 tonnes in our own facilities. 31,523 tonnes of waste were collected for further treatment, either by third parties or in our own facilities.

■ Treatment in Ireland

Solvent recycling in Dublin processed 1,163 tonnes of waste in 2011. 17,708 tonnes of waste were collected through a transfer station for further treatment. The thermal treatment facility in County Meath started up in the autumn. The quantities treated will be discussed in next year's Sustainability Report.

■ Treatment in Italy and Portugal

In Italy 12,609 tonnes of waste were stored temporarily at the transfer station in 2011. In Portugal 3,496 tonnes were transferred at the transfer station.





ON THE WAY TO GREEN GROWTH: SUSTAINABLE TREATMENT OF BIOWASTE

Indaver is working towards European climate policy through its composting sites in Belgium and the Netherlands. In order to stimulate green economic growth, it is Europe's intention that by 2020 greenhouse gas emissions be cut by 20% compared to 1990. Energy consumption is to be reduced by 20% and one fifth of energy must be sustainable.

Biomass, from biowaste, has great potential for this green energy generation. Given the environmental and economic added value of biowaste, its treatment is becoming increasingly important for Indaver.

Indaver draws biowaste from the waste stream and reuses it as high-grade compost or, with fermentation, as post-treated digestate that is beneficial to soil. Fermentation also provides renewable energy in the form of biogas.

We treat selectively collected biowaste in a high-grade process and scrupulously monitor input and output flow quality. This prevents any contaminants from reaching the food and product chain.

Belgium

At the Grimbergen site, prunings, road-side grass cuttings, tree trunks and green vegetation waste from contractors, gardeners and local authorities are treated to produce compost and biomass, amounting to 29,833 tonnes in 2011.

The Netherlands

In the Netherlands the objectives for a greener Europe are even more demanding. There CO₂ emissions are to be cut by 30% in 2020. The municipal authorities have entered into agreements with the national government to this effect. In the Netherlands, at five sites in Zeeland, Zuid-Holland and Noord-Brabant, Indaver treats 'dry' flows of green waste to produce valuable compost and biomass.

'Wet' organic flows – VGF and industrial organic waste – are treated to produce high-grade compost at 4 sites using tunnel composting. In 2011, a total of 395,170 tonnes of VGF waste were delivered and treated.

Indaver Nederland is currently investigating whether it can expand the composting facility with a pre-fermenter. With the pre-fermenter, not only is compost obtained from VGF waste, but also biogas. This biogas can be converted into heat and electricity or can be up-



“Indaver ensures the sustainable recycling of bio-organic waste into biomass and compost.”

graded to natural gas quality, enabling it to be fed into the natural gas main. Better use is thus made of the VGF flow and CO₂ emissions are considerably reduced. In addition, Indaver Nederland, working jointly with a vegetable processing company, is treating fruit and vegetable waste to generate green energy, at an innovative fermentation facility. The energy generated can provide electricity to 6,500 households. In addition to 14,236 megawatts of electricity, this facility also supplied the natural gas main with 685,000 Nm³ of green gas in 2011.

Indaver Nederland aims to complete the cycle

Indaver Nederland aims to complete the cycles (zero-waste option) for compost and biomass. The compost is used as high-grade certified compost. In order to achieve this high quality, residual flows or contaminants are separated from the compost in a screening facility. Until recently the screen overflow was disposed of as waste. In 2011 however a facility was commissioned, which sorts

the screen overflow from Indaver's composting locations using various separation techniques. It produces biomass (for the biomass station); compost (for agriculture and horticulture); ferrous and non-ferrous metals (re-use through metal recycling); small stones (re-use through rubble recycling). The residual fraction (including plastics) goes to the waste power station.

Balance between compost (recycling) and biomass (renewable energy)

Biowaste is converted into compost and biomass. The compost serves as a soil improver in agriculture and horticulture. The biomass replaces primary fuels in power stations. An area of tension is brought about between recycling biomass waste and its use as an alternative fuel, because European policy is strongly committed to biomass as a source of renewable energy. Indaver advocates a balance between recycling to produce compost and the use of biomass as a fuel for green energy. That is why

Indaver is playing the integrated treatment card, with its facilities producing both compost and biomass.

Avoiding CO₂ emissions

Producing 22,205 tonnes of biomass – which equates to 195,409 GJ of heat – means we avoid emitting 19,003 tonnes of CO₂ to generate energy (heat) elsewhere from fossil fuels. For this calculation, we use a calorific value of 11 GJ per tonne.

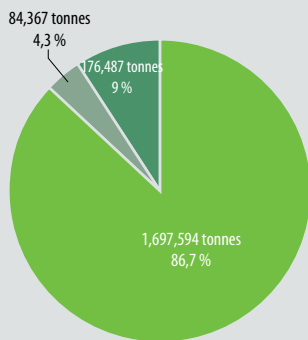
TREATMENT, TRANSFER, TRADING

In 2011 Indaver treated 70% of the total quantity of waste in its own facilities. 8% of the waste was transferred first to an in-house transfer station pending subsequent treatment at Indaver or third parties. 22% of the waste was treated directly by third parties through trading.

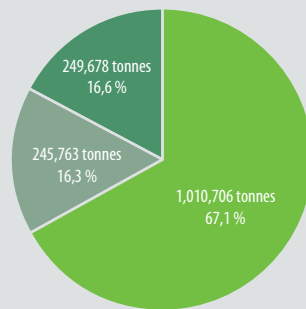
In Belgium and the Netherlands the focus is on in-house treatment. In Germany the ratio between in-house treatment versus trading is 54 to 44. The focus in Ireland is on trading, but the new thermal facility in County Meath will increase the volume of in-house treatment in the years to come.

Proportion of in-house processing, transfer and trading

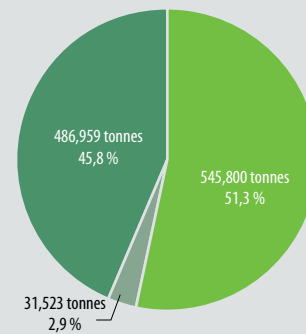
Belgium 1,958,447 tonnes



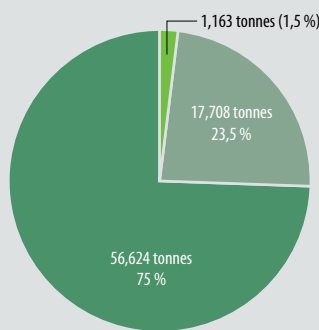
The Netherlands 1,506,147 tonnes



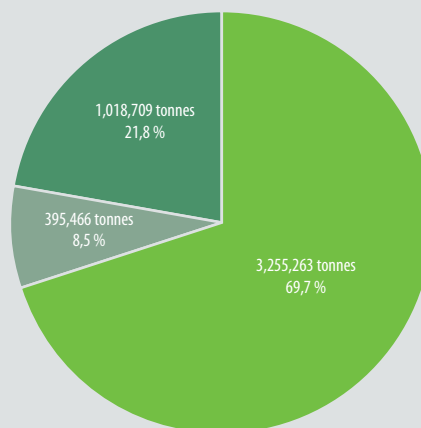
Germany 1,064,282 tonnes



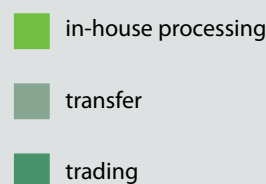
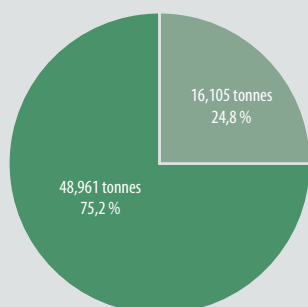
Ireland / UK 75,496 tonnes



Total Indaver 4,669,438 tonnes



Italy/Portugal 65,066 tonnes



3. PROCESSES

MANAGING PROCESSES

Indaver aims to operate the processes at its sites and facilities at their optimum while constantly improving them. That is why the systems that monitor quality, environment and safety play an important role in our organisation. Our sustainable approach is embedded in the organisation by these processes. They guarantee efficient operational management, increase trust among our stakeholders and prepare us for further growth and more complex service provision.

■ Cooperation Agreement: collaboration with other regions

The Indaver Group requires clear agreements for its international growth strategy which apply at all times and everywhere and which ensure uniform operating procedures. The commitments in the Cooperation Agreement are therefore applicable to all the regions. This Agreement contains strategic commitments on Indaver's general policy, such as the Corporate Governance Charter, codes of best practice and the strategy for ICT and Human Resources. Group procedures are also part of the Cooperation Agreement. Finally, the Agreement describes the specific roles and bodies that underpin the national structure.

■ Efficient, integrated management systems

Indaver opts consciously for certified management systems, both at its own sites and at those of Total Waste Management customers. With certification by an independent external certification agency a third-party expert confirms management systems are operating correctly. Accordingly, Indaver in **Belgium** has been ISO 9001 certified for 20 years now by Bureau Veritas Certification and in 1997 was the first waste treatment company in Belgium to obtain ISO 14001 certification. All sites in **Germany** have at least an EFB certificate (Entsorgungsfachbetrieb). This is a certificate that is specific to the sector for firms that are sufficiently well-equipped from a technical and organisational viewpoint to deliver the requisite quality and reliability on their own. The waste incineration facilities are ISO 14001 certified. The facility in Hamburg also holds ISO 9001, OHSAS 18001 and EN 16001 certificates. Indaver **Ireland** has long maintained its reputation for quality and compliance, holding ISO 9001 certification since 1994 with ISO 14001 and OHSAS 18001 following in 2000 and 2002 respectively.

In the table below, we give a summary of all certification per region and per site.

Certificates per region and per site				
Country	Certificate holder	Certificate	Since	Until
Belgium	Indaver NV (Antwerp, Doel, Kallo, Willebroek, Grimbergen, Mechelen, TWM sites)	ISO 9001/ 14001	1991/ 1997	11/2012
		OHSAS 18001	2011	02/2014
	Svex nv (Doel)	ISO 9001 / 14001	2008	10/2014
		OHSAS 18001	2011	10/2014
The Netherlands	AROC bv (Umuiden)	ISO 9001/ 14001	2002/ 2004	11/2012
	IGA bv (Hoek)	ISO 9001/ 14001	1995/ 1997	11/2012
		SQAS	2002	11/2014
	DELTA Milieu bv	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	DM Composteren bv (Alphen aan den Rijn, Bergschenhoek, Rotterdam Europoort, Vlissingen Oost)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	DM Groencompost (Moerdijk, Rijpwetering, Rotterdam Botlek, Vlissingen Oost, Voorschoten)	ISO 9001/ 14001	2002/ 2007	03 - 05/2012
	DM Biofuels (Well)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	Delta Impex bv ('s Gravenpolder)	ISO 9001/ 14001	2002/ 2007	03 - 05/2012
		VCA petrochemie	1994	11/2014
	DM Afvalbergingen BV (Derde Merwedehaven, Koegorspolder landfill site, Noord- en Midden-Zeeland landfill site)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	DM Recycling bv (Goes)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	DM Verbranding en Handel (Koegorspolder, Sloe)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
	Zeeuwse Reinigingsdienst (Nieuwdorp & Borsele, Goes, Hulst, Kapelle, Middelburg, Noord Beveland, Reimerswaal, Schouwen- Duiveland, Sluis, Terneuzen, Tholen, Veere and Vlissingen household waste recycling centres)	ISO 9001/ 14001	2002/ 2000	03 - 05/2012
Ireland	Indaver Ireland Ltd (Dun Laoghaire, Dublin Port, Cork, Kilmallock, Newcastle West, Mungret and Total Waste Management activities)	ISO 9001/ 14001	1994/ 2000	08/2012
		OHSAS 18001	2002	08/2012
Italy	Indaver Italia (Orrigio)	EMAS	2008	07/2013
		ISO 14001	2007	10/2013
Germany	AVG mbH (Hamburg)	ISO 9001/ 14001	1994/ 1997	06/2014
		OHSAS 18001	2003	06/2014
		EN 16001	2010	06/2014
		EFB	1997	08/2012
	AVG mbH: Gareg Umwelt Logistik gmbh (Hamburg)	EFB	1997	03/2013
	HIM GmbH (Biebesheim)	ISO 14001	2001	12/2014
		EFB	1997	05/2013
	HIM GmbH: Chemisch-Physikalische Behandlung Frankfurt (Frankfurt)	EFB	1997	05/2013
	HIM GmbH: Chemisch-Physikalische Behandlung Kassel (Kassel)	EFB	1997	05/2013
	HIM GmbH: Chemisch-Physikalische Behandlung Stuttgart (Stuttgart)	EFB	1997	05/2013
	HIM GmbH: Sonderabfalledeponie Billigheim (Billigheim)	EFB	1997	05/2013
	HIM GmbH: Panse Wetzlar Entsorgung GmbH (Wetzlar)	ISO 9001	2008	05/2013
		EFB	1997	12/2012

After Indaver, SVEX also opts for OHSAS 18001 certification

After Indaver opted for OHSAS 18001 certification in 2010, SVEX is now following suit. SVEX was set up with SITA to operate an Indaver grate incinerator and the SLECO fluidised bed incinerator.

The Doel site has had a Dynamic Risk Management System (DRMS), for some years now, aimed at continuously improving safety at work, health and welfare of all employees. When SVEX was established in 2005, the existing DRMS (as set up by Indaver and operated for years for the grate incinerator and the maintenance department), was extended accordingly to the fluidised bed incinerators.

After Indaver's successful certification the previous year, in 2011 SVEX also decided to go for OHSAS 18001 certification. OHSAS 18001 stands for 'Occupational Health and Safety Assessment Series' and is an international standard for safety management systems. Companies with this certification comply with current legislation, control risks in the area of health and safety, and continuously improve safety performance. This decision is consistent with other SVEX initiatives to increase safety awareness and commitment to safety in all employees.

The successful initial audit took place in the autumn of 2011, together with recertification for the ISO 9001 and 14001 management systems. SVEX has thus opted resolutely for integrated systems and an integrated certification audit.



■ Meticulous and regular audits, internal and external

Indaver keeps an eye on quality in all its business activities. Integrated and uniform management systems ensure the safety, reliability and traceability of all our processes. There is obviously a need for regular audits on the application of these systems. These audits are conducted by Indaver internally, as well as by external parties such as customers, public authorities and certification agencies.

■ External audits by certification bodies

Indaver is resolute in opting for certified management systems. After all with this certification an independent and accredited certification agency formally confirms that our management systems are operating correctly. Depending on the region, Indaver holds an ISO 9001, ISO 14001, an OHSAS 18001 and/or an EFB certificate.

In order to obtain a certificate, Indaver must demonstrate in a vetting process (certification audit) that it is operating in accordance with the criteria for these internationally recognised standards. These certificates are valid for a limited period – ISO certificates for instance are valid for three years. During regular follow-up audits the main aspects of the standards are verified on a sampling basis. Once the period of validity has expired a full recertification audit will follow.

A team of auditors from Bureau Veritas Certification carried out an ISO 9001/14001 and OHSAS 18001 follow-up audit in September 2011 for Indaver **België**. The audit team took a full week to thoroughly examine the various departments and operations at Indaver. The auditors did not establish any major instances of non-compliance. The overall conclusion was that Indaver is a professional organisation with a motivated and competent workforce.

At the same time there was an ISO 9001/14001 recertification audit and initial certification of the safety management system in accordance with the OHSAS 18001 standard at SVEX, the grate and fluidized-bed incinerator operating company. No discrepancies were noted in these audits. This result came about thanks to a mature safety management system and sound audit preparation.

In February/March 2011 a team of auditors from Bureau Veritas carried out an interim investigation at Indaver **Nederland** in the context of ISO 9001/14001. Three auditors examined the various departments and operations at Indaver Nederland for a week. They came to the general conclusion that the management system offers adequate safeguards to meet customer requirements and to control and improve environmental aspects. The auditors did not establish any major instances of non-compliance.

Available knowledge and documentation were also audited in the **Germany** region in an annual audit. ZER QMS, an independent regulatory body, ascertains whether the procedures

3. PROCESSES

described and mandatory environmental reporting were being complied with and whether the required improvements were implemented. The Biebesheim site, with the waste treatment centre (industrial and hazardous waste incineration, emulsion separation, integrated pre-treatment and transfer station), administration and marketing & sales, were recertified for ISO 14001. This certificate places emphasis on the continuous process to improve the environmental performance of a plant (operation, service provision, administration, etc.).

Last year the AVG site was given full recertification. In the course of this audit the quality, environmental, safety and energy management system were closely scrutinised. The audit did not reveal any problems, there were only a few proposals for improvements which are now being worked on. In December AVG was awarded the ISO 9001/ 14001/ 16001/ OHSAS 18001 certificates, which are now valid until 2014.

The various Indaver Deutschland locations are controlled Specialist firms for Waste Treatment under the EfbV – the Specialist Waste Treatment Firms Decree. In order to retain these certificates they require an independent regulatory body to audit them annually. For HIM BV this is ZER-QMS. In 2011 the annual audit was conducted against the Specialist firms for Waste Treatment requirements in November at the Stuttgart, Billigheim, Kassel, Frankfurt and Biebesheim sites. All sites gained their new EFB certificates.

In July and November Indaver **Ireland** underwent ISO 9001, 14001 and OHSAS 18001 follow-up audits by the National Standards Authority of Ireland (NSAI). The positive conclusion was that Indaver Ireland has a well structured, professionally managed Integrated Management System with staff commitment demonstrated throughout the audit process.

External auditors inspect and confirm the proper functioning of the organisation within the framework of the ISO 9001- or ISO 14001-management systems.



■ Government audits in Belgium

Indaver has regular audits by various licensing or regulatory authorities. In Belgium the environmental inspectorate department of the Environment, Nature and Energy Department of the Flemish Government (LNE) checks whether Indaver complies with all the licence conditions, for instance for emissions into water and the atmosphere. In addition, the VMM (Vlaamse Milieu Maatschappij - Flemish Environment Corporation), is charged with auditing the levies imposed for discharges into water and the atmosphere. In 2011 the relevant authorities conducted 23 audits at the various Indaver production sites.

■ Government audits in the Netherlands

In the Netherlands government inspectors conduct audits on whether Indaver is complying correctly with the terms of the environmental licence and Health & Safety legislation. The inspection frequency depends on the complexity of the operations and varies by location, but on average it involves 1 or 2 inspections a year.

In 2011, the VROM Inspectorate, Traffic and Waterways Inspectorate (V&W) and Zeeland Province conducted a combined audit at Indaver Gevaarlijk Afval, a hazardous waste plant in Hoek for compliance with legislation on the transfer of hazardous waste (EVOA).

Again in 2011 there was a two-day audit based on legislation and LAP-2 Directive at IGA and IWS-Indaver.

■ Government audits in Ireland and the United Kingdom

Indaver Ireland's Dublin Port Hazardous Waste Facility had its annual Seveso audit by the Health and Safety Authority in May. In June the Facility was audited by the Environmental Protection Agency to assess compliance with our waste licence. Both agencies also visited the new Waste-to-Energy facility in County Meath for regular audits and safety inspection during commissioning.

■ Government audits in Germany

The authorities in Germany conducted some ten audits, mainly at the Seveso sites in Frankfurt and Hamburg. The relevant authorities conducted safety and environmental audits at the landfill site in Billigheim. No major instances of non-compliance were noted.

■ Internal audits

Indaver seeks to improve its business processes on a continuous basis and internal audits are an aid to achieving this. We need to deploy competent people for these audits, with the requisite expertise, knowledge of the industry and analytical skills, given that auditing is partly a 'personal' assessment of process and system performance.

In an internal audit programme for quality, safety and the environment, Indaver's operational compliance with codes of best practice, operational procedures, legislation and the various accreditations and licences are assessed. In addition, these internal audits are required to foster the on-going quest for improvement based on the Plan-Do-Check-Act approach.

Internal audits at Indaver België are the job of multifunctional teams of at least two people. Each team feeds its findings into an audit report which makes recommendations for improvements. The local QESH (Quality, Environment, Safety, Health) department coordinates, assesses and facilitates the improvements.

In 2011 Indaver België continued its renewed approach for selecting, recruiting and training its internal auditors. After their training, for a period of at least three years, auditors can familiarise themselves with the various Indaver sites in order to gain a thorough understanding of the operation of the facilities and departments. In this way, they build up an extensive network of contacts within Indaver, enabling them to refine their audit skills. An annual meeting for internal auditors was held for the first time in December.

Indaver wants to continuously improve its business processes, and frequent audits help in this effort.



The auditors can also be assigned to audit external treatment centres. The major audit items here are traceability of waste and residual flows, transparency, observance of legislation and regulations and solvency. During these audits the auditors are given insight into third-party treatment processes and management systems, which they can also compare with in-house systems.

Audits in the Netherlands are conducted by 2-man teams. Auditors are given in-house training. In Germany audits are conducted solo; auditors are trained by an outside organisation and will have at least 15 years' experience. They adhere to the guidelines in the environmental management manual. There were 11 internal audits in Germany in 2011.

In Ireland and the United Kingdom over 40 internal audits placed the operations of the organisation under the spotlight. The majority of audits in Ireland and the United Kingdom are conducted by teams of 2 or more auditors. Each team feeds its findings into an audit report which makes recommendations for improvements. Every auditor is given in-house training on the audit procedure and the audit process. An external organisation provides training to all audit team members on ISO/OHSAS management systems. Training in specific fields is also provided as necessary such as training on the SAP flows.

■ Customer audits

Indaver is open to audits by its stakeholders, 'ensuring transparency in communications and actions' as it is. Customers regularly conduct audits at Indaver. These customer audits are either part of the acceptance procedure for Indaver as a waste treatment company (pre-contractual audits), or of an interim supplier evaluation (post-contractual audits). In 2011, customers conducted 14 audits at Indaver sites in Belgium. There were 9 in Germany, 10 in Ireland and 1 in the Netherlands.

■ Audits at Seveso sites

Due to the quantity of hazardous waste being treated, the sites in Antwerp, Hoek, Biebesheim, Hamburg, Frankfurt, Stuttgart and Dublin are subject to the Seveso Directive, a European Directive on the risks of industrial accidents. There are special safety analyses and reports for these facilities which are updated regularly as well as being audited and approved in each case by the relevant authorities.

3. PROCESSES

■ Business Information Support

Business process automation and integration

It is Indaver's intention to make its processes ever more efficient and effective. We automate our business processes with this aim in mind. A successful automation project must be in line with the business strategy and the organisational structure, as well as clearly setting out the sequence of the operations and procedures.

ICT policy in the Cooperation Agreement

Indaver has grown to become an international organisation which has also become more complex as a result. The Cooperation Agreement sets out uniform commitments and does so for Indaver ICT systems as well. These need to be uniform for the 4 regions, but a capability is also required to provide a suitable and flexible service for regional customers.

The central ICT environment provides for three centrally available and supported applications: SAP and Dynamics Navision for waste flow administration and invoicing; LIMS, the lab system processing technical data on waste; and MOSS (Microsoft Office Sharepoint Server) to collaborate and to manage in-house documents.

It is thanks to this centralised approach that Indaver has a secure, reliable and efficient ICT environment which gives it a competitive edge. There is ready and secure access in all regions to the network that provides the applications.

These core applications are fully integrated and are facilitated for customers by a portal application for internal and external data and information exchange.

In addition there are local applications that differ from the central portfolio. They are only used at regional level and are supported by the regional ICT departments. They are the result of an existing situation or distinctive features of the regional market.

In 2011 numerous projects were launched or developed further in the Business Information Support department:

Project at the exploratory phase: Disaster Recovery Plan

Indaver intends to institute a Disaster Recovery Plan in order to limit the disruption to users as far as possible in the event of a serious failure. ICT is investigating the best solutions, ranging from a hardware to a cloud system.

Projects at the implementation phase

Already in use in Belgium, the **MOSS collaborative platform** is being extended to the other regions. In the Netherlands and Ireland it will be the turn of Human Resources and Quality, Environment, Safety & Health first, the remainder being added in 2013.

This **Reporting Tool** will soon enable Indaver to consolidate reports on financial and Sales & Marketing data for the entire group in a uniform and easily understood format. This tool can read data from different ERP systems and present it in a comparative report.

The **Employee Referral Tool** is a cloud application for recruitment and selection. This tool will enable Indaver to, among other things, post vacancies and keep speculative applications. It is already being used in Belgium and will be extended to Ireland and the Netherlands in 2012; Germany is being prepared for it.

Identity and Access Management

Centralised 'Identity and Access Management' (IAM) for in-house and outside users controls secure access to applications and data. The new system is to ensure that user management for ICT applications is made simpler and easier to understand: every employee will be automatically assigned authorities for directories and applications based on his or her place in the organisation chart. In line with our philosophy of 'Ensuring transparency in communications and actions', the 'open but restricted if necessary' principle applies. We aim for maximum access to applications for our users.

■ International competence centres stimulate knowledge exchange

Sharing knowledge helps Indaver to expand quality service provision and to improve and innovate continuously.

Exchanging knowledge is deeply ingrained in the structure of the organisation. In addition to existing regional structures, Indaver has also set up a number of International Operational Competence Centres (IOCC), around specific fields: hazardous waste incineration, waste and energy, residue treatment, transfer stations and logistics, and international waste legislation.

Specialists on these themes from the various regions meet regularly. They do so to exchange knowledge, but also to see where improvements can be made or how Indaver can fill certain needs practically. The ultimate aim is clear: operational excellence in all business activities.

■ Managing external outlets

Outlet management

True to its 'continuous improvement' core value, Indaver always looks for the most environmentally and economically sound system for waste treatment, for both industrial customers (Total Waste Management), and public authorities (Public waste PartnershipS). There are two possible scenarios for this: treatment in our own or in third-party facilities, the latter known as outlets.

Indaver currently has a network of around 300 external outlets in Europe, ranging from very small specific facilities

(including reconditioning of drums and large plastic containers), to very large, more integrated companies (including co-incineration facilities with associated pre-treatment platforms).

There are various reasons for preferring treatment by third parties:

- External centres have more appropriate treatment technology, for treating gas cylinders, reconditioning drums or regenerating activated carbon for example.
- To reduce transport costs, Indaver sometimes works jointly with local, external facilities. This is the case for instance for local treatment of specific waste flows from abroad.
- An external centre can act as a backup in the event of maintenance work on Indaver facilities so as not to disrupt regular waste supply and disposal.

Indaver uses the auditing programme as a guiding principle for requests to have the waste treated by third parties. This enables it to ascertain whether treatment in the external centre is carried out in compliance with Indaver's 'Codes of best practice for sustainable waste management'.

Trading requires audits

Our trading activity is growing steadily thanks to outlet management. Reliable partners are of the utmost importance in order to assure our customers of full compliance. Indaver guarantees that treatment by third parties is also carried out in an environmentally safe manner, in accordance with current legislation. That is why Indaver has developed an external audit system to verify the external centres.

External audit: new Approval Teams

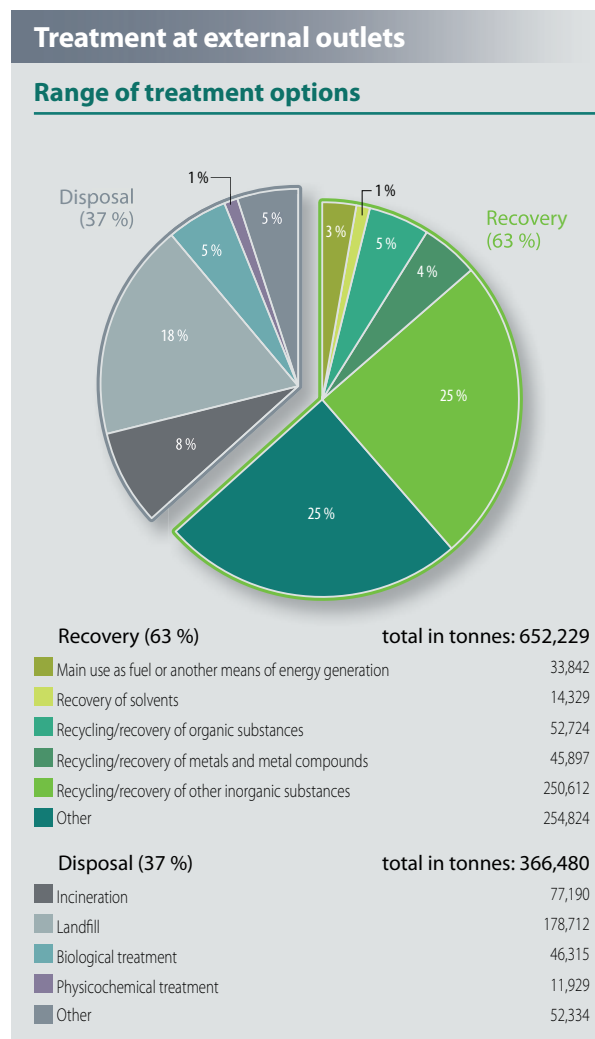
The guiding principle in these audits is a checklist that is regularly reviewed, updated and refined. The audit team investigates what exactly happens to the waste, at both physical and administrative levels. The manner and detail in which the audit is conducted will depend on the type of waste and the customer's expectations. Full compliance is always the minimum requirement.

The Approval Team, made up of experts in various fields, will approve the centres. In 2011 Approval Teams were set up for the four Indaver regions as well as for the Indaver Group. The International A-Team organises, audits and assesses outlets used by at least 2 different Indaver regions. The local A-Teams are restricted to the outlets in their own region, if it is only used by that region.

In 2011 a total of 38 external outlets were screened; approximately half at Indaver's initiative, the other half at a customer's request. When scheduling audits we allow for the risk evaluation and the quantities disposed of. In a limited number of instances the A-Teams have imposed conditions for collaborating with an outlet in order to ensure correct treatment of waste flows in all circumstances.

Treatment at external outlets

Indaver's Total Waste Management service enables us to offer our customers a package for all their waste. Treatment at external outlets complements treatment at Indaver facilities. The following chart provides an overview of the distribution based on destination.



Trading to external outlets

Quantities per country (in tonnes)	2011
Belgium	176,487
The Netherlands	249,678
Ireland	56,624
Germany	486,959
Italy	46,779
Portugal	2,182
Total	1,018,709



PROJECTS COMPLETED AND PLANNED

■ Research and development

Rotary kiln incinerator benchmarking

Indaver has rotary kiln incinerators in Antwerp, Hamburg and Biebesheim. These rotary kiln incinerators differ greatly from one another, and are not operated in the same way. Indaver carries out detailed comparisons between the incinerators. Based on these findings, we ascertain whether the best practices for the one type of facility deliver the same results in others.

These comparisons will be carried out from now on by the International Operational Competence Centre – Solid Waste Incineration (IOCS-SWI), that started work in April. Antwerp, Hamburg and Biebesheim gather their staff from various disciplines such as engineering, lab, maintenance and scheduling & sales every three months to implement 'Best Practice' projects. In this way they combine their expertise in order to solve problems.

Waste-to-waste use of residues

Indaver treats industrial inorganic waste in an environmentally safe manner at its physicochemical facilities. The solidification unit (Physicochemical 2) converts non-solid, pasty waste into a material suitable for landfill by adding reagents, binding agents and fillers and mixing them all together. In this way we need not utilise any primary raw materials because we re-use residues from industrial processes to the maximum extent. In 2011 we were able to save 7,700 tonnes of cement as a primary raw material.

Furthermore, in Physicochemical 1 we use acid waste in lieu of ferric trichloride for water purification, which yet again saves around 1,000 tonnes of raw material. Moreover by the end of 2012 again Indaver will have replaced around 1,000 tonnes of quicklime with waste at FC1.

The ideal filter bag for fluidised bed incinerators

Indaver has completed its search for a new filter bag for the baghouse filter for its fluidised bed incinerators, having implemented an innovative integrated approach. We consulted with all those involved – filter bag suppliers, plant builders, raw material suppliers, the academic world – on the filter bags and on their application – cages, cleaning systems, residue collection and particle size. We incorporated various filter bags for large-scale testing over three years. These tests were completed at the end of 2011. At the next renewal we will be buying the most suitable filter bag.

ROx air preheat investigation

Indaver is looking into how it can preheat combustion air in the grate incinerators using steam from the facility in order to raise the average capacity of the incinerators. If there is waste of lower calorific value in the incinerators they cannot run at full capacity. Adding hot air will smooth out these fluctuations, thus achieving stable combustion.



From plans to reality

WASTE-TO-ENERGY IN CO. MEATH, IRELAND

Construction of the new Waste-to-Energy facility in County Meath, Ireland, was completed last year, three years after the first sod was cut. In September this incineration facility with energy recovery accepted its first load of household waste for treatment.

The project fits in perfectly with Indaver's Waste-to-Energy strategy. Indaver is using the new facility to treat waste including biodegradable and municipal waste that had been disposed of in landfill until now. Its annual capacity is 200,000 tonnes. A turbine will generate 20 MW, enough electricity annually for 20,000 homes. As is always the case Indaver adhered to a few basic principles in setting up this facility.

Open communication

The plant in Meath is Ireland's first Waste-to-Energy facility. Accordingly, Indaver Ireland is making an effort to provide the local residents and public opinion a realistic picture of what the facility does. It has opened its doors to anyone with an interest. There is a visitor centre in the main building on the site where the process flow is depicted, and where samples of residue, recovered metals and various materials used in the facility are on show.

Local jobs, local businesses

Indaver always tries to source as many employees and contracts as possible from the local community. Because this is the first Waste-to-Energy facility in Ireland, Indaver needed to call on expertise and suppliers from abroad as well in order to make Meath the most environmentally safe and efficient facility. Where possible however we have used local companies for supplies and services.

Indaver Ireland also conducted a search locally for personnel for the facility in County Meath. We received over 850 applications for the various posts, including operators, shift leaders and engineers. Of the 35 who were ultimately recruited, 87 per cent were from County Meath/Louth, with 20 per cent from the immediate vicinity of Duleek, where the site is located.

Intensive training

The new recruits were given intensive training to prepare them for the start-up of the facility. An essential component of this was to gain shop-floor experience, i.e. in an operational facility. Accordingly, the Irish employees travelled to Belgium to work alongside colleagues in one of Indaver's facilities. Belgian colleagues travelled to Meath for the start-up to ensure that experienced operators were in attendance on site.

Continuous improvement

In September 2011 the Meath Waste-to-Energy facility took in its first load of municipal waste for treatment. This was a landmark occasion for the workforce who had been a long time preparing for it, and for the project team that had directed the construction of the facility since the planning application in 2000, tackling many hurdles over the years. Now the facility is running at full capacity there is room to refine its operation.

Environmental impact

The Northeast is the only region in Ireland that now has the sustainable infrastructure within its borders to carry out integrated waste management. The Waste-to-Energy facility in County Meath was the last piece in this jigsaw. This makes the region more attractive to industry and businesses, in view of the fact that it now offers a package for the majority of waste flows, which it does at a cost-effective price and in compliance with European and national legislation and regulations.

3. PROCESSES

Further investigation into fluidised bed incinerator sand bed

The fluidised bed incinerators have to cope with unexpected downtime due to 'lumps' forming. This causes the sand bed to stop working. A thesis at the Chemical Engineering Technology department of the Catholic University of Leuven has mapped out the causes of this complex problem, with a view to improvement projects. The thesis has been completed and there is further research required for different packages.

Studies into greater energy-efficiency

In 2011 Indaver carried out research into heat recovery in fluidised bed incinerator gas scrubbers and found two options. It is highly cost-effective to avoid energy consumption for flue gas reheating. We can reuse the current heat exchanger by using it in another location as a recovery unit.

Optimising MediPower

Researchers have developed a 'feed-forward intake system'. Until now waste needed to be added until the required quantity of steam had been generated. With the new project the number of waste containers necessary for the required quantity of steam will be determined in advance and these will be fed in.

In addition to this a system was being sought for the surplus air in the drums in the MediPower facility in Leuven, with the aim of utilising this in the new facility in Antwerp as well. A new incineration control has been developed through testing whereby the distribution of the quantity of air in the drum is improved and the temperature remains more stable.

Projects at the implementation phase

Ireland: Introducing SAP with minimum hinder

Assisted by Belgian colleagues, Indaver Ireland spent over 5,000 working hours introducing SAP for waste flows on 1 March 2011. Indaver Ireland has switched from the existing 'Tracker' system to SAP for managing, tracking and invoicing waste flows. Indaver Ireland maintained its quality assurance for the service provided during this transition phase. The switch was planned and prepared thoroughly, but changing systems around is never easy. The Indaver Business Support Team is helping to streamline this major administrative turnaround.

“*Indaver constantly strives for even newer and better techniques.*”

The MediPower facility in Antwerp processes medical waste.







WASTE AS ENERGY

By incinerating waste, Indaver generates energy that it uses for its own installations or delivers to third parties.

Countries with a well-developed Waste-to-Energy infrastructure score high on recycling as well.

We are also pursuing this path in Ireland, where the new Waste-to-Energy facility, an incineration plant with energy recovery, has begun to operate in Meath.

4.

ENVIRONMENTAL RESULTS

*Minimum impact on the environment,
maximum material and energy recovery*

Indaver intends to keep the impact of its operations on people and the environment as low as possible. We invest in new technologies and methods to limit our emissions to atmosphere, water and soil even further and to reduce our ecological footprint. However, we go beyond this, as material and energy recovery acquires increasing importance in our core operations. We have facilities for recycling PMD (plastic bottles and packaging, metals and drinks cartons), biomass, paper and plastics, solvents, and lamps. We also generate ever-increasing amounts of energy from waste treatment.

42

MINIMUM IMPACT ON THE ENVIRONMENT

This chapter assesses the impact of Indaver's operations on the environment. We will discuss the results from the most relevant facilities on our sites for each aspect of the environment – atmosphere, water and soil.

For our atmospheric results we discuss thermal treatment facilities on the basis of incineration technology. We will deal with grate incinerators in Belgium, rotary kiln incinerators in Belgium and Germany and the fluidised bed incinerators in Belgium. The results from the Indaver Medical Services treatment facilities in Leuven and AROC in IJmuiden are available on our website.

We will report on the results from the various facilities in normal conditions. Any accidental emissions or discharges are discussed separately.

Specific measures were adopted to prevent odour nuisance from the composting facilities. These measures were also found to be sufficiently effective in 2011.

In discussing the impact of our operations on the water environment we will provide a summary of the discharge results from the Antwerp site, since this site accounts for the majority of the discharge flow at Indaver.

In the section on the impact on soil, we give an overview of the technical and procedural measures to safeguard the quality of the soil at Indaver sites.

In the section on sustainable materials and energy management, we focus on material recovery and the energy balance of the thermal treatment facilities.

“
*Indaver invests in methods
and technologies in order
to reduce its ecological
footprint.*”

4. RESULTS

AIR

In order to quantify our impact and results in terms of air emissions, we provide for each of our relevant thermal treatment facilities the mass balance, an overview of pollutant volumes and their performance compared to the daily average standard. We also report on the dioxin results for each facility.

All results were recorded using measurement instruments, the correct operation of which is confirmed regularly by an external independent lab, as required by law. The relevant legislation for Flanders is VLAREM and for Germany the 'Verordnung über Verbrennungsanlagen für Abfälle und ähnliche brennbare Stoffe (17. BimSchV)' & 'Technische Anleitung zur Reinhaltung der Luft (TA Luft)'.

The emissions laboratory certified measuring equipment for the various incinerators produces thousands of readings daily. In Flanders, the Laboratory Information Management System (LIMS) is used for statistically processing the data. In Germany, the automated DURAG system is responsible for the monitoring and management of data. These results are assessed regularly, and constitute the basis for new improvement and investment projects.

■ Mass balance

The mass balance is a 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 through the stacks, and the quantities of waste water and energy released during treatment.

■ Pollutant volumes

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

■ Performance compared with the daily average standard

The star graphs show the annual average performance of the incinerators against the daily average standard, unless stipulated otherwise in the environmental licence. Accordingly, in the fluidised bed incinerators an annual standard is used for NO_x.

The results are well below the norm stipulated by law for every licensing parameter. If, when calculating the performance, one of the values was below the detection limit, the average was calculated based on the sum of the absolute values above the detection limit, spread over the total number of readings. If all values were below the detection limit, we assigned a value smaller than the average of the detection limits in the star.

■ Dioxins

Dioxins are only present in flue gases in very small concentrations. Large volumes of gas must be sampled and advanced measuring technologies are required for the chemical analyses. We draw a distinction between a discontinuous measurement and continuous sampling with analysis every other week.

Discontinuous measurement and continuous sampling

A discontinuous measurement gives a representative picture of dioxin emission at a specific instant during operation. In Belgium an accredited laboratory is required to take readings twice a year. During continuous sampling the dioxins in the flue gases are sampled and determined over the course of fourteen days. This produces a representative picture of the average dioxin emission over a longer period. In Germany, in compliance with local legislation, discontinuous readings are taken.

■ Overview of results by facility

The results for the rotary kilns in Antwerp (Belgium), and Biebesheim and Hamburg (Germany), as well as the grate incinerators and fluidised bed incinerators in Doel (Belgium) are presented on the next pages.

Rotary kilns Antwerp

Mass balance

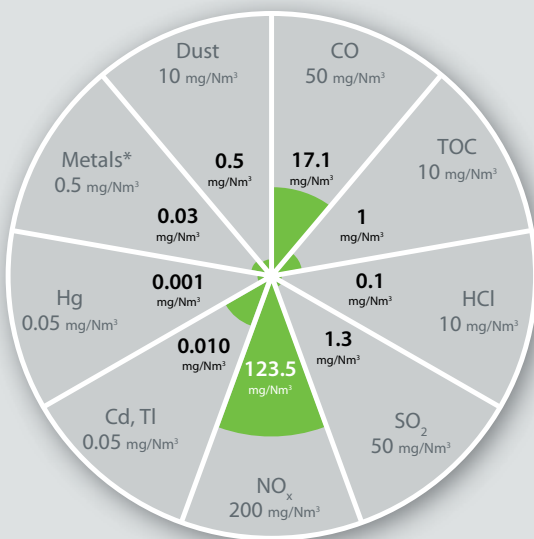
IN	
Waste (*)	116,667 tonnes
Energy	
Heating oil	740 tonnes
Waste oil (*)	1,517 tonnes
Steam	162,889 GJ
Electricity	19,973 MWh
Incinerator additives	
Lining material (*)	5,205 tonnes
Flue gas cleaning additives	
CaO – quicklime	1,111 tonnes
NaOH	2,528 tonnes
Absorbent for dioxins and heavy metals	77 tonnes
DeNOx reagent	200 tonnes
Waste water purification additives	
Waste water purification reagents	413 tonnes
Water	
Mains water	180,000 m ³
Groundwater	251,428 m ³
Reused water	126,955 m ³
Demineralsised water	54,336 m ³



OUT	
Emissions to atmosphere	
Flue gases	743,623,298 Nm ³
Energy	
Energy recovery	822,755 GJ
Water discharged	
Waste water	146,467 m ³
Residual products	
Bottom ash (incl. scrap)	21,303 tonnes
Fly ash and boiler dust	4,311 tonnes
Waste water purification residues	5,530 tonnes

(*) 116,667 + 1,517 + 5,205 = 123,389

Performance relative to emission limit



□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2011

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Dioxin measurements



Dioxin pollutant volume = 2,4 mg TEQ (in normal conditions)

Volume of pollutants

Dust	0,4
CO	12
TOC	0,7
HCl	0,05
SO ₂	0,9
NO _x	95
Cd, Tl	0,008
Hg	0,0004
Metals*	0,02

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

4. RESULTS

Rotary kilns Hamburg

Mass balance

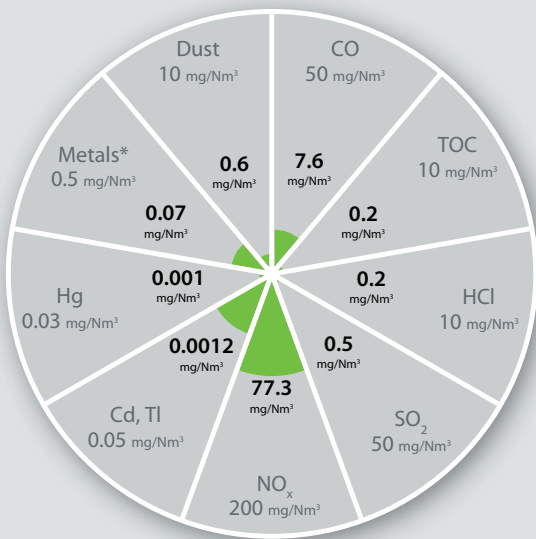
IN	
Waste (*)	134,335 tonnes
Energy	
Heating oil	237 tonnes
Waste oil/solvents (*)	6,103 tonnes
Steam	422,700 GJ
Electricity	22,273 MWh
Flue gas cleaning additives	
Limestone	723 tonnes
Adsorbent for dioxins and heavy metals	493 tonnes
DeNOx reagent	224 tonnes
Water	
Mains water	3,556 m ³
Canal water	233,356 m ³
Rain and process water	21,960 m ³
Deminerilised water	18,008 m ³



OUT	
Emissions to atmosphere	
Flue gases	815,556,437 Nm ³
Energy	
Energy	1,273,327 GJ
Water discharged	
Waste water	11,860 m ³
Residual products	
Bottom ash (incl. scrap)	44,216 tonnes
Fly ash and boiler dust	4,147 tonnes
Gypsum	1,126 tonnes
Waste water purification residues	1,150 tonnes

(*) 134,335 + 6,103 = 140,438

Performance relative to emission limit



□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2011

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Dioxin measurements



Dioxin pollutant volume = 8,7 mg TEQ

Volume of pollutants

Dust	0,75
CO	8,15
TOC	0,45
HCl	0,16
SO ₂	0,62
NO _x	62,13
Cd, Tl	0,009
Hg	0,0012
Metals*	0,059

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

Rotary kilns Biebesheim

Mass balance

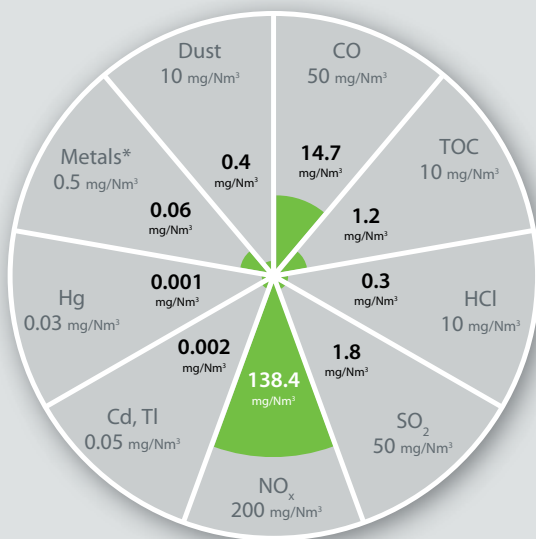
IN	
Waste (*)	112,504 tonnes
Energy	
Heating oil	270 tonnes
Natural gas	85,000 m ³
Waste oil/solvents (*)	3,368 tonnes
Electricity	23,858 MWh
Flue gas cleaning additives	
NaOH	4,434 tonnes
Adsorbent for dioxins and heavy metals	174 tonnes
Na sulphide / polysulphide	458 tonnes
DeNOx reagent	142 tonnes
Water	
Mains water	7,852 m ³
Groundwater	116,427 m ³
Process water	16,143 m ³
Demineralised water	23,099 m ³



OUT	
Emissions to atmosphere	
Flue gases	517,764,212 Nm ³
Energy	
Energy	767,877 GJ
Water discharged	
Waste water	27,328 m ³
Residual products	
Bottom ash (incl. scrap)	25,134 tonnes
Fly ash and boiler dust	6,599 tonnes

(*) 112,504 + 3,368 = 115,872

Performance relative to emission limit



□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2011

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Dioxin measurements



Dioxin pollutant volume = 4,4 mg TEQ

Volume of pollutants

Dust	0,18
CO	7,51
TOC	0,59
HCl	0,14
SO ₂	0,9
NO _x	71,62
Cd, Tl	0,001
Hg	0,0007
Metals*	0,03

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

4. RESULTS

Grate incinerators Doel

Mass balance

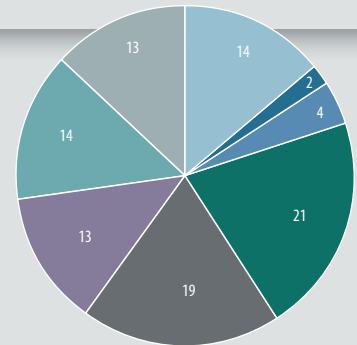
IN	
Waste	383,348 tonnes
Energy	
Heating oil	743 tonnes
Steam	176,617 GJ
Electricity	30,074 MWh
Additives	
Quicklime	1,703 tonnes
Limestone	2,584 tonnes
Adsorbent for dioxins and heavy metals	211 tonnes
DeNOx reagent	817 tonnes
Water	
Mains water	192,501 m ³
Rainwater	35,605 m ³



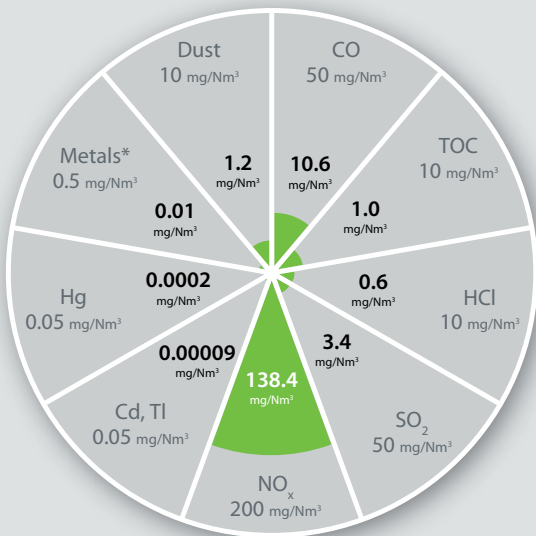
OUT	
Emissions to atmosphere	
Flue gases	2,022,849,900 Nm ³
Energy	
Energy	3,165,927 GJ
Water discharged	
Waste water	0 m ³
Residual products	
Bottom ash (*)	87,535 tonnes
Boiler ash	7,060 tonnes
Flue gas cleaning residue	9,687 tonnes
Gypsum	1,167 tonnes

(*) Composition of the bottom ash (%):

Ferrous fraction	14
Non-ferrous fraction	2
Weak magnetic fraction	4
Granulate 6-50 mm	21
Granulate 2-6 mm	19
Sand fraction 0.67-2 mm	13
Filter cake / sludge fraction <0.67 mm	14
Residual fraction	13



Performance relative to emission limit

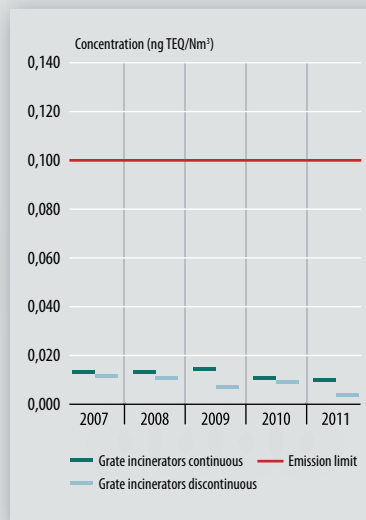


□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2011

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Dioxin measurements



Dioxin pollutant volume = 15,2 mg TEQ

Volume of pollutants

Dust	2,5
CO	18
TOC	1,9
HCl	1,13
SO ₂	7,1
NO _x	286
Cd, Tl	0,001
Hg	0,0006
Metals*	0,02

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Volumes of pollutants from contaminated components (in tonnes)

Fluidised bed incinerators Doel

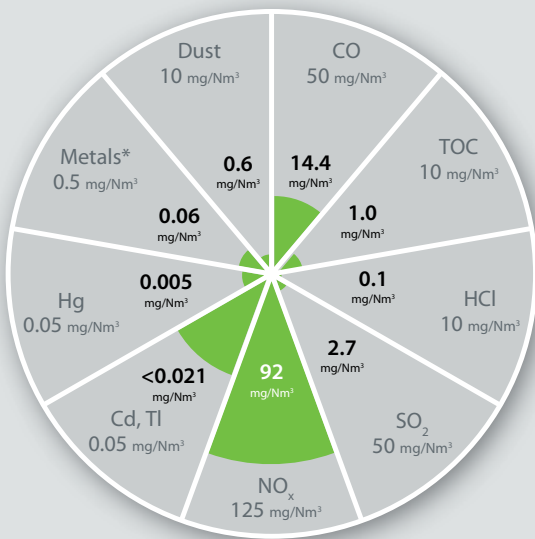
Mass balance

IN	
Waste	559,870 tonnes
Energy	
Heating oil	658 tonnes
Steam	103,537 GJ
Electricity	78,098 MWh
Flue gas cleaning additives	
Quicklime	9,728 tonnes
NaOH	669 tonnes
Adsorbent for dioxins and heavy metals	483 tonnes
DeNO _x reagent	1,209 tonnes
Incinerator additives	
Sand	4,647 tonnes
Water	
Mains water	250,332 m ³
Recycled rainwater	6,895 m ³



OUT	
Emissions to atmosphere	
Flue gases	2,574,275,476 Nm ³
Energy	
Energy	3,763,274 GJ
Water discharged	
Waste water	0 m ³
Residual products	
Bottom ash	31,966 tonnes
Electrostatic filter and boiler ash	76,076 tonnes
Flue gas cleaning residue	15,857 tonnes
Incinerator quality scrap	1,812 tonnes
Pre-treatment scrap	15,429 tonnes

Performance relative to emission limit

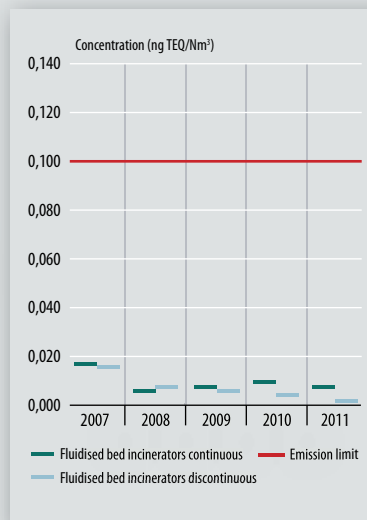


□ Daily average standard unless otherwise stipulated in environmental licence

■ Performance 2011

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

Dioxin measurements



Dioxin pollutant volume = 16,5 mg TEQ

Volume of pollutants

Dust	1,6
CO	36
TOC	2,6
HCl	0,28
SO ₂	6,9
NO _x	238
Cd, Tl	0,051
Hg	0,0140
Metals*	0,27

Volumes of pollutants from contaminated components (in tonnes)

* Metals: sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Sn

4. RESULTS

WATER

We are limiting the discussion on the results for water to the 5 sites with the greatest water requirement: Antwerp and Doel in Belgium, IJmuiden in the Netherlands and Hamburg and Biebesheim in Germany.

Water consumption

Indaver uses water from various sources in treatment processes. In addition to primary sources such as mains water, surface water and pumped up groundwater, Indaver is also investing in reuse of (waste) water flows, known as secondary water. The following graphs provide an overview of primary and secondary water consumption.

Primary water consumption is consumption of water from various primary water sources. This is mains water, groundwater pumped up using groundwater extraction wells or surface water (river or canal water).

The higher water consumption at the Antwerp site compared with the Hamburg and Biebesheim sites is mainly due to the difference in the type of wet gas scrubbing and in waste fed into the rotary kiln incinerators.

Water reuse

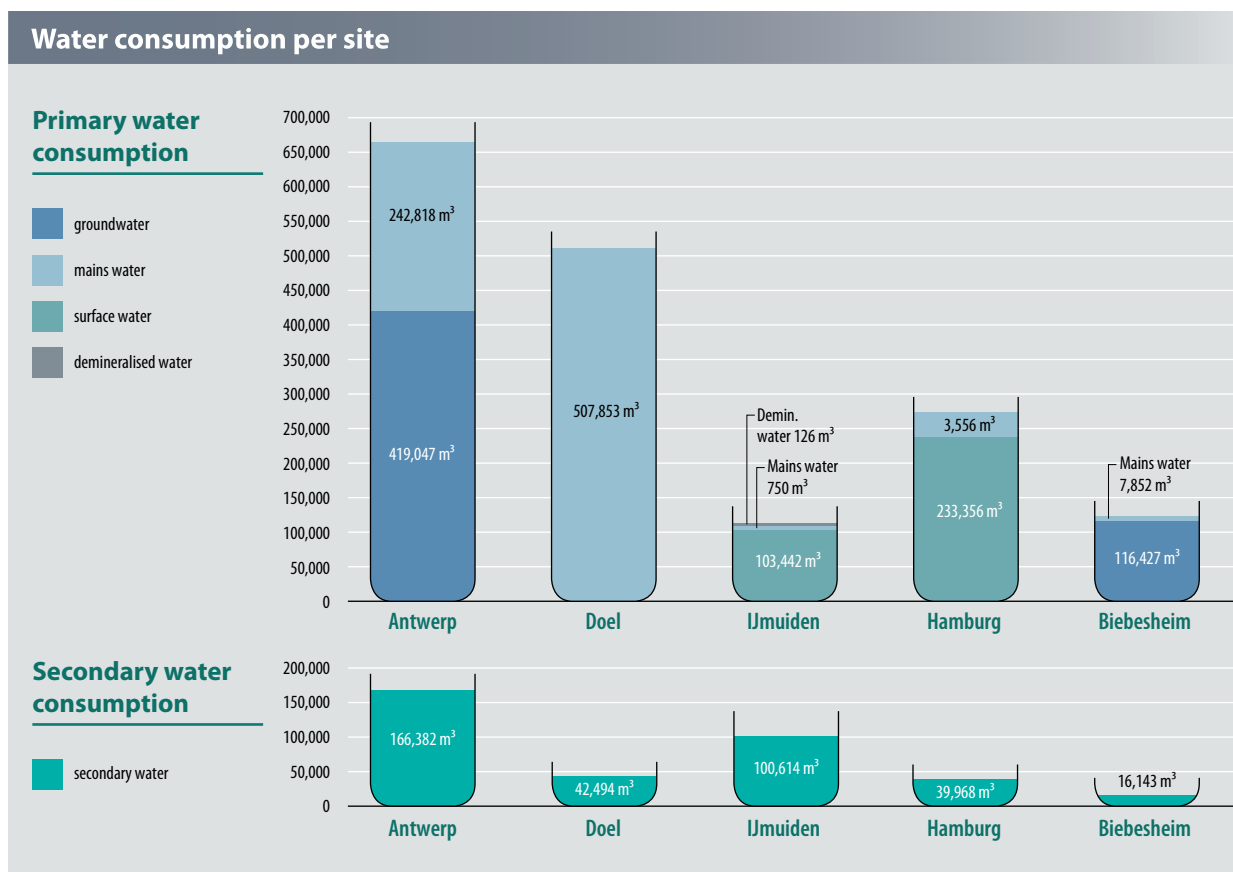
Indaver uses water sparingly and carefully, thus endeavouring to consume as little water as possible from primary

sources. To this end it makes use of **secondary water** as much as possible. This involves selectively collecting rainwater from roofs, the road network and hard-standing surfaces as well as from its own treatment facilities in order to meet the water requirement for its facilities. There is one limitation: the quality of reused water is not always sufficient for the applications.

It is the **Antwerp site** above all that has made substantial efforts in recent years on reuse. Thus approximately 66,000 m³ of water were reused in 2011, some 20% of the total requirement.

Potentially contaminated water from the North sewer was buffered in the rainwater tank to be used subsequently as process water for the rotary kiln incinerators. At the same time the flushing water from the dioxin filters is being reused in the rotary kiln incinerator gas scrubbers.

Physicochemical facility FC2 has a 100% Waste-to-Waste approach. Only in-house waste water is used here to meet the water requirement for the facility. This specifically concerns landfill leachate, contaminated rainwater (FC2 zone) and effluent from the rotary kiln incinerator water purification plant.



Ijmuiden meets 65% of its water requirement with flushing water from Tata Steel. The **Doel** site utilises rainwater collected from the roof as process water in the incineration facilities. In **Biebesheim** effluent from the Emulsion Separation Plant (ESP) is used as process water in the rotary kiln incinerators to cool the incinerator slag and to clean the vehicle fleet. In **Hamburg**, water from the reduction reservoir (cleaned waste water from the separator plus rainwater) is used as process water in the incineration facility. In addition to this, steam condensate (originating from the steam supply to the Hamburg heating main) is reused in the rotary kiln incinerators.

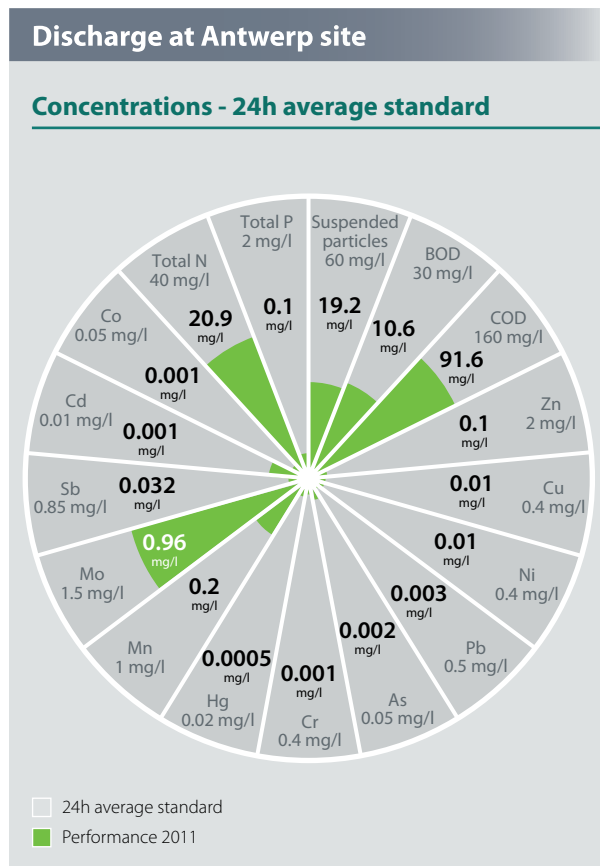
(Waste)water discharge

The **Doel** site has zero discharge status. This means that only waste water from sanitation and non-contaminated rainwater may be discharged. In 2011, we recorded a discharge of 4,170 m³ for Doel, a figure calculated on the basis of 139 employees (30 m³/employee/year).

In **Antwerp** 642,629 m³ of waste water were discharged in 2011 into the surface water of the Scheldt, after treatment at the on-site water purification plant.

In **Ijmuiden** only a limited fraction of the quantities of discharged waste water originates from the AROC hydrochloric acid regeneration unit. The majority comes from the other Tata Steel facilities on the site.

Waste water from the **Hamburg** and **Biebesheim** sites is discharged through pipelines to municipal or – in the case of Biebesheim – industrial water purification plants. Indaver Deutschland checks regularly whether the waste water delivered meets the stipulated quality requirements.



Discharged volume of pollutants

Antwerp site (in tonnes)	2011
Suspended particles	12,2
BOD	7,0
COD	57,2
Zn	0,04
Cu	0,004
Ni	0,005
Pb	0,002
As	0,0012
Cr	0,0005
Hg	0,0003
Mn	0,1
Mo	0,62
Sb	0,02
Cd	0,0006
Co	0,0006
Total N	13,0
Total P	0,1

4. RESULTS

SOIL

■ Strict compliance with statutory requirements

The regulations concerning soil decontamination vary considerably from one region to another. The Soil Decree by the Flemish Region is the foundation of the regulations for Indaver's Belgian sites. However, the Netherlands, Germany and Ireland also have specific legislation on this issue. It goes without saying that Indaver exercises stringent supervision of all its sites to ensure strict compliance with all statutory obligations.

■ Prevention and procedures

In addition, we also adopt all the necessary preventive and technical measures to curb the risk of soil and groundwater pollution. All its operations are carried out on hard surfaces. At high-risk locations, in addition to this paving, an additional soil protection layer (e.g. HDPE film) or an additional non-permeable floor is installed. Storage tanks are installed on the surface, fitted with containment walls and equipped with the necessary monitoring and alarm systems. Regular checks reduce the risk to an absolute minimum; elaborate procedures ensure that Indaver will take appropriate action at once.

■ Landfill disposal with the soil in mind

Landfill disposal is the last option in waste management, but it is still necessary for some types of waste that cannot be put to beneficial use or treated thermally. Indaver always weighs up carefully whether other more beneficial options are available for the waste in question. Only if the answer to this question is 'no' will it go to landfill. In order to operate its landfill sites in a safe manner in accordance with government requirements, Indaver conducts stringent tests on whether the soil is adequately protected against infiltration from waste. It ensures that there are adequate financial reserves for final capping and aftercare once the landfill site is no longer in use. Indaver has two landfill sites in Belgium: Antwerp and Doel.

■ Landfill disposal in the Netherlands

Indaver Nederland still has 2 landfill sites in use at present for waste that can only be treated effectively through landfill disposal. They are the Noord- and Midden-Zeeland landfill site in Nieuwdorp and the Derde Merwedehaven waste disposal in Dordrecht.

As of January 2013 only the landfill site in Zeeland will still be in use. Derde Merwedehaven waste disposal will be closed at the end of 2012, 5 years earlier than scheduled, at the request of the local community. After closure, the waste disposal site will be capped, so it can be used as a recreational area.

This location is actually adjacent to the 'de Biesbosch' nature area. In 2011, with closure in mind, the waste disposal site was already organising information meetings for the authorities and for interested parties, explaining the possible subsequent development.

■ Landfill disposal in Germany

Indaver Deutschland manages a landfill site in Billigheim for hazardous waste such as residues from industrial waste water treatment, spent blasting sand, contaminated soil and batteries. The landfill site, with a total capacity of 930,000 m³, has been in use since 1984, and has since been continually updated to use best available technology, including multiple sealing of the subsoil and surface. The landfill site is managed in a safe and environmentally-friendly manner thanks to stringent inspection and monitoring.

In Nieder-Ofleiden, Indaver Deutschland manages a landfill site on behalf of an industrial customer. This landfill site will be closed shortly. Indaver Deutschland carries out aftercare.

Indaver Deutschland (HIM) has been operating for over 20 years in the field of soil remediation on contaminated former industrial land. So far, 134 remediation projects have been completed, equivalent to a total area of 5.2 million m². A total of around 570 million euro has been invested, around 35 million m³ of groundwater purified, around 1.3 million tonnes of contaminated soil excavated and replaced with clean soil and approximately 4,200 tonnes of contaminated material removed. Indaver Deutschland has already received two international awards for these projects.

Preventive measures and regular checks keep the risk of soil pollution to an absolute minimum.





On-going search for new technologies

UPGRADE LANDFILL SITES AND ENVIRONMENTALLY-SAFE REMEDIATION

Biogas recovery

Fermentation of the organic material in the landfill waste releases biogas to generate energy. The two landfill sites in the Netherlands are equipped with a landfill gas extraction system and biogas engines. The total quantity of energy generated from landfill gas in 2011 was approximately 125,240 GJ.

At the Hooge Maey, they have been recovering biogas since 2004. Gas shafts and pipelines carry the methane away from the landfill site. Electricity generation has risen year on year – currently four engines are generating energy for around 4,800 homes.

Indaver operates the landfill site, and is engaged in an on-going search for new technologies to recover gas even more effectively. It has found a new system which consists of wicks being sunk in a

dense grid to a depth of 30 metres. This will enable the entire landfill to be degassed. A test set-up was installed over 1 hectare in 2010. If the results prove positive, the technique will be extended to the entire area.

Arsenic in Wiesbaden: combining remediation and renewable energy

On the site of a former aniline plant with a fuchsin dye bath in Wiesbaden, the soil and groundwater were seriously contaminated due to the use of arsenic and arsenic acids in the production process. In order to decontaminate the site, after painstaking investigation, Indaver Deutschland opted for excavating and backfilling the soil, combined with long-term protection of the groundwater. The excavated sections (a total of around 900 m² with 30 tonnes of arsenic) were made good with uncon-

taminated soil. But it did not stop there: Indaver Deutschland used the opportunity to bore a renewable energy source. Geothermal baskets were installed in the construction pit for the remediation in order to extract heat from the groundwater under the surface. These geothermal baskets were incorporated in the heating system for a neighbouring business. In this way remediation produces gains in terms of business economics and the environment.

Pictures:

1. Control of gas shafts
2. Landfill
3. Biogas engines Hooge Maey

4. RESULTS

ENVIRONMENTAL IMPACT: LOGISTICS IMPROVEMENTS

■ More efficient routes

In 2011 Indaver Logistics and Indaver Log+, the logistics providers for non-hazardous and hazardous waste respectively, took their logistics organisation and vehicle fleet in hand. In order to map out more efficient routes they have equipped their trucks with a new GPS system: **truck navigation**. This takes account of the suitability of the roads for traffic and clearance under bridges.

Indaver Logistics trucks were also fitted at the same time with a **track-and-trace system**. This means they will be tracked continuously. Indaver Logistics can assign unexpected orders at once to a driver on the road, since based on the mileage they can see who is closest to the loading site. Indaver Log+ trucks will be fitted with this system this year.

■ Driver training

Indaver Logistics and Indaver Log+ insist that their drivers be aware of the latest legislative amendments to the highway code and safety, and are familiar with organisational changes such as the layout of the container yard or truck and container maintenance. This is why they organised various refresher courses in 2011. Indaver Logistics and Indaver Log+ provided the legally required professional competence driver training. Drivers at Log+ were also given a fuel efficient and defensive driving course on two occasions. This will be repeated on a regular basis for new recruits, with a focus on fuel consumption awareness.

■ Energy-efficient vehicles

Indaver Logistics and Indaver Log+ are systematically replacing their older Euro 2 engine-equipped trucks with new units fitted with Euro 5 engines. The latter boast much lower emissions. Four trucks were replaced in 2011. Two thirds of Logistics vehicles are now equipped with at least a Euro 4 engine, and at Log+ apart from a few exceptions, all trucks have Euro 4 and Euro 5 engines.

■ Efficient transport

In Flemish Brabant Indaver Logistics waste collection vehicles or container trucks take household waste (around 145,000 tonnes a year) to 4 different intermediate storage locations. There the waste is loaded into high-cube (walking floor) trailers for efficient transport. Although this has been

done this way since 2005, as from July 2011 they have been disposing of another 20,000 tonnes of bulky waste a year via these transfer centres.

■ Optimising routes

Given the more stringent conditions for ADR waste collected by Log+, due to the hazards associated with its storage and packaging, intermediate storage is kept down to a minimum. Most customers try to bulk up their waste to the optimum, such that Log+ curtain-side trailers or tankers can be fully loaded. They can then take the waste straight to the treatment centre.

If a customer has only a limited quantity of waste to be collected, Indaver Log+ makes every effort to combine these small loads with other part shipments (consolidation). This enables us to optimise routes, our trucks eat up fewer miles and emit less CO₂.

Indaver is limiting emissions with more efficient routes and energy-saving vehicles.



■ Log+ Kallo

Log+ Kallo has introduced innovations in order to cope with the increased share in the market with Indaver Gevaarlijk Afval in Hoek. Intermodal transport is coming into the picture (delivery of hazardous waste from Bonfol/BASF by rail). Log+ Kallo has also started with hubs, which save drivers from having to travel unnecessary mileages before starting their job. There are more tank containers and trailers, so they can be better targeted, requiring less frequent cleaning. Log+ can increase the frequency of what is known as the 'milk round' (successive consignments), as well as being able to take on return consignments, e.g. delivering to Hoek and carrying a load for Antwerp.

■ Waste by rail to treatment with energy recovery

Indaver is a major partner for the remediation of a former Swiss landfill site for hazardous waste. In its European thermal treatment facilities in Antwerp, Biebesheim and Hamburg, most of the landfill ground excavated is being treated safely and energy recovered from it. Transport to the facilities is also carried out sustainably, by rail, using dedicated skips. The project will take around four years.



“Indaver is systematically reducing the ecological footprint of its logistics.”

GERMANY

Partnerships for sustainable business

Indaver Deutschland offers its customers in Germany and beyond waste management and waste treatment systems. As part of the Indaver Group, HIM has been the official main contractor since 1972 for treating industrial and hazardous waste in its own state of **Hesse**, a densely populated industrial area.

This is the reason for Indaver being a member of the Hesse Environmental Alliance. This collaborative association was set up in May 2000 by the state government and Hesse entrepreneurs. Its intention is to boost sustainable and ecological business in the state, to make Hesse more attractive for business and reduce bureaucracy and unnecessary inspections for companies.

Currently there are 1,080 participants. They have achieved a great deal with the Environmental Alliance: simplified procedures for participating businesses, more individual responsibility for compliance with statutory standards, less consumption of natural resources, lower cost waste

treatment, better cooperation with regulatory authorities, faster information transfer and an improved corporate image.

A similar partnership also exists between industrial firms in Hamburg, including AVG-Indaver Deutschland and the city of **Hamburg**. The intention of the Hamburg Environmental Partnership is to promote doing business sustainably and being economical with raw materials. Environmental protection and economic results go hand in hand in this partnership. AVG plays a part in the partnership with its environmental management, energy management and material recovery systems.

4. RESULTS

MATERIAL RECOVERY

In all its operations Indaver seeks to complete cycles and recover materials. Only very small quantities of residual materials are ultimately disposed of in landfill.

We combine far-reaching material recovery with converting waste into energy. Our innovative approach and on-going quest for improvement enable us to optimise our processes and deliver ever-better products and services. We observe that, throughout Europe, those Member States with a well-established Waste-to-Energy infrastructure also achieve the highest recycling rates.

■ Sustainable material management

Indaver is highly active in efficient material recovery for beneficial use or recycling. Indaver has sorting, cleaning and recycling facilities for materials including PMD (plastic bottles and packaging, metals and drinks cartons), plastics, mercury-containing lamps, hydrochloric acid and solvents. Bio-organic materials such as VGF and green waste are converted into compost or biomass. We enable optimum recycling to take place by efficiently sorting and cleaning selectively collected waste streams. The materials recovered meet the most stringent requirements and standards in the recycling industry, so a sound end-product is obtained.

We try to recover as much material as possible during thermal treatment as well. Reusable and recyclable fractions are removed in advance in Belgium and Germany. Maximum material recovery after incineration in grate incinerators is achieved thanks to advanced ash treatment.

■ PMD: the sustainable cycle economy

The PMD sorting facility (PMD = plastic bottles and packaging, metals and drinks cartons) at the Milieupark in Willebroek is capable of treating 30% of source separated PMD collected in Flanders. During the sorting process no impurities or hazardous substances must end up in the recyclable fractions. Not only are these raw materials subsequently reused for industrial processes, such as building materials, but also for everyday products, such as fleeces, mattress fillings, toilet paper or tin cans.

■ Precise PMD recycling thanks to innovative methods

Indaver is constantly refining PMD sorting with the best available technology in order to comply with the increasingly stringent recycling industry criteria. The high-tech optical separators are at the heart of the PMD facility. In order to render the material even more recyclable, in 2011

Indaver supplies system for reusing sludge



Impex, part of Indaver Nederland, designed and built two facilities in 2011 to the customer's specification. These facilities are an essential link in the waste re-use chain. With the first new Impex facility, at Tata Steel in IJmuiden, sludge from gas scrubbing can be reused. Around 250,000 of sludge are treated annually at Tata Steel. After pressing this new facility produces 100,000 tonnes of filter cake that Tata Steel utilises again in the production process.

The second Impex project in 2011 was for a customer in the food industry. It involved a sludge dewatering facility with an additional washing stage for the sludge cake. Impex designed this facility at the customer's request. It is capable of separating the sulphur out of the sludge cake, thus enabling the fertiliser industry to use the cake again. A Build-Own-Operate (BOO) contract has been signed with this customer.

Indaver Impex is an expert in solid and liquid material separation. It utilises mobile facilities or implements complete BOO projects in which Impex takes full charge of a company's waste management relieving the customer of it. Indaver had already built a hydrochloric acid regeneration facility (AROC), previously at the Tata Steel site in IJmuiden.

Indaver expanded its sorting facility with a ballistic separator. Indaver uses it to eliminate film/foil and minor residues, which are products that do not belong in PMD, from the sorting process, thereby making the sorting process more precise.

■ Quality Assurance

The majority of PMD originates from households and is delivered on behalf of public authorities. Fost Plus (a private organization for the selective collection, sorting, and recycling of household packaging waste in Belgium) and the public authority jointly draw up the schedule of requirements for treatment, describing in detail for each type of material the stringent quality requirements that the materials must meet once sorted.

Fost Plus audits

Every two months on average, an accredited inspection agency carries out quality audits for Fost Plus on the bales of plastic bottles and drinks cartons in the sorting centres. No more than 5% of the input flow may be lost in the residues, the types of material in the PMD must therefore have a very high degree of purity.

Quality audits Fost Plus

Type of material	Number of audits in 2011	Average purity
clear PET	15	99 %
blue PET	7	99.4 %
green PET	7	99.3 %
HDPE	6	99.6 %
Drinks cartons	6	99.4 %
Metal	No measurements in 2011	
Non-ferrous	1	93.2 %

Indaver internal checks

Indaver Willebroek conducts its own checks in order to be a step ahead of the Fost Plus audits and to adjust the sorting process in good time. All PMD deliveries are given a visual check first. In addition to this a quality inspector carries out process checks on end-products and/or on residues twice a day on average.

The recycler checks

Finally the purchaser of the materials is also entitled to return the products if they fail to meet the requirements. Fost Plus audits final processors for end-product quality and applications. In 2011 recyclers sent back neither batches nor individual bales.

Data traceability

All PMD collection, sorting and recycling partners must register their data in a central database (Profost). This ensures that every load is identified, from collection to the end-application. In addition to this the bales of sorted products are labelled so each bale can be traced to its source.

Indaver also has a PMD collecting and sorting centre in the Dutch town of Goes. In 2011 2,372 tonnes of PMD were sorted and cleaned.

■ Paper recycling

New paper of various types, insulation materials and fillers are made from old paper and paperboard recovered by Indaver Willebroek. Various grades of paperboard are recycled to produce all kinds of high-grade packaging.

Indaver collects paper and paperboard for recycling from public authorities as well as businesses. In Willebroek Indaver treats paper in accordance with the specifications of the recycling industry at home and abroad.

Paper shredding is a significant pre-treatment technique with a view to recycling. This enables wrapping film around advertising printing to be separated from the paper. This gives pre-treated paper a high degree of purity.

Businesses or public authorities wishing to destroy confidential documents can also have them shredded at the Milieupark.

Indaver lists no fewer than 60 different grades of paper, which offers attractive possibilities for manufacturing recycled paper made up to order.

In Goes, the Netherlands, Indaver has a facility where paper and paperboard are recycled, accounting for 31,264 tonnes of recycled material in 2011.

Most advantageous package

Indaver advises businesses on the most advantageous package for their waste and investigates whether recyclable packaging waste qualifies for the **Val-I-Pac** bonus. Indaver Willebroek is the key partner in this bonus system. Both the customer and Indaver Willebroek can benefit financially from a declaration. Indaver is also an accredited **Recovinyl** recycling firm. Collaboration with Recovinyl means customers receive a subsidy from Indaver for every tonne of PVC waste they deliver.

4. RESULTS

■ Solution for every type of plastic

Indaver also treats all types of packaging film, building film and agricultural film in Willebroek. These are sorted by grade and pre-treated for various recycling applications at home and abroad. Film is baled up here, ready for shipping.

Hard plastics are sorted by colour, type and grade prior to being shipped to the recycling industry. There they are processed into regranulates, to be utilised along with new plastic granules in the manufacture of new plastics.

If recycling is not an option, the plastics are treated in the pre-treatment facility for high calorific waste in Doel. There they are processed into pellets to be used as fuel for lime and cement kilns.

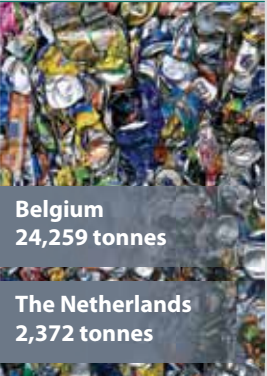
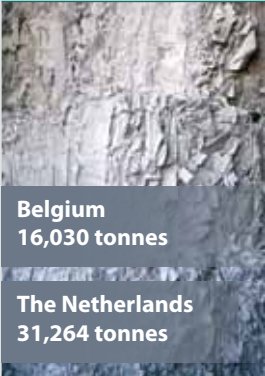


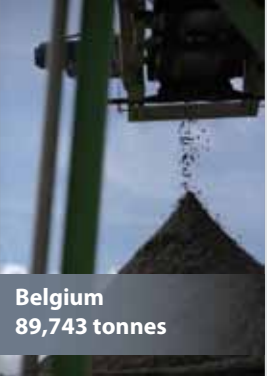



Willebroek is therefore a genuine knowledge centre for processing plastics. The best processing method is determined based on the type of plastic on offer from the customer, enabling Indaver to offer its customers a package for all plastics.

■ Lamp recycling

The recycling facility for mercury-containing lamps in Doel treats around 30 million lamps a year. All lamps containing mercury, which are segregated at source, collected in Belgium and half the lamps collected in the Netherlands are treated in this facility. Using advanced techniques, we can recycle up to 95% of the material, mainly glass and metal. The materials are cleaned using advanced separation technology. These lamps contain small quantities of mercury which is removed in safe conditions.

The fluorescent powders in these lamps also contain elements and metals that are not being recovered yet at this time, but for which there is increasing demand on the international market. These are known as rare earth elements or rare earth metals. Indaver is involved in a knowledge platform that is researching how these materials can be recovered.

Materials recovered in own facilities

<p>PMD</p>  <p>Belgium 24,259 tonnes</p> <p>The Netherlands 2,372 tonnes</p>	<p>Paper</p>  <p>Belgium 16,030 tonnes</p> <p>The Netherlands 31,264 tonnes</p>	<p>Plastics</p>  <p>Belgium 2,512 tonnes</p>	<p>Green/VGF</p>  <p>Belgium 29,833 tonnes</p> <p>The Netherlands 395,170 tonnes</p>
<p>Bottom ash*</p>  <p>Belgium 89,743 tonnes</p>	<p>Solvent recovery</p>  <p>Belgium 2,046 tonnes</p> <p>Ireland 1,163 tonnes</p>	<p>Hydrochloric acid regeneration</p>  <p>The Netherlands 112,040 tonnes</p>	<p>Waste containing mercury</p>  <p>Belgium 3,149 tonnes</p>

* Bottom ash that is re-processed in the ash treatment facility at the Doel site.



Indaver is working together on EU policy for maximum recycling

HOW TO CLOSE THE MATERIALS CYCLE

Europe's high-tech economy cannot function without raw materials, but it is highly dependent for their supplies on increasingly costly imports of these raw materials. In order to gain greater independence from raw material producing regions, Europe is recommending recycling as much as possible. Indaver has a part to play in this. It currently does this through research and operates on various platforms aiming to close the materials cycle.

Fisch

Indaver is a member of the FISCH non-profit association. FISCH is a project operated by Essenscia Vlaanderen, the Flemish section of the chemical industry federation. FISCH stands for Flanders Strategic Initiative for Sustainable Chemistry. This non-profit association aims, through sustainable innovations, to ensure that the Flemish chemical, plastics and life sciences industry maintains its position of leadership. As a service provider to the chemical industry, Indaver is able to implement projects to close the material and energy circuits.

Creasistre

Our company is also closely involved with the Creasistre project. This stands for 'creative valorisation of side streams'. The intention is to facilitate collaboration between businesses or industrial sectors on (waste) materials. Accordingly, one business will be able to utilise (waste) materials from another business in its production process, thus reusing or recycling them. The first implementations are scheduled for 2012.

Flemish Algae Platform

Indaver is also part of the Flemish Algae Platform, which researches how algae can be used to remove contaminated components from waste water (NO_x) and flue gases (NO_x and CO_2).

Knowledge platform

The knowledge platform recycling rare earth metals is also showing promise. Rare earth metals are not actually rare, but they rarely occur in concentrated form on Earth (in ores for instance). Rare earth metals are used in many new technologies, from wind turbines to hybrid



vehicles, including computer screens. There are fractions of these metals in mercury-containing fluorescent lamps, for instance, which are treated in the Indaver Relight facility in Doel. These fluorescent lamps are therefore a potential source of rare earth metals. Because the supply of these rare earth elements does not keep up with demand, more and more industries in Europe are seeing the benefit of more efficient recycling to recover these raw materials. This can be achieved by collecting, treating and recycling end-of-life products containing essential raw materials more efficiently such that valuable rare earth elements are not lost. Indaver is also involved in projects to recover these raw materials.

Pictures:

1-3. Indaver Relight

2. Pilot project: Flemish Algae Platform

4. RESULTS

■ Solvent recycling

In Antwerp, Indaver prepares solvents with boiling points between 55 °C and 220 °C for recycling. This facility consists of a thin-film evaporator with an annual capacity of 8,000 tonnes of contaminated solvent. The solvent is evaporated using heat recovered from the rotary kiln incinerators. This facility guarantees high output and high quality. The solvents are suitable for re-use after this treatment.

In Dublin, Ireland, Indaver also operates a solvent treatment plant. After processing, the solvent is suitable for re-use or can be utilised as a secondary fuel.

Indaver recycled around 3,000 tonnes of solvents in 2011 in its facilities in Belgium and Ireland.

■ Hydrochloric acid recycling

The hydrochloric acid regenerated by AROC fulfils the Build-Own-Operate contract between AROC and Tata Steel. No instances of quality non-compliance were found in 2011.

■ Treating biowaste to produce biomass and compost

Indaver treats biowaste to produce compost and biomass in both Belgium and the Netherlands. This consists of household VGF waste, organic industrial waste and green waste from businesses, gardeners and local authorities. The compost, a good soil improver, is used in agriculture and horticulture. The biomass replaces primary fuels in power stations. (see pages 28-29)

■ Recovery of materials through thermal treatment

Grate incinerators

Of the total quantity of waste treated in grate incinerators, less than 3% is disposed of in landfill as a residual fraction after ash treatment. Ash treatment in fact processes the bottom ash from the grate incinerators into various useful end-products: ferrous and non-ferrous metals, granulates and a sand fraction. The metals are sold as a secondary feedstock. The granulates are used as shaped or bulk construction materials, e.g. in foundations. The sand fraction is put to beneficial use in construction or stability applications at landfill sites.

Fluidised bed facilities

In the fluidised bed incinerators the metal fraction is largely removed beforehand. In the pre-treatment facility, this fraction is cleaned to recover high calorific waste (HCW) enabling it to be reused.

Rotary kiln incinerators

Slag treatment removes iron from the bottom ash originating from the rotary kiln incinerators resulting in a high-grade metal fraction for recycling. In the rotary kiln incinerators the emphasis is more on treating hazardous waste in an environmentally-friendly manner.

■ Material recovery through our participating interests in third parties

Besides its in-house recycling activities, Indaver has established a wide range of recycling operations through participating interests and joint ventures. Indaver makes a major contribution in this way to recycling source separated waste. Through its participating interests in SPANIN and VLAR Papier, Indaver makes a contribution to recovering over 600,000 tonnes of wood and paper.

“Indaver wants to recover as many materials as possible and convert waste into energy.”



SUSTAINABLE USE OF ENERGY

■ Energy saving and energy recovery

Indaver endeavours to use energy rationally in all its facilities and aims to use primary fossil energy sources as little as possible. We pursue this aim both in our facilities and in our logistics operations.

We also use innovative technologies as much as possible to recover energy from waste. Moreover, thanks to extensive energy recovery from incineration, many of our facilities have almost no need for fossil fuels any more. On the contrary, they generate energy themselves that we use in our buildings and facilities and supply to neighbouring firms or families.

■ Limiting the use of fossil fuels

We aim to use fossil fuels as little as possible in thermal processing of industrial and hazardous waste. In the first place we use high calorific value waste as a substitute fuel in order to operate the incinerator at its optimum. A good waste mix enables low calorific value hazardous waste to be destroyed in this way without fossil fuels. The energy released during this thermal processing is subsequently recovered via the steam boiler. This recovered energy is used directly in the form of steam or converted into electricity in a turbine.

Rotary kiln incinerators

In 2011 the rotary kiln incinerators in Antwerp treated 123,389 tonnes of waste. The energy content of the steam (at 20 bar and 215 °C) generated by the rotary kiln incinerators in 2011 amounted to 822,963 GJ. Of this, 91,177 GJ was due to consumption of fossil fuels (waste oil and fuel oil). Around 90% of the energy recovered in the boiler originated from the waste processed. Indaver uses part of this steam directly, to distil solvents and heat buildings for instance. A turbine rated at 3.3 megawatts generates electricity from the remainder of the steam. In 2011, Indaver generated 20,737 MWh of electricity at the Antwerp site.

The rotary kiln incinerators in Biebesheim treated 112,504 tonnes of waste. Energy recovery in the boiler amounted to 767,877 GJ. 134,574 GJ were due to consumption of fossil fuels.

The rotary kilns in Hamburg processed 134,335 tonnes of waste. Energy recovery in the boiler amounted to 1,273,327 GJ. Just 231,406 GJ were due to consumption of fossil fuels. 33% of the energy recovered was used on site in the form of steam. The remainder of the steam was used to heat buildings in the surrounding area. By supplying

Indaver builds new steam turbine in Doel

Building a new steam turbine has enabled Indaver to supply Electrabel with steam as well as generating additional electricity with the steam from the grate incinerator in Doel.

The construction of this steam turbine was already included in the design of grate incinerator 3 in 2001. However at the time Indaver preferred to recover the steam as heat and not to build a turbine itself. For this Indaver entered into a 15-year contract with Electrabel. Electrabel installed a steam pipeline and in turn sold the steam to a neighbouring business. The contract in question will soon expire.

Indaver will now go ahead and install the turbine, giving it maximum

flexibility, so it can choose either to supply steam to Electrabel or to generate electricity itself.

Work for the turbine starts in April 2012, the turbine itself will be installed in August. The project is a joint initiative by Indaver and SITA and will start operating in November 2012.

The new turbine will be capable of absorbing 111 tonnes of steam per hour, generating 24 MW of electricity. This third turbine means we can generate a maximum of 87 MW of electricity in Doel in total. On average we will be generating 75 MW, sufficient for 170,000 homes which is roughly the population of the city of Antwerp.



4. RESULTS

heat directly to Hamburg's district heating main, the facility achieves very considerable savings in primary fuels, attaining very high energy-efficiency, as a result of which the incinerator should qualify in due course for R (recovery) status.

Grate incinerators

Grate incinerator technology is the most environmentally sound and forward-looking choice for final treatment of a great deal of non-recyclable residual waste, given that these incinerators are the most efficient at recovering energy. The waste is treated using the energy content of the waste itself. It is only during the start-up phases – e.g. after a shut-down – that fossil fuels are used.

In 2011, 99% of the energy recovered in the boiler was generated from the waste treated. Energy recovery from fossil fuels amounted to just 31,221 GJ. In 2011 the grate incinerators treated 383,348 tonnes of waste. The energy content of the steam (at 40 bar, 400 °C) generated from flue-gas cooling in the grate incinerators was approximately 3,165,927 GJ. Around a third of the steam generated was used as process heat in a neighbouring chemical factory, the remainder was converted into 142,170 MWh of electricity.

Fluidised bed facilities

Rational energy management was an important consideration right from the design stage of the fluidised bed incineration facilities. The facility converts the energy content of the waste into electricity.

In 2011 the three fluidised bed incinerators treated 559,870 tonnes of waste. The energy content of the steam (at 40 bar, 400 °C) generated in cooling the flue gases in the fluidised bed incinerators amounted to approximately 3,763,274 GJ. Energy recovery from fossil fuels amounted to 27,620 GJ. Over 99% of the energy recovered in the boiler was due to waste treatment.

The fluidised bed incinerator steam turbine generator generated 329,766 MWh of electricity in 2011. Of this, 306,650 MWh were from fluidised bed incinerator steam and 23,116 MWh from grate incinerator steam.

Energy recovery 2011

Rotary kilns Antwerp

Energy recovery in the boiler	822,963 GJ
Process steam, on-site use	176,372 GJ
Electricity generation	20,737 MWh
Electricity purchase	4,868 MWh
Electricity, external use	1,143 MWh
Electricity use, rotary kilns	19,973 MWh
Electricity use, solvents	224 MWh
Electricity use, Physicochemical 1/2	649 MWh
Electricity use, other on-site installations	3,461 MWh

Rotary kilns Biebesheim

Energy recovery in the boiler	767,877 GJ
Electricity generation	25,716 MWh
Electricity purchase	1,942 MWh
Electricity, external use	3,800 MWh
Electricity, on-site use	23,858 MWh

Rotary kilns Hamburg

Energy recovery in the boiler	1 273327 GJ
Process steam, on-site use	422,700 GJ
Steam external use	242,252 MWh
Electricity purchase	22,273 MWh
Electricity, on-site use	22,273 MWh

Grate incinerators Doel

Energy recovery in the boiler	3,165,927 GJ
Process steam, on-site use	176,617 GJ
Process steam to Fluidised bed incinerator	269,286 GJ
Process steam, external use	964,312 GJ
Electricity generation total	142,170 MWh
Electricity, on-site use	30,074 MWh
Electricity, external use	112,096 MWh

Fluidised bed incinerators Doel

Energy recovery in the boiler	3,763,274 GJ
Process steam, on-site use	103,650 GJ
Process steam, external use	0 GJ
Electricity generation	
Fluidised bed incinerator steam *	306,650 MWh
Electricity generation grate incinerator steam *	23,116 MWh
Electricity, on-site use	78,098 MWh
Electricity, external use	228,552 MWh

*Total electricity generation = 329,766 MWh

Climate

Supplying steam and electricity to the surrounding area

In Doel, Indaver generates energy from the thermal treatment of household waste, comparable industrial waste and sludge. We investigated how we could sell this energy in the form of steam or electricity to the area surrounding the site. We have taken stock of the possibilities and this will be implemented in the next few years.

Renewable energy – CO₂ emission balance

Part of the waste treated thermally in the grate incinerators and in the fluidised bed incinerators is organic/biological; it is a source of renewable energy. An equal proportion of the electricity generated is therefore considered to be green electricity. Indaver is a major generator of green electricity thanks to its Doel site.

The CO₂ emissions are the total emissions from waste incineration that contain both a biodegradable and a fossil fraction. CO₂ is always produced in thermal treatment.

In 2011, CO₂ emissions amounted to 973,096 tonnes for Doel and 121,895 tonnes for Antwerp. In Doel over half of the CO₂ originates from biomass and is therefore climate-neutral. In Germany, CO₂ emissions totalled 119,898 tonnes for Biebesheim and 140,493 tonnes for Hamburg. By recovering energy during waste incineration, we avoid releasing half the CO₂ that would be emitted if we were to generate energy using fossil fuels.

Smaller ecological footprint for logistics and business processes

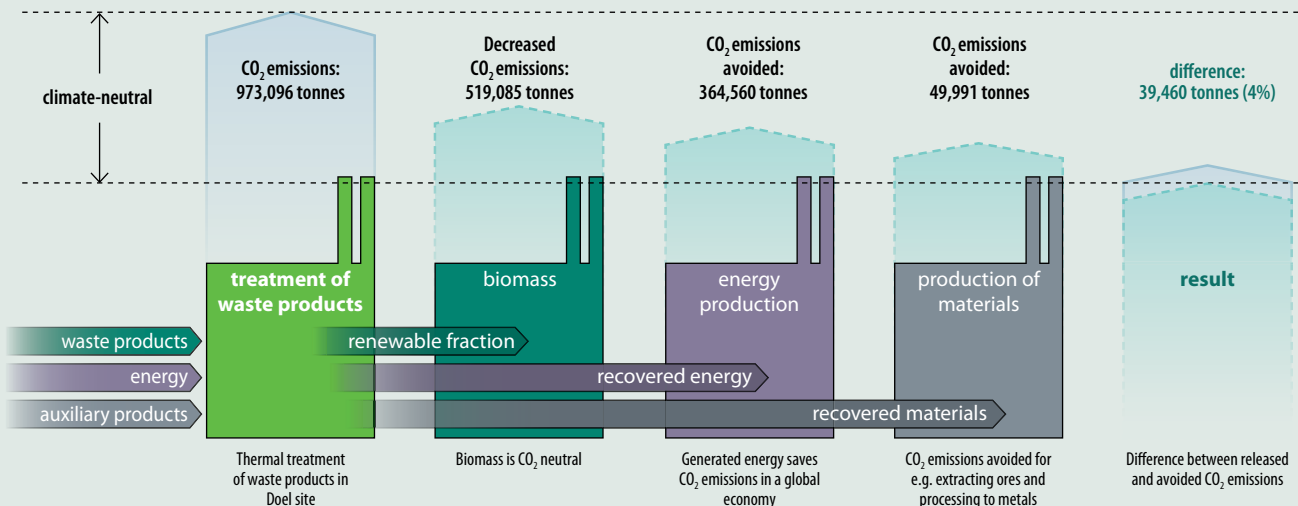
Indaver is cutting down the use of fossil fuels in all its operations. Accordingly, we are systematically reducing the ecological footprint of our logistics. We invest in environmentally friendly trucks, optimise routes and promote responsible driving behaviour in our drivers. Indaver encourages its employees to use energy frugally in every activity – whether it involves office lighting or running company vehicles. (see page 53)

Doel site climate-neutral thanks to energy and material recovery

By recovering energy in thermal waste treatment, we avoid releasing CO₂ elsewhere for generating energy using fossil fuels. In the course of the treatment metals are also being recovered directly from the waste and bottom ash for the recycling sector. Extracting these metals from ore would require a great deal more energy therefore drawing on fossil fuels to a greater extent.

The 2011 CO₂ emissions balance for the grate incinerators and the fluidised bed incinerators gives an overview of

the total quantity of CO₂ emitted relative to the quantity avoided. The chart shows that the balance for the thermal treatment facilities for household waste, comparable industrial waste and sludge is climate-neutral. The last column shows the result of CO₂ emissions minus the CO₂ emissions based on renewable energy sources and the CO₂ emissions avoided. This difference amounts to only 4% of the initial volume of CO₂ emissions and can be considered to be climate-neutral.



4. RESULTS

Energy cluster around Indaver Antwerp

An energy cluster has been set up around the Indaver site in Antwerp which will potentially enable it to avoid 45,000 tonnes of CO₂ emissions a year.

The two rotary kiln incinerators and the new MediPower facility on the site generate steam that is converted in two turbines into 4.5 MW of electric power and 28 MW of residual heat at 105 °C. The site uses this electricity firstly for its own facilities, the balance being fed into the grid. Indaver uses the steam for solvent recycling, degassing boiler water and for air preheat.

Indaver is looking for industrial applications with a continuous heat requirement for the remaining 28 MW of low-grade energy, which it has now found.

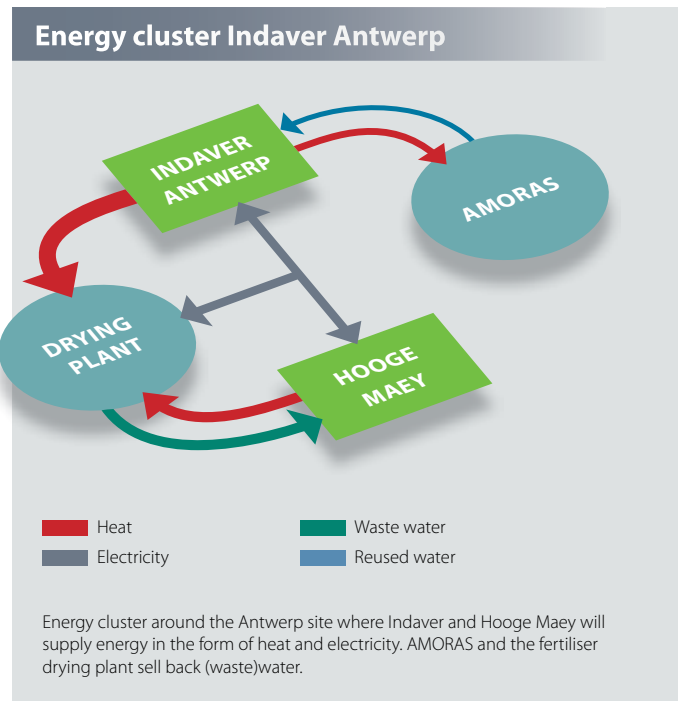
AMORAS buys heat

Work to maintain adequate depth in the Port of Antwerp yields around 500,000 tonnes of dredging spoil a year. The Port of Antwerp has its dredging spoil treated by mechanical dewatering which produces the filter cake. The AMORAS project for recycling mechanically dewatered dredging spoil was set up for this purpose.

AMORAS will take the heat necessary for its process from the Indaver site in Antwerp. In 2011 a hot-water pipeline carrying water at 90 °C was laid to the AMORAS facilities, providing heating for their buildings. In a second phase the water purification efficiency is to be stepped up by heating it. Indaver Antwerp in turn will take water from AMORAS to be used as process water.

Interaction with neighbouring fertiliser plant

Indaver and the Hooge Maey Intermunicipal Waste Association intend to dry the digestate from the fertiliser treatment at a neighbouring fertiliser plant to produce marketable fertilisers. In addition to the residual heat from the Antwerp site, they also intend to use residual heat from Hooge Maey. By virtue of this project, in addition to heat, Indaver and Hooge Maey will be supplying services such as electricity, compressed air and water. Contaminated water can go to the Hooge Maey water purification plant.



THE NETHERLANDS

Indaver supplies wood chips for efficient biomass power station

Around 450,000 tonnes of poultry manure are incinerated every year at the Moerdijk biomass power station, from which the heat is converted into electricity. Due to the minerals they contain, the ashes are used as fertiliser. During the winter months however, the quality and especially the calorific value of the manure go down. Consequently, during this period Indaver Nederland supplies naturally dried wood chips.

The chips are added to the chicken manure in order to keep up the calorific value. These wood chips are inspected beforehand and dried naturally at DELTA Milieu Groencompost in Moerdijk. If the Biomass power station requires it, they will be inspected once again for their calorific value and then delivered to ensure that combustion in the power station is kept at the optimum.





MediPower

SUSTAINABLE SYSTEM FOR MEDICAL AND SENSITIVE WASTE

The innovative MediPower facility for thermal treatment of medical and sensitive waste at the Antwerp site was started up in March 2012. Indaver has invested 30 million euro in its construction.

MediPower will be capable of treating 30,000 tonnes of hazardous waste, usually hazardous medical waste, other packaged waste such as pharmaceutical waste and empty packaging, and liquid waste such as waste water and solvents. This new facility enables Indaver to guarantee the necessary treatment capacity for medical and sensitive waste from Flanders and beyond. It can offer customers the most sustainable packages, avoid risk and recover as much material and energy as possible, and do so at the best price.

MediPower is a rotary kiln incinerator, the best available technology for treating waste safely and sustainably. Thanks to the latest technological developments the waste is gasified in the rotary kiln in an environmentally safe manner. With MediPower, Indaver supplies customers with a safe 'one stop shop' package – treatment takes place at one location. Indaver has in fact developed a unique feed system for packaged waste. A separate receiving bay provides direct access to 4 automatic feed lines; the waste is taken by a lift directly to the facility. For liquids, MediPower has a connection to existing tanks and a direct injection line so there is no need to transfer them by pumping. There is no exposure to people or the surroundings, which eliminates any risk.

MediPower also enables Indaver to achieve maximum material and energy recovery. The energy released on incinerating the medical waste is put to beneficial use. Indaver heats its own offices with the steam being generated. On being converted into electricity it is used for on-site facilities or fed into the grid. Once MediPower is running at full power, Indaver Antwerp will be generating enough energy from waste treatment for around 14,000 homes. Usable metals are also recovered from the bottom ash in the rotary kiln incinerators.

4. RESULTS

■ Indaver Deutschland uses energy management system to reduce CO₂ emissions

AVG – Indaver Deutschland promised back in 2007 by appending its signature to the Declaration of Intent on the Hamburg Climate Protection Initiative, to help reduce CO₂ emissions by 80% by 2050. In order to achieve this objective Indaver Deutschland has introduced an ambitious energy management system that was certified at the end of 2010. This system identifies where the business can save energy, after which methods are sought to achieve this.

Greater transparency

Having analysed the company's data, AVG was able to determine where energy could be saved. This energy audit has made the business more transparent. As a result, AVG can now establish in a timely manner whether there are discrepancies in the processes and whether the proposed measures are actually working. As a result they are able to track down other opportunities for savings more quickly.

Energy team

Every month an energy team discusses the energy data and the projects to optimise it. It exchanges information with the departments and develops projects aimed at improvement. In 2011 there were additional measurements to make consumption more transparent. In 2012 there will be a new compressed air system, which will not only achieve substantial savings in energy consumption, but also enable heat recovery to take place.

Reduced levy

The certification of the energy management system enabled AVG to apply in 2011 for a reduction in the EU levy for 2012. This EU levy is recalculated every year and collected with the electricity bill. This application was approved in December 2011. It is expected that AVG will see a reduction in its electricity costs of around 24% as a result of this.

■ Eurits: gatekeeper for the recycling society

Indaver makes every effort to ensure that hazardous waste does not find its way into recycled products or into the food chain. That is why it was also there at the inception of Eurits, the European Union for Responsible Incineration and Treatment of Special Waste. Indaver has held either the chairmanship or the technical directorate for 15 years now.

Eurits is a recognised European lobby group representing over 90% of the specialist waste incineration sector in the European Union. It holds a watching brief on safe, lawful and environmentally sound waste incineration. Its 27 members operate 36 sites in 16 countries, with over 5,000 employees among them.

For Eurits hazardous waste incineration facilities are like the 'gatekeepers of the recycling society'. This waste incineration prevents hazardous waste from ending up in recycled products or in the food chain.

Eurits offers Indaver a European platform to unveil its vision, to boost awareness on incineration of hazardous waste, to make it clear why it is necessary and why it must take place in purpose-built facilities, in accordance with the most stringent sustainability standards.

Eurits follows European regulations closely and provides information to institutions such as the European Parliament and the European Commission on the technical background, protecting the environment and safety. In this way it intends to make political decision-making more transparent.

GERMANY

Biebesheim working on natural gas consumption

Indaver is engaged in a constant quest to reduce its consumption of fossil fuels. The conversion in June 2011 of a heat exchanger system into a biomass gasifier in line two of the incineration facility for industrial and hazardous waste in Biebesheim showed a great deal of promise.

The extent of the success of this measure is evident from the natural gas consumption for the facility: a 46% fossil fuel saving has been achieved since June 2011. This cut costs by 41,000 euro. This investment has resulted in the facility not only saving fossil fuel but also reducing its CO₂ emissions by 200 tonnes.

Indaver Deutschland is pleased with the facility's higher efficiency, lower energy bills and positive impact on the environment. It will therefore be making further investments in 2012 for a similar system in line 1.



A person is holding a white notepad and a black pen in the bottom left corner. The background is a wall of yellow lockers, with a dark teal horizontal band across the middle containing text.

CONNECTED BY INNOVATION

In order to attract talent, Indaver has to have an appealing employer's image. One of the ways Indaver is burnishing its reputation is via a new international career site. Indaver employees are *connected by innovation*, as the site's slogan says, with a career at the cutting edge of waste management.

5.

HUMAN RESOURCES

A company that allows space for talent

At Indaver sustainability is at the forefront. Thanks to the experience, knowledge and commitment of our employees we can innovate and excel in this aspect. Accordingly, we aim to offer them a stimulating environment in which they can develop their talents to the full. This means investing in training, sharing knowledge and developing skills.

68

GROWING WORKFORCE

As of 31 December 2011 the Indaver Group had a workforce of 1,685, an increase of 69 over 2010. Around half this increase in manpower is down to Ireland (36) with the new facility in County Meath starting up. In Belgium, the Netherlands and Germany there was a limited but steady increase in the numbers employed. One in four employees is female.

■ Satisfied employees

We have a satisfied workforce, which is evident from the low turnover, among other things. In 2011, the average employee turnover for the entire group was 5.93%, against 5.45% for the previous year. There was no turnover in Portugal or Italy; in Belgium (4.70%), Germany (4.98%) and the Nether-

lands (6.20%) turnover was low, although the labour market in these countries is now tight.

The average rate of absenteeism for the Indaver Group (2.56%) also remained very low in 2011 and was actually down compared with 2010 (2.83%). These figures do not include absences due to maternity leave.

Low turnover also means a high average length of service in the workforce, with Germany in the lead (14 years) followed by the Netherlands and Belgium (9 years).

Number of employees in 2011

	male	female	total
Belgium	479	180	659
The Netherlands	241	49	290
Ireland	117	48	165
United Kingdom	20	3	23
Germany	419	115	534
Portugal	6	2	8
Italy	3	3	6
total	1,285	400	1,685

Turnover and absenteeism (in %)

	turnover	absenteeism
Belgium	4,70	3,20
The Netherlands	6,20	6,19
Ireland	11,90	0,50
United Kingdom	20,60	1,40
Germany	4,98	4,98
Portugal	0	0,64
Italy	0	0,80
Group	5,93	2,56

5. HUMAN RESOURCES

Average seniority	
	seniority
Belgium	8,7
The Netherlands	9
Ireland	3,9
United Kingdom	7,3
Germany	14
Portugal	4,16
Italy	4,4

For the future we need to try to keep the age profile in consideration, especially in Germany and the Netherlands. In Germany and the Netherlands 1 in 3 employees is over 50, in Belgium it is 1 in 5. Indaver will ensure in years to come that the expertise and skills of its personnel are transferred and not lost.

■ Training and education

Leadership training

Last year, in order to support the matrix structure, with the International Management Team and four Regional Management Teams, Indaver organised an International Indaver Leadership programme. It explored the concept of 'strategic leadership' in greater depth. Management teams from the 4 regions attended the course.

They learnt how to shape business strategy; how they can pass it on in an inspiring manner to their workforce; how they can make the new matrix structure work efficiently; and what leadership style Indaver needs and why. 74 managers from the 4 regions took part in the course, equivalent to a total of 1,184 training hours.

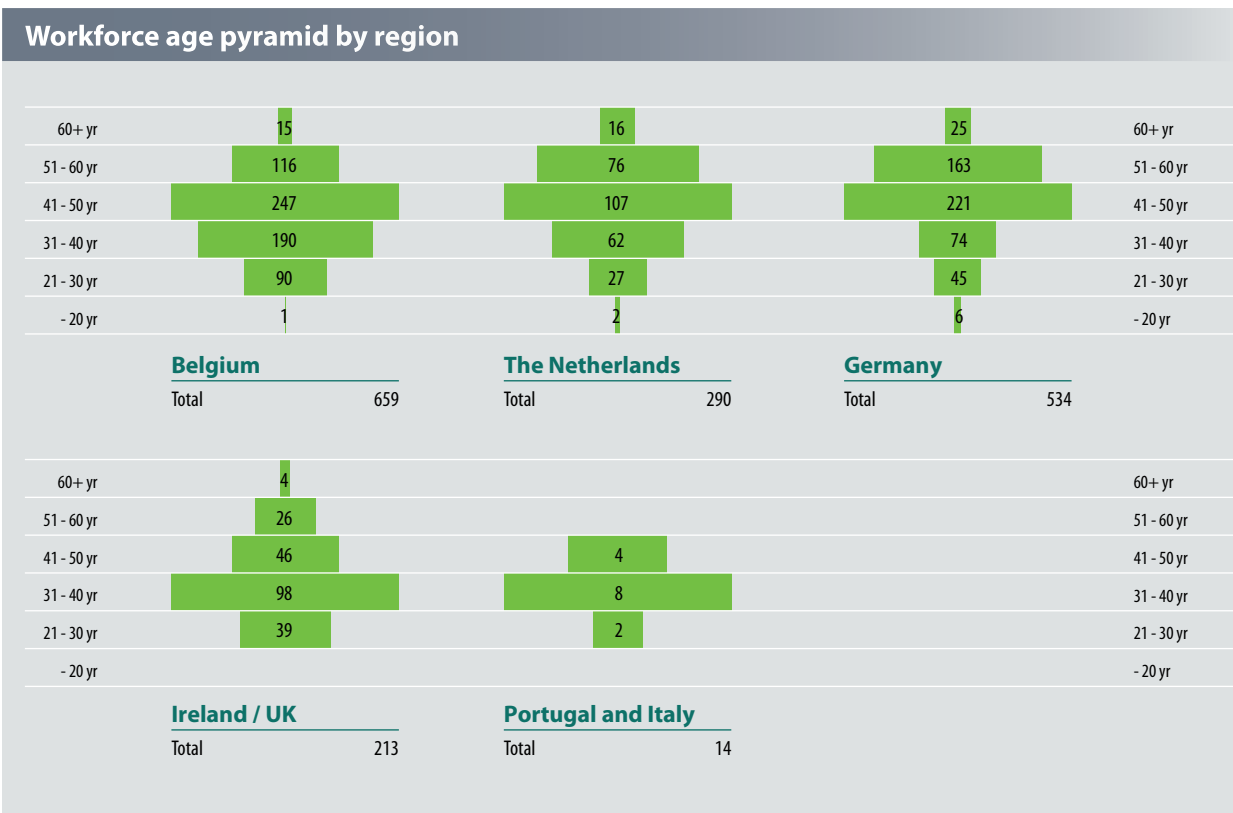
Training programme in Meath

In 2011 the new workforce for the Waste-to-Energy facility in County Meath, Ireland, were given a comprehensive and targeted training programme. This means that production and maintenance personnel have the expertise on board to operate the facility correctly and safely.

The training programme for the new facility start-up was very different from the familiar training programmes for new recruits, given that there was limited experience or knowledge yet that could be passed on from other employees in their region.

It consisted of 3 parts: an introductory programme that is the same for all employees; an operational training programme on safety of processes, technologies, equipment and systems; and shop-floor training supervised by the project team and guided by 5 Belgian fellow-operators.

On average the 35-strong workforce were given 16 weeks of theoretical training followed by 12 weeks of training on the shop floor. A quick calculation shows that this involved 38,000 training hours. All told, Indaver handed out 66 different course manuals and awarded 1,490 course certificates.



Safety courses in Belgium

Indaver invests in safety courses in order to motivate its workforce to work even more safely thus enabling us to prevent accidents at work. By doing so we also comply with statutory obligations in respect of safety education and training.

Safety courses

In 2011 there were 620 participants in the various safety courses in Belgium, amounting to a total of 3,800 training hours. The required courses for every production, maintenance and lab job function – and as from January 2012 for engineering job functions as well – are laid down in consultation with the heads of department. Every new employee systematically undergoes the safety courses for his or her job function. Employees are required to re-attend these courses regularly in order to retain their qualifications. The administration of these courses is managed in SAP TEM (Training Event Manager).

The Health & Safety department coordinates these safety courses, endeavouring in doing so to tailor them to each site, department or target group. Safety courses are continuously improved and the content fine-tuned. This applies to external courses, such as the annual fire-fighting training sessions for the production workforce and emergency teams, as well as to courses that outside providers conduct on our sites, e.g. for lift truck, aerial work platform or overhead crane operators.

Meanwhile Health & Safety has also developed a number of safety courses which it now puts on for the workforce; these include courses on risk assessment and basic and refresher courses for respirator mask wearers. In future H&S will be taking on responsibility for more safety courses, such as a safety administration course for managers tailored to Indaver, which they are currently working on. Outside the H&S department, Indaver has carefully selected some employees to conduct specifically tailored safety courses, such as ADR and fire protection systems.

At Indaver Deutschland managers attended workshops in order to gain greater understanding of risks and to improve safety courses. These were organised and conducted by the safety engineer. They were also given training by outside specialists on communication and motivation aimed at industrial safety.

In 2011 Indaver Nederland took part (together with 22 fellow businesses in the sector) in the 'Promoting safety awareness and behaviour on the shop floor' project. It aims for greater safety on the shop floor by encouraging the correct attitude and the correct behaviour in organisations through perception research and workshops. There was also a monthly campaign at the Dutch sites in which a safety topic was placed under the spotlight with posters and refresher courses.



5. HUMAN RESOURCES

PERSONNEL POLICY IN THE REGIONS

Indaver is gradually putting its personnel policy together in the various regions. On the one hand each region sets human resources priorities according to its needs; on the other we inject a number of different HR topics into the various regions that forge us into a single great international organisation. In 2011 the focus was mainly on leadership and employer branding.

■ BELGIUM

Indaver is working towards an attractive employer image

Indaver aims to keep on recruiting the right people, which is why it needs to enhance its brand awareness and raise the profile of its corporate image. Indaver can only generate enthusiasm for a job in potential candidates who are familiar with the company.

Until last year Indaver recruited mainly through traditional campaigns in the media and job channels. In order to reach candidates for employment, Indaver has now attuned its channels of communication more towards their social environment and interests.

Career website

In 2011 Indaver introduced a new, interactive career website under the 'Connected by Innovation' slogan, which shows what Indaver stands for. In video clips employees tell their potential future colleagues about the ambiance, the job functions and opportunities at Indaver. Those who are interested can also apply through this website.

In view of the fact that the other regions were also looking for a forum to address candidates, they all joined forces. An international business like Indaver aims to set out its stall with one vision and one story, while at the same time allowing the regions room to express their own individualities.

Social media

Companies need to look for employees where they can be found so the link with social media is soon made. Before getting down to work on this, Indaver drew up a social media policy, setting out guidelines for the use of these media. The social media channels have been integrated into the career website, so that anyone can easily circulate vacancies within his or her network and quickly find more information about Indaver.

Indaver will be extending this approach in 2012 so that all employees will have the option to act as ambassadors for Indaver if they choose. Moreover Human Resources will be relying more and more on social media: using Facebook, LinkedIn or Twitter to broadcast vacancies.

Student contacts

Indaver is tapping other channels as well, with a presence at the leading job fairs and since last year it has also been at job fairs in technical colleges, in view of the tight labour market for higher secondary technical profiles.

We invest in relationships with schools and students for plant visits and work experience. We take part in various projects to point youngsters in the direction of a job in the chemical sector, such as the SIRA project, an initiative by the Chemical Industry in the Antwerp Region. This project opted for apprenticeships where these young people were trained to become process operators. Last year Indaver took in five apprentices who may subsequently go on to work here.

■ IRELAND

Passport to Leadership

Last year Indaver organised an international Indaver leadership programme, which introduced new concepts on 'strategic leadership'. Not only were all the management teams from the four regions on this course, but the individual regions also supported their managers in this process. Indaver Ireland developed the Passport to Leadership, which was distributed to all employees. The guide aims to clarify the general principles of leadership and provides tips and tools to help those in leadership positions.



Managers need to juggle many tasks at once. They are responsible for many areas, including health and safety, cost control and regulation, and they also have a team to lead. They must set the right course while not deviating from Indaver's mission and core values. The Passport to Leadership recognises that all those in charge will have their own approach, but meshes the overall approach together, so everyone in the organisation knows what is expected of him or her, their colleagues and their managers.

■ GERMANY

Indaver Deutschland becomes one: reconciling culture differences

Indaver Deutschland faced implementing a twofold adaptation: not only was the German Indaver Group integrated into the international organisation, but the five subsidiaries that make up Indaver Deutschland were also merged into a single consistent whole.

Exchanges

Five businesses with different corporate cultures were required to come to terms with one another. In order to effect this transition as smoothly as possible various activities were set in train. Accordingly knowledge and experience



SOCIALLY RESPONSIBLE PROCUREMENT POLICY

As Indaver Group operations expand in Europe so its corporate image must keep pace. Work clothing is also an advertisement for our identity and the purchasing department is currently overseeing the introduction of new work clothes throughout the group. The quotation request that was sent out at the end of 2011 also made stipulations in terms of socially responsible business. Indaver states expressly that this clothing must not be produced using child labour. Suppliers must provide the necessary proof in their quotations in respect of their collaboration with third parties.

The new style will also take account of the differences between male and female wearers. Comprehensive wear and wash tests are scheduled for 2012 and every employee will be given a new set of working clothes in 2013.

In selecting a new maintenance contractor for the administration buildings, Indaver is also asking potential suppliers in the quotation request expressly about their performance in terms of socially responsible business. We aim to limit the environmental impact by using maintenance products that have a minimal impact on the environment.

Sustainability Report printed sustainably

Indaver aims to be sustainable right down the line. We are opting for the most sustainable method for printing the Sustainability Report as well. Cocoon FSC-certified paper is being used: it is 100% recycled and chlorine-free, as well as being sourced from sustainable and responsible forest management. This paper also bears the European eco-label Flower for environmentally friendly

products. Only products that limit the adverse impact on climate, use of raw materials and the environment are given this label.

Moreover the report is printed in a climate-neutral manner. CO₂ emissions during printing are measured accurately and Indaver neutralises them by purchasing green emission rights in the Wind energy project in Kafeate in the French overseas territory of New Caledonia. A logo in the report refers to the certificate obtained by Indaver to this effect, with a unique and traceable number. Indeed the printing house itself also operates sustainably, among other things by preventing waste as much as possible, by saving energy and by limiting and compensating CO₂ emissions from its site.

5. HUMAN RESOURCES

are regularly exchanged in order to strengthen mutual collaboration between all members of the Indaver Group and among the German members.

Managers and employees thus get to know their peers in the other businesses and in the other regions. Departments learn from one another, best practice is shared and implemented at the various sites. This process is underpinned by interdisciplinary management and business teams, and by the International Operational Competence Centres, where specialists from the various regions exchange information on technological developments.

Where there are common bottlenecks the teams from different sites, in Germany and elsewhere, sit together in audio and video-conferences to solve them. Teams from various countries work jointly on projects for the entire Indaver Group and leadership training sessions will soon be taking place in Germany, in which employees from all Indaver Deutschland locations will be taking part.

New awareness

Indaver intends to create a new awareness for the Group as a whole through IndaWIR, a joint project involving the works councils and management of all Indaver sites in Germany, not just with its own workforce, but also with interested members of the public.

In 2011 Indaver Deutschland also worked on internal communication with the workforce in order to give a boost to this awareness, introducing the Ethical Compass. The first newsletter appeared at the beginning of 2012.

The integration of styles and corporate cultures has already yielded visible results, as can be seen from the new Indaver flags at the German sites, the new Corporate Design and the Indaver gadgets for new employees and for interested parties outside the company. Another two initiatives: the new Indaver vacancies website and the new Indaver homepage for the German group.

THE NETHERLANDS

Down to work with the Employee satisfaction survey

In October 2010, for the first time 3 Indaver Group countries – Belgium, the Netherlands and Ireland – took part in an Employee satisfaction survey. This survey provides an insight into what employees believe to be important. It helps the organisation to look at its strengths and weaknesses and gives impetus to action and change.

Indaver Nederland, having received a 56% response, set about tackling the points brought forward by its workforce. The Regional Management Team (RMT) identified three major points requiring action: sufficient coaching meetings fully to tap employee potential; stimulating personal development; two-way communication, from the top down to the workshop floor and vice versa, for good coordination and cooperation.

During the departmental consultations, employees can state what can be improved, after which it will be brought up in RMT meetings. Employees can give joint consideration to how they can improve these points of concern through routine work consultations, refresher courses and workshops, without abandoning what Indaver is good at. This is because the survey showed that Indaver, according to its Dutch workforce, does not celebrate its successes enough. Working on employee motivation is a point requiring action by every department.

An action plan has been drawn up, both at RMT and departmental level. Over the past year Indaver Nederland employees have been kept up to date with the various campaigns through Indavizier. Indaver Nederland is continuing to work on the satisfaction of its employees in 2012.

In Belgium 3 out of 4 employees took part in the survey. Although they appeared relatively satisfied, there were a few points of concern, as the discussion on the results revealed. These are now being dealt with. They include the layout of the workplace, information exchange, more and better consultation opportunities and improving the range of in-house courses on offer.



“Three countries from the Indaver Group participated in the Employee satisfaction survey.”

SAFETY

■ Safety at the forefront

For Indaver, the safety of its employees, but also of those involved directly or indirectly in its operations, is an absolute priority. Indaver guarantees a healthy and safe environment. That is what it states in its company code. 'Concern for people, safety and the environment' is the leading core value in our quest for responsible and sustainable business.

Preventing accidents is at the forefront, requiring a structured and proactive approach. Indaver manages and treats waste, hazardous or otherwise. In order therefore to guarantee safety, the four Ms must be in order: thorough knowledge of waste (materials), efficient and safe facilities (machines), internationally accredited management systems (methods) and motivated and well-trained employees (man).

In order to keep all this on the right track we draw our inspiration from the EFQM model and the Plan-Do-Check-Act approach.

2011 was a year of extremes for Indaver. On the one hand we achieved historically good safety indices. On the other hand we regret a fatal accident at work in the contractors' village at the construction site for a new facility at the Antwerp site. A subcontractor's employee was run over by a lift truck at the end of December and was pronounced dead at the scene.

■ Knowledge of waste

Indaver's safety policy stands or falls by thorough knowledge of the hazards and risks posed by waste collected and treated by Indaver teams on a daily basis. Indaver has always invested a great deal in knowledge of the composition and of the hazard properties of the waste. Our specialist labs continuously analyse the waste we manage and have amassed 25 years' worth of unique in-house know-how. As a result, Indaver's specialists are consulted by various regional and international stakeholders. Customers request advice on suitable treatment for specific forms of waste, public authorities request information for waste legislation.

Indaver currently operates 7 sites subject to the Seveso (COMAH) Directive for serious accidents involving hazardous waste. The sites in question are in Hamburg, Biebesheim, Frankfurt and Stuttgart in Germany, Antwerp in Belgium, Hoek in the Netherlands and Dublin in Ireland. Government departments conduct a comprehensive safety audit annually on this aspect. Know-how built up at these sites has resulted in 'best practice' that is also applicable to non-Seveso operations.

■ Safe and efficient facilities

Safety is essential, but it is not the only driving force in keeping the facilities running as efficiently as possible. We avoid unexpected downtime and breakdowns for reasons of business economics too. That is why Indaver systematically puts all new facilities or major changes in existing facilities through a HAZOP study (HAZard and OPerability). This is the international method of identifying and controlling hazards and undesirable situations in industrial facilities.

■ Sound procedures

Following the successful implementation of the ISO 14001 environmental care system, Indaver had also intended to obtain internationally recognised certification for all regions. OHSAS 18001 sets the minimum requirements for a proper safety management system. It is required to estimate and control risks at work effectively, thus making the organisation safer.

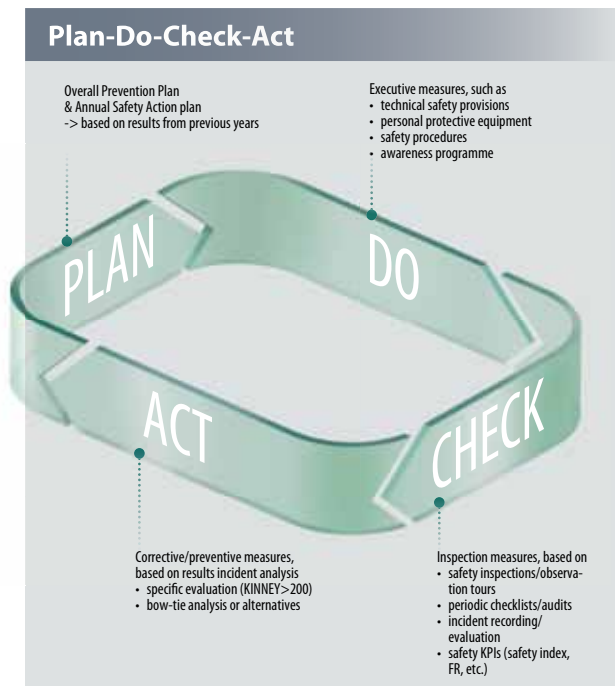
OHSAS 18001 has now been fully implemented for Ireland (2002), Germany (2003) and Belgium (2011). Certification for the Netherlands is planned for 2012.

■ Motivated and well-trained workforce

Indaver makes every effort to inform employees regularly and thoroughly about safety on the workshop floor, to protect not only themselves but also their colleagues from physical injury. Good results have been recorded with (compulsory) training and raising awareness of risks at work.

The production, maintenance and lab departments have fixed benchmarks for safety (critical success factors) that are monitored annually. This systematic approach means that employees are more directly involved in safety policy. Based on a number of parameters Indaver monitors its employees' personal commitment: participation in safety courses, conducting job safety analyses and observation and inspection tours. The greater the effort the higher the score.

5. HUMAN RESOURCES



Plan-Do-Check-Act

Indaver outlines its safety policy in accordance with the Plan-Do-Check-Act approach. Safety departments and employee representatives draw up joint action plans incorporating the relevant safety measures (Plan). This results in appropriate technical provisions, job safety analyses, safety procedures and the use of personal protective equipment (Do). Targeted safety communication and frequent safety courses, instructions and refresher sessions ensure safe working practices. Using inspections, safety tours and systematic reporting based on performance indicators, Indaver closely monitors this safety performance (Check). In the event of problems or incidents it corrects them or adjusts the procedure (Act).

Indaver has uniform indices for all its sites in Europe so it can compare the various regions and lay down common objectives.

Drop in number of accidents with time off work

The frequency rate records the number of accidents with time off work sustained by personnel (more than 1 calendar day). In Belgium, unlike other countries, keeping a record of this indicator is mandatory. In 2011, the Indaver Group recorded 33 such accidents (against 39 in 2010 and 41 in 2009). This downward trend continued while the number of employees grew by 4.3% in 2011 (1,685 employed against 1,616 in 2010). This results in a 2011 frequency rate of 12.43 for the Indaver Group.

In order to assess this result, we compare it with the result for our sector in Belgium, given the lack of international standards for the waste sector. Every industrial activity in Belgium is assigned an official NACE(BEL) code. Indaver operations – waste treatment, waste transport and recovery – are covered by NACE(BEL) codes 38, 49.41 and 38.3, respectively. According to the most recent data (2010), the average frequency rate reached 40.35 in the recovery sector, 40.83 in the waste transport sector and 32.71 in the waste treatment sector.

With its frequency rate of 12.43 the Indaver Group is at the same low level as the chemical sector (NACE 20, FR = 11.23) in Belgium and it achieves a significantly better score than the national average for Belgian companies as a whole (FR = 22.19). (Source: <http://www.faofat.fgov.be/index.html>)

Actual severity

Actual severity provides an indication of the number of days of unfitness for work affecting employees. We can also compare this indicator for the Indaver Group with Belgian statistics.

The 2011 actual severity for the Indaver Group is 0.30. According to the most recent statistics (2010), actual severity reached 1.11 in the recovery sector, 1.36 in the waste transport sector and 0.92 in the waste treatment sector.

With actual severity at 0.30 we therefore score as well as the chemical sector (NACE 20, AS = 0.28) and significantly better than the national average for Belgian companies as a whole (AS = 0.54). (Source: <http://www.faofat.fgov.be/index.html>)

Both scores show that in the Indaver Group not only are there significantly fewer accidents than in the Belgian waste sector, but also that they are less severe than the average for the waste sector.



■ International comparison

Because Indaver is becoming increasingly international, its performance must also be capable of being placed in this context. That is why Indaver introduced an index in 2011 for the number of accidents with time off work in excess of 3 days against the number of employees for that year (expressed per 100,000 employees). This methodology is based on the RIDDOR approach which has been used in English-speaking countries for some time now and which is now being introduced in Europe as a standard (ESAW – European Statistics on Accidents at Work, 2001) as well.

The Indaver Group RIDDOR1/ESAW rate for 2011 is 1,602 (27 accidents with more than 3 days of time off work). By way of comparison: the figure for 2010/2011 for the waste sector in the United Kingdom is 1,887.1.

“At Indaver there are fewer and less serious accidents compared to the average in the waste sector.”

Safety results of Indaver Group

	Group employees	FR ⁽¹⁾	AS ⁽²⁾	PBW ⁽³⁾
2011	1,685	12,43	0.30	5.3
2010	1,616	15,32	0,51	6,7
2009	1,400	17,69	n/a	7,1

(1) **Frequency rate** = the number of accidents resulting in time off work (> 1 day) (A) for a group of employees relative to the total number of hours worked by these employees (B)

(2) **Severity** = the total number of calendar days' absence as a result of accidents at work (C) for a group of employees relative to the total number of hours worked by these employees (B)

(3) **PBW index** = a 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.

Formula for the PBW index:

$100 * ((0.5 * A) + (2 * B) + (5 * (C + D)) + (20 * E)) / \text{# number of employees}$

A = number of apparent accidents (without physical injury)

B = number of accidents with very limited in-house treatment (in-house first aid)

C = number of accidents in which victim was treated off site and in which time off work is limited to the day of the accident itself (off-site first aid)

D = number of accidents in which, by performing appropriate work and after advice by the medical officer, time off work is limited to the day of the accident itself (appropriate work)

E = number of accidents resulting in time off work > 1 day

5. HUMAN RESOURCES

■ Safety index

Indaver has another criterion for safety on its sites, in addition to frequency rate, actual severity and the RIDDDOR / ESAW rate that concentrate on accidents with time off work. We also keep a record of accidents that do not result in time off work in order to control risk in the future.

Indaver tracks these 'learning opportunities' statistically using the safety index (PBW index – PBW is the Dutch abbreviation for Prevention and Protection at Work). This monitors not only accidents resulting in time off work but also those with in-house or off-site first aid, and apparent accidents or near misses. The Indaver Group safety index for its own employees shows a relevant drop from 6.7 in 2010 to 5.3 in 2011.

■ 2011 safety index for group employees

2011 safety index		
Group employees		
	Index	Number of employees
Belgium + Portugal	3,7	667
The Netherlands	5,5	290
Ireland + UK	5,4	188
Germany + Italy	7,1	540
Group	5,3	1,685

■ Learning from accidents

After every accident Indaver conducts a detailed investigation into its cause. After that we set objectives and work out preventive action to improve results and avoid accidents.

The accident analysis for 2011 revealed that 'inattentiveness' both in our own employees and in subcontractors was the leading culprit. 'Inadequate or incorrect use of personal protective equipment' also showed up as a major cause of accidents, most of which resulted in hand injuries. The annual action plan for 2012 contains an intensive check on the quality and application of the correct measures set out in work permits.

In 2011 Indaver Deutschland had accidents at work in which the emergency services had to be called. These accidents were analysed by the safety expert and the manager in order to ascertain the cause. This enabled employees at all German sites to be informed rapidly about the incident and its causes and how to prevent future occurrences.







FLEXIBLE SERVICES

Indaver has a customer-focused approach that is tailored to specific needs. With our *Total Waste Management*, where desired we take over the entire waste management for industrial customers, from on-site collection to processing and administration. For authorities Indaver wishes to be a reliable partner and to help with a sustainable and cost-efficient waste policy via *Public waste Partnerships*.

6.

CUSTOMER SATISFACTION

Finding the most sustainable solution together

Indaver teams up with its customers to look for the most sustainable solution for any waste flow – both economically and ecologically. We do that within forms of cooperation that enable flexible service provision tailored to specific needs. And with success, because Indaver has developed – both for authorities in Belgium, the Netherlands and Ireland and for industrial companies throughout Europe – into the waste partner par excellence.

■ **Public waste PartnershipS: public authorities opt for outsourcing**

It is Indaver's intention that public authorities, within the limits of the law, should be able to leave their waste management to us with an easy mind. This 'outsourcing' can be used equally for waste treatment, to operate a public treatment facility or for organising waste management. In Indaver public authorities will find a partner who empathises creatively with them, who puts forward packages that match local needs the best and who is perfectly aware of the latest legislation, regulations and trends in the public sector.

'Public waste PartnershipS' between Indaver and public authorities are a good option for both partners. Indaver's newest Public waste PartnershipS set up in 2011 are due largely to our transparent attitude towards public customers, outstanding service and our respect for the integrity and autonomy of local authorities.

Stake in Brussel Compost: a new PwPS

At the end of 2011 Indaver acquired 40% of the shares in Brussel Compost NV, a green composting company. The main shareholder is Net Brussel (60%). This new 'Public waste Partnership' is fully consistent with our business strategy for sustainable waste and energy management for and with public authorities.

This strategic stake also fulfils our corporate mission and is consistent with our growth strategy for green waste and biomass. It is a fine example of the interface between Indaver and public authorities. Thanks to our network of composting facilities we are able at any time to divert to another treatment site should it be necessary. This means that public authorities that deliver the green waste are guaranteed of continuous and quality treatment.

Mutual support with IVM

IVM, the intermunicipal collaborative association based around Deinze, provides waste management for 19 municipal districts. This means that it has taken on waste management from A to Z for its municipal districts (277,000 inhabitants): from prevention to waste treatment, including selective kerbside collection and household waste recycling centres. IVM operates its own thermal treatment facility in Eeklo. In Indaver they have found a sound partner for back-up at their facility. With their Public waste Partnership, IVM and Indaver have been providing each other with mutual support since 2011 in the event of an incident or breakdown in their respective facilities. Tonnages are laid down annually by mutual agreement and in addition there is room to test the contract against the market situation.



6. CUSTOMER SATISFACTION

“Indaver confirmed its market leadership in the European pharmaceutical sector in 2011.”

The two partners were already complementing each other well, with IVM having called on Indaver for the first time 10 years ago. At the time Indaver was temporarily looking for additional treatment capacity. With the waste from its municipal districts and residual waste from 2 fellow intermunicipal organisations, IVM was taking up just over half the capacity of its facility in Eeklo. Through its long-term contract with Indaver, IVM was able to use its residual capacity in the longer term.

New directors for IVAGO and IVIO

Indaver organises management systems for public authorities which may involve taking on local waste management entirely or in part. In some cases it involves a mixed structure, in others a traditional service contract. This is characteristic of Indaver's Public waste PartnershipS concept: the public authority chooses which form of partnership suits it best.

In two 'mixed' intermunicipal partnerships Indaver is not the only private-sector partner. Since 1995 ECOV (50% Indaver), has been the private-sector participant in IVAGO (Ghent), the intermunicipal partnership for Ghent and Destelbergen. ECOWEST (43% Indaver) has been the private-sector partner for 15 years now in IVIO (Izegem), which is made up of 11 municipal authorities.

Indaver thus contributes to managing these large intermunicipal waste organisations and as a result is jointly responsible for municipal waste policy. There were changes in the top management at IVAGO and IVIO in 2011.

Satisfaction survey

Indaver aims to investigate whether its public-sector customers are satisfied. To this end we prepared a survey for 2012 on the various aspects of their collaboration with Indaver. The results of the satisfaction survey will be processed statistically and will be used if necessary to adjust and refine our customer focus. This is consistent with one of Indaver's core values: continuous improvement.

■ Customers encourage Indaver's European and sustainable direction

Total Waste Management (TWM) at Indaver stands for 'tailored outsourcing from industrial customers'. TWM can take on various forms: from treatment and associated transport to on-site management and even managing the customer's treatment facilities. In every case, at the core of our service, we provide the customer with closely tailored outsourcing and service. Indaver has the necessary resources for treatment and transport, as well as up-to-date data management systems that guarantee transparency and traceability. Finally, we have an experienced knowledgeable organisation in which we assign the right people to each TWM project with efficient project tools. Indaver offers its Total Waste Management on a European scale. Indaver has TWM partnerships in Belgium, the Netherlands, Ireland, the United Kingdom, Germany, Italy and Portugal.

Strong year for Industrial Waste Services

Indaver completed 2011 – even though it was characterised by economic turbulence – highly successfully in the industrial market segment with turnover up by 21% compared with 2010. Not only was Indaver able to extend a number of TWM partnerships, it also won over new customers. Indaver confirmed its market leadership in the European pharmaceutical sector in 2011 by renewing and extending a number of TWM contracts in Belgium, Ireland and Germany. In addition we have also completed various one-off urgent projects in which our knowledge of complex waste flows and strong outlet management have proved their worth. In 2011 Indaver excelled at offering its customers the most sustainable packages.

IRELAND

Total Waste Management proves successful with Irish industry

Multinationals and companies in the pharmaceutical and chemical industry are, in ever-increasing numbers, choosing Indaver Ireland's Total Waste Management service. With its TWM approach, Indaver Ireland offers its customers a dynamic, flexible and customer-focused package for their waste. In 2011 this segment experienced sharp growth with new contracts for a number of large multinationals, 27 sites in total. With Europe's newest Waste-to-Energy facility in operation, the implementation of the SAP data-management system, combined with our technical expertise and pro-active quest for improvement, Indaver is leading the field more than ever in sustainable waste management in Ireland.



Belgian Waste-to-Energy

ENCOURAGING ENERGY RECOVERY IN THE SECTOR

Belgian Waste-to-Energy (BW2E), the federation of owners of waste-to-energy generating stations for household and comparable industrial waste in Belgium, has reached cruising speed. BW2E was established in 2009 on an initiative by Indaver to exchange information and to seek common systems for the sector. BW2E boasts 15 members: 10 in Flanders, 4 in Wallonia and 1 in Brussels. They are jointly responsible for thermal treatment with energy recovery of approximately 2.5 million tonnes of waste.

Reliable asset

In 2011 BW2E put on various presentations to stakeholders and had consultation opportunities with the Flemish, Brussels Capital and Walloon Regions. In the two years since it was established, the organisation has become a solid

asset in the Waste-to-Energy sector. Its members share knowledge with one another, they closely monitor regional and European regulations and formulate common positions.

Indaver takes on the role of secretary and is responsible for preparing the content of the case files. Over the past two years Belgian Waste-to-Energy has taken on a great deal of work. The federation played an active part in regulatory changes including the transposition of the European Framework Directive on Waste into Belgian law. According to BW2E residual waste must be treated as far as possible in its country of origin in order to complete the material cycle properly and prevent recyclable fractions from being incinerated due to the cost of incineration being lower abroad.

Recycling and Waste-to-Energy hand in hand

The sector exchanges knowledge at a European level too. CEWEP, the European counterpart of BW2E, visited some Indaver facilities on 30 August last year, including the PMD facility in Willebroek and the ash treatment facility in Doel. CEWEP wanted to investigate how Waste-to-Energy contributes towards efficient use of raw materials and energy. For Indaver, Waste-to-Energy and recycling go hand in hand. It is evident from various studies that Member States that use both recycling and waste-to-energy to process their waste, use landfill the least.

6. CUSTOMER SATISFACTION

Material and energy recovery at the forefront

Capitalising on the scarcity in the raw materials market and pressure on the energy market, Indaver is reinforcing its focus on sustainable material and energy recovery. Indaver achieves this with its network of European facilities and collaboration with external partners. Indaver is investing continuously in this area too.

In addition to this network of facilities Indaver has another unique asset: building and operating facilities for material and energy recovery on the customer's site. This can yield added value with large volumes of waste, from which the materials recovered are used as feedstock in the customer's own or neighbouring production processes, in which steam or electricity can be put to use and a great deal of waste haulage saved. In BOO (Build-Own-Operate) projects such as these, in which it is also a joint owner, Indaver takes charge of virtually the whole facility. A fine example of a BOO project is the large-scale hydrochloric acid regeneration facility for Tata Steel in IJmuiden. New opportunities were developed in 2011 for recovering chlorine from specific production processes and recovering valuable materials from residual flows.

E-service raises efficiency and reduces the flow of paper

Indaver attaches a great deal of importance to sound data management and efficient operation of complex waste administration. In communicating with customers we also aim for constant innovation and seek greater efficiency and less environmental impact. For this reason Indaver has invested in a customer portal – the Customer Zone. This web portal offers on-line access to the most important information, documents and reports on the customer file, as well as to price and collection schedule requests through electronic forms, etc. Customers can also view comprehensive reports on costs and quantities relating to their waste packages.

Indaver's Customer zone saves customers valuable time in their internal administration reports. This system became available to Dutch and Belgian customers in 2011. A Customer Zone has also been developed for German customers that allows documents to be shared with customers and reports to be looked up. The start-up of the Irish Customer Zone is scheduled for 2012.

Cross-border administration guaranteed at European level

The legislation on cross-border transport of waste differs sharply between European member states and regions and this makes it very complex to administer. That is why Indaver has its own TFS (Transfrontier Shipment) department that opens, manages and tracks files for cross-border waste transport. Accordingly, in 2011 around 700 files were processed of which 98% were approved. Indaver's good reputation with the authorities concerned works to its advantage here. The average throughput time for a TFS file is around 12 weeks from opening. In 2011 a great many TFS files were managed electronically. As from 2012 what are known as 'Before-and-After Reports' will be digitised.

Customers confirm their confidence in Indaver's sustainable packages

In 2011 and in early 2012 Indaver organised Customer Days for its Belgian, Dutch and Portuguese TWM customers and accounts. Starting from the basic premise 'Is waste becoming feedstock again?' a number of outside and in-house speakers explained how sustainable material and energy management is the central plank in innovative European waste management. During these customer days customers also gave their own views on Sustainable and Cutting-edge Waste Management. In 2011 Indaver also asked a number of multinational customers for their opinion. Many customers expressed their satisfaction.

"Raising waste management to a higher level together"

Willy Gommers, Director of Service Logistics & Facilities, MSD

"Guarantee of innovation, operational management capability, appropriate resources and assured waste destruction"

Johan Jansen, SHE specialist, MSD Animal Health

"Sustainable and 100% traceable recovery packages"

Koen De Wilde, Purchasing Manager, Amcor

"European direction makes Indaver a potential partner for BASF European sites"

Dr. Sabrina De Beukeleer, Environment department, Waste and Data Management, BASF



MEDIPOWER

Indaver is constantly striving for even newer and better techniques. The nec plus ultra at the moment is the new MediPower facility for the thermal processing of medical and sensitive waste on the Antwerp site. There Indaver offers its customers the most sustainable solution, avoids risks and recovers as much energy and as many materials as possible at the best price.



7.

FINANCIAL RESULTS

Growth continues in 2011

Indaver continued its growth in 2011. Despite the high level of investment in completing projects including Meath in Ireland and MediPower in Belgium, the Indaver Group's financial structure and solvency were still able to be strengthened.

86

EXPLANATORY NOTES ON THE CONSOLIDATED ANNUAL ACCOUNTS (IN IFRS)

Indaver's continued increase in profit and cash flow underwrites its successful growth and on-going development opportunities.

The Indaver Group's results for 2011 are particularly good. Allowing for the challenging aspects of the current economic environment, this provides a robust foundation for additional growth.

In past years Indaver has also been able to strengthen its competitiveness and market position further, even in times of economic crisis, demonstrating flexibility and resilience.

It goes without saying that ever-increasing cash flow and its robustness underpin on-going growth ambitions and opportunities for Indaver.

Financial results 2011

	in million Euro
Operating income	520
Operating charges	490
EBITDA*	93
Operating result (EBIT)	30.1
Profit after tax	30.9
Equity capital	295.9

* EBITDA = earnings before interest + taxes + net depreciation + amortisation + IAS 19 employee benefits including charges and costs + share in profits of minority interests – the part of the capacity rights paid in advance in the result.

GENERAL INFORMATION

In 2011, no relevant modifications were implemented in the valuation rules used to determine the financial results.

As was the case for 2007 to 2010, the results of the companies in which Indaver has a 50% holding were incorporated using the movement of equity method, in line with the group valuation rules at DELTA, i.e. only on the basis of their contribution to the net result of the Indaver Group.

Due mainly to the continuation of the excellent results for SLECO, this means that besides the cash generation that can be derived directly from the profit and loss account, the cash generated by these 50% owned subsidiaries is also very substantial. At the end of 2010, this gave rise to a capital reduction of EUR 20 million in SLECO and a dividend payment of EUR 30 million to its shareholders, 50% of that amount being paid to Indaver NV. In December 2011 SLECO paid a dividend again, EUR 20 million this time, EUR 10 million of which was to Indaver.

In comparing the consolidated results for 2011 and 2010, it must be borne in mind that in the results for 2010, operations taken over from DELTA Milieu after the acquisition completed on 1 September 2010 were only included with their results for the last 4 months of the year. The latter was achieved after converting their opening balance and results to International Financial Reporting Standards (IFRS) and based on Indaver's group valuation rules. Logically, in 2011 they were included for a full year.

Given that the purchase price allocation carried out, which is required under IFRS, has brought about a major revaluation of the depreciable assets and a reduction in the existing and paid goodwill, this inevitably caused higher depreciation in IFRS. Even though this significantly limits their net contribution to Indaver's group results with the acquisition on 1 September and also for the next few years, this does not have a detrimental effect on their obvious contribution to the cash generation capacity of the Indaver Group.

Key figures for 2011 against 2010

- Operating profit: EUR 520 million (+ 26%)
- Operating costs: EUR 490 million (+ 25%)
- Operating cash flow (EBITDA): EUR 93 million (+ 22%)
- Operating result including profit or loss on the transfer of fixed assets and result contribution of the participating interests: EUR 49 million (+ 35%)
- Operating result (EBIT): EUR 30.1 million for 2011 (+ 33%)
- Net financial result: EUR -9.7 million against EUR -7.8 million for 2010.
- Net contribution to minority stakes and 50% joint ventures: EUR 17.8 million (+ 36%)
- Group profit before tax: EUR 39.0 million (+ 38%)
- Group profit after tax: EUR 30.9 million (+ 26%)

“The good results give Indaver a sound basis for further growth.”

DISCUSSION OF THE PROFIT AND LOSS ACCOUNT

Operating income increased by 26% from EUR 414 million in 2010 to EUR 520 million in 2011.

- Turnover for performing services remains the main component of the consolidated operating income. Operating income increased by 24% from EUR 359.2 million in 2010 to EUR 446.3 million in 2011. This is mainly attributable to the acquisition of DELTA Milieu in 2010, where four months of turnover were included in the 2010 figures, i.e. EUR 29.8 million plus EUR 77.6 million in 2011.
- Sales of goods were up from EUR 36.2 million in 2010 to EUR 52.5 million in 2011. This was explained mainly by higher income from sales of recovered raw materials (+ EUR 18.4 million) and energy (+ EUR 2.8 million).
- Other operating income saw a rise of 14%, from EUR 17.9 million in 2010 to EUR 20.3 million in 2011. The explanation for this rise can mainly be found in the fact that in 2011 this item included EUR 5.3 million in compensation payments for material damage and operating losses incurred.

Higher operating income was inevitably accompanied by an increase in the total **operating costs**: from EUR 391.2 million to EUR 490.3 million (+ 25%).

- EUR 30.9 million of the substantial increase in costs of goods and services is a consequence of including the operations of DELTA Milieu for an entire financial year in 2011 and for four months in 2010. Overall, these costs rose EUR 70.2 million (+ 32%), from EUR 218.6 million in 2010 to EUR 288.8 million in 2011. Furthermore, restarting the major remediation project in Bonfol led to increased transport and treatment costs and, despite the high throughput at the company's own treatment facilities, greater reliance had to be placed on outside treatment facilities as well in order to treat the full contracted volume.
- The increase in personnel costs by EUR 14.8 million (+ 16%) from EUR 92.2 million in 2010 to EUR 106.9 million in 2011 is mainly a consequence of the inclusion of the operations of DELTA Milieu for an entire financial year in 2011 and for four months in 2010.
- The depreciation item rose by 6% (EUR 2.5 million) in 2011, from EUR 43.7 million in 2010 to EUR 46.2 million in 2011. DELTA Milieu accounted for EUR 5.3 million of this. The massive expansion of investment in the Meath project in Ireland only caused additional depreciation as from December, and the MediPower project in Belgium will be completed as planned in 2012 and be depreciated as from that point.
- Write-downs in 2010 were limited to just EUR 96,000. In 2011 a precautionary write-down of EUR 4.1 million was implemented, which was from all development costs capitalised for the Cork project in Ireland. The remaining operating costs saw an increase, from EUR 36.6 million in 2010 to EUR 44.2 million in 2011. This too can be largely attributed to the take-over of DELTA Milieu operations.
- Finally, the fixed assets generated in 2011 were equal to those of 2010, at EUR 1.5 million.

7. FINANCIAL RESULTS

Operating profit (EBIT) for 2011, at EUR 30.1 million, was 33% up on the EUR 22.7 million achieved in 2010.

Profit achieved on the **sale of fixed assets** in 2011, at EUR 0.7 million, was up on the EUR 0.2 million achieved in 2010.

Financial income rose by EUR 0.8 million in 2011 to EUR 3.0 million. This was mainly a consequence of the inclusion of the DELTA Milieu results for a full year in 2011 and for just four months in 2010.

Financial costs were also up: by 27% from EUR 10 million in 2010 to EUR 12.7 million in 2011. This is explained by a combination of the inclusion of the DELTA Milieu results for a full year in 2011 (and for four months in 2010) and higher interest rates compared with 2010. Moreover the pre-financing costs for the project in County Meath were no longer being capitalised as from 9 September 2011.

As a result, the **net financial costs** for 2011 come to EUR 9.7 million compared with the EUR 7.8 million posted under this heading in 2010.

The **net contribution from the participating interests** consolidated according to the equity method was EUR 17.8 million for 2011. In 2010 this came to EUR 13.1 million. This increase is largely due to further improvement in the SLECO results and the inclusion of the DELTA Milieu minority participating interests for a full year as from 2011.

Partly as a result of this, **group profit before tax** for 2011 comes to EUR 39.0 million, a rise of 38% against the EUR 28.2 million achieved in 2010.

Consolidated profit after tax therefore amounts to EUR 30.9 million for 2011. This is EUR 6.3 million or 26% higher than the EUR 24.6 million net profit for 2010.

Furthermore, part of Indaver Deutschland's profit requires to be allocated to our fellow shareholder NEIF, so that the **net profit, group share** for 2011 results in EUR 30.4 million.

Relative to Indaver shareholders' equity capital totalling EUR 211.1 million at the beginning of the 2011 financial year, the net profit of EUR 30.4 million (excluding minority interests) for 2011 results in a **return on equity capital** of 14%. In 2010 this return was also 14%.

Allowing for the rather low energy prices and market prices for recovered materials which are not consistently as high, we consider these to be particularly good results.

DISCUSSION OF THE CONSOLIDATED BALANCE SHEET

The 2010 financial year ended with a consolidated **balance sheet total** of EUR 840.3 million, 7% higher than at the end of 2010.

On the **assets side** an increase of EUR 14.6 million or + 9.9% was posted in **current assets**, to EUR 162.0 million.

This is mainly the result of a clear rise in trade and other receivables by EUR 17.8 million or 18.8%. This is largely due to an increase in turnover in all regions and a strong fourth quarter, but it is also an improvement against the 26% rise in total operating income.

Inventories increased by EUR 2.1 million, an increase caused largely by an investment in spare parts for the incineration facility commissioned in 2011 in County Meath.

The EUR 7.8 million drop in liquid assets is partly due to the introduction of cash pooling in Belgium and the Netherlands.

In addition to the rise in liquid assets, an increase was posted primarily in **fixed assets**: by EUR + 40.1 million or + 6.3%.

- Tangible fixed assets increased by EUR 42.9 million or 10.2% to EUR 464.1 million. This increase is mainly attributable to additional investments in the Meath and MediPower projects.
- Intangible fixed assets were down by EUR 4.3 million to EUR 127.3 million, predominantly the result of an impairment on all capitalised external development costs of the combined waste incineration facility at Cork totalling EUR 4.1 million.
- Trade and other long-term receivables were down by EUR 0.3 million.
- The EUR 0.1 million decrease to EUR 1.8 million in assets available for disposal is the consequence of annual depreciation being greater than the gain from the EUR/CHF exchange rate differences.
- The participating interests consolidated using the equity method were up again to EUR 73.3 million, a rise of EUR 3.8 million or 5.4% relative to 2010. This increase is mainly attributable to the difference between the result achieved from the participating interest concerned less the dividend paid out. In addition to this a 40% stake was acquired in Brussel Compost NV amounting to EUR 0.2 million.
- The EUR 1.0 million decrease in other financial fixed assets is mainly the consequence of the purchase of the 35% interest in GRL Glasrecycling NV in 2011.

7. FINANCIAL RESULTS

On the **liabilities side** the EUR 54.6 million increase in the balance sheet total along with the increase **equity capital** of EUR 31.5 million or 11.9%: from EUR 264.4 million at the end of 2010 to EUR 295.9 million as at the end of 2011.

EUR 30.7 million of this is the consequence of an increase in equity capital excluding minority interests.

With share capital unchanged, the profit of EUR 30.4 million for the financial year was included in the profits carried forward. The EUR 0.3 million positive impact posted on **reserves** is mainly to do with the fact that interest hedging taken out at the end of 2011 had a positive impact on equity capital.

Minority interests rose last year by EUR 0.8 million to EUR 54.1 million and represent mainly the share of the minority shareholder and partner in the equity capital of our German participating interests.

A drop in **non-current liabilities** (-EUR 11.9 million or -4.0%) was posted to EUR 286.8 million.

Of these liabilities it is the interest-bearing non-current liabilities that dropped by EUR 2.1 million. The regular instalments of all existing LT loans here exceeded the additional LT loans taken out.

Long-term **deferred income** saw a normal reduction in 2011 which was partially compensated by additional sales of prepaid long-term capacity rights. As a result the amount outstanding fell as at the end of 2011 by EUR 5.6 million to EUR 45.8 million. The annual reduction relates to prepaid incineration fees included annually in the result and returns already received from cross-border leasing operations entered into previously, both in line with the underlying contracts.

Deferred tax commitments were down by EUR 1.4 million or 4.1% to EUR 34.0 million. The long-term trade payables in 2010 involve bills of exchange accepted in the context of the MediPower project for EUR 3.4 million, which are to be paid in 2012: as at the end of 2011 they were classified as outstanding current liabilities.

Outstanding current liabilities rose by EUR 35.0 million or 15.7% to EUR 257.7 million at the end of 2011. Short term bank loans rose by EUR 2.0 million and loans from affiliates were down by EUR 3.3 million. Current deferred income rose by EUR 1.1 million compared with the situation at the end of 2010. Short-term provisions were down by EUR 0.5 million compared with 2010, mainly due to the reduction in outstanding provisions for final sealing and after-care of landfill sites at DELTA Milieu. The current liabilities for interest hedging fell by EUR 1.3 million to EUR 1.0 million. Current trade and other payables rose by EUR 33.7 million or 38.8%, which can largely be explained by liabilities on account of the MediPower project and is the logical consequence of increased operating costs and treatment by third parties.

Auditor's report and filing of the annual accounts

Together with the annual report of the Board of Directors, the complete consolidated annual accounts are filed after the annual General Meeting with the National Bank of Belgium, in accordance with the legal rules on disclosure.

The consolidated annual accounts were approved without reservation by the statutory auditor.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AT 31 DECEMBER 2011

	in € '000	
	31/12/2011	31/12/2010
NON-CURRENT ASSETS	678,285	638,292
Property, plant and equipment	464,148	421,291
Construction in progress	26,773	101,739
Land and buildings	134,893	123,528
Plant, machinery and equipment	283,277	176,180
Furniture, office equipment and vehicles	19,125	19,731
Other property, plant and equipment	81	113
Investment property	1,751	1,898
Intangible assets	127,336	131,587
Goodwill	108,412	108,561
Other intangible assets	18,924	23,026
Investments accounted for using equity method	73,349	69,573
Deferred tax assets	425	1,070
Other non current financial assets	9,850	10,822
Shares	1,850	3,150
Loans	8,000	7,672
<i>Loans to related parties</i>	1,852	1,652
<i>Other loans</i>	6,148	6,020
Non current trade and other receivables	1,372	1,628
Cash restricted or pledged	1	72
Other non current trade and other receivables	1,371	1,556
Non current deferred charges	54	424
CURRENT ASSETS	162,002	147,382
Inventories	9,326	7,214
Other current financial assets	4,900	700
Loans	4,900	700
<i>Loans to related parties</i>	4,900	700
Current tax receivables		10
Current trade and other receivables	112,928	95,089
Trade receivables	102,703	88,340
Other receivables and other assets	10,225	6,750
<i>Interests to receive (accrued income)</i>	530	111
<i>Other accrued income</i>	425	
<i>Other receivables and other assets</i>	9,269	6,638
Current deferred charges	3,463	5,171
Cash and cash equivalents	31,385	39,199
TOTAL ASSETS	840,287	785,675

7. FINANCIAL RESULTS

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AT 31 DECEMBER 2011

LIABILITIES AND EQUITY

	in € '000	
	31/12/2011	31/12/2010
TOTAL EQUITY	295,884	264,363
Equity attributable to equity holders of the parent	241,792	211,093
Issued capital	87,353	87,353
Share capital	87,353	87,353
Reserves	-974	-1,295
Translation reserves	-672	-811
Hedging reserve	-1,938	-2,490
Remeasurement to fair value	1,636	2,006
Retained earnings (accumulated losses)	155,413	125,035
Profit (loss) for the period	30,378	25,843
Other retained earnings	125,035	99,192
Non-controlling interest	54,092	53,270
LIABILITIES	544,403	521,312
Non current liabilities	286,761	298,647
Non current interest bearing borrowings	114,818	116,888
Bank borrowings	89,345	97,774
Finance leases	16,706	16,317
Other borrowings	8,767	2,798
Non current deferred income	45,805	51,389
Government grants	962	1,112
Other non current deferred income	44,844	50,277
Non current provisions	67,799	67,137
Non current post employment benefit obligation	21,869	21,874
Non current hedging instruments	2,488	2,494
Deferred tax liabilities	33,983	35,431
Non current trade and other payables		3,433
Current liabilities	257,642	222,664
Current interest bearing borrowings	102,691	104,088
Bank borrowings	62,429	60,429
Finance leases	262	359
Other borrowings	40,000	43,300
Loans from related parties	40,000	43,300
Current deferred income	13,566	12,433
Government grants	165	165
Other current deferred income	13,401	12,268
Current provisions	11,172	11,645
Current post employment benefit obligation	997	1,143
Current hedging instruments	1,014	2,282
Current tax payables	7,501	4,111
Current trade and other payables	120,701	86,962
Trade payables	77,019	61,936
Advances received	9,530	4,229
Other payables and other liabilities	34,152	20,797
Interests to pay (accrued charge)	796	347
Other accrued charges	10,525	4,915
Other payables and other liabilities	22,832	15,535
TOTAL EQUITY AND LIABILITIES	840,287	785,675

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDING 31 DECEMBER 2011

	in € '000	
	31/12/2011	31/12/2010
Operating revenue	520,422	413,882
Sale of goods	52,539	36,249
Rendering of services	446,343	359,232
Property rental income	1,151	518
Other operating revenue	20,389	17,882
Operating expenses (-)	-490,330	-391,194
Cost of materials and services (-)	-288,770	-218,551
<i>Materials and consumables (-)</i>	-52,700	-44,776
<i>Services (-)</i>	-236,070	-173,775
Changes in inventories of finished goods and work in progress (-)	-1,308	-1,621
Employee expenses (-)	-106,914	-92,158
<i>Wage and salaries (-)</i>	-75,552	-65,175
<i>Social security expenses (-)</i>	-16,579	-15,015
<i>Post employment benefit charges (-)</i>	-4,672	-5,187
<i>Other extra-legal insurances (-)</i>	-231	-207
<i>Other personnel expenses (-)</i>	-9,880	-6,574
Depreciation and amortisation (-)	-46,189	-43,658
<i>Depreciation (-) (on tangible assets)</i>	-40,841	-39,365
<i>Write down of inventories to net realisable value (-)</i>	-261	-67
<i>Amortisation (-) (on intangible assets)</i>	-5,087	-4,225
Impairment losses, net	-4,364	-96
<i>Impairment losses from property, plant and equipment, net</i>	-4,427	
<i>Impairment losses from bad and doubtful commercial debts, net</i>	63	-96
Other operating expenses (-)	-44,246	-36,573
Work performed by the enterprise and capitalised	1,462	1,462
Profit (loss) from operations	30,092	22,688
Gain (loss) from the disposal of non current assets	730	220
Gain (loss) from the disposal of non current assets, other than financial	360	128
Gain (loss) from the disposal of non current financial assets	370	92
<i>Gain (loss) from the disposal of subs, assoc and joint ventures</i>		92
<i>Gain (loss) from the disposal of other non current financial assets</i>	370	
Finance income	3,004	2,201
Interest income	2,620	1,920
Dividend income	159	69
Other	224	212
Finance costs (-)	-12,678	-9,998
Interest expenses and charges on debts	-9,084	-8,264
<i>Interest expenses</i>	-8,380	-7,814
<i>Charges on debts</i>	-704	-450
Discounting charges	-3,594	-1,734
Share of profit (loss) from equity accounted investments	17,821	13,121

7. FINANCIAL RESULTS

**CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDING 31 DECEMBER 2011 (CONTINUED)**

	in € '000	
	31/12/2011	31/12/2010
Profit (loss) before tax	38,968	28,232
Income tax expense (-) / income (+)	-8,093	-3,682
Post-tax profit (loss) from continuing operations	30,876	24,550
Post-tax profit (loss) of discontinued operations	0	0
PROFIT (LOSS) OF THE PERIOD	30,876	24,550
<i>Other comprehensive income, net of tax</i>	645	530
Exchange difference on translating foreign operations	139	-73
Available-for-sale financial assets	-370	
Cash flow hedges	876	602
TOTAL COMPREHENSIVE INCOME OF THE PERIOD	31,520	25,080
Profit (loss) of the period attributable to	30,876	24,550
Equity holders of the parent	30,378	25,843
Non-controlling interest	497	-1,293
Total comprehensive income attributable to	31,520	25,080
Equity holders of the parent	30,699	26,175
Non-controlling interest	821	-1,095
EARNINGS PER SHARE (IN EUR)		
Basic earnings (losses) per share		
Excluding discontinued operations	15.93	13.55
Including discontinued operations	15.93	13.55
Diluted earnings (losses) per share		
Excluding discontinued operations	15.93	13.55
Including discontinued operations	15.93	13.55

BUREAU VERITAS
Certification



Declaration of Validation

Awarded to

INDAVER

Dijle 17 a – B-2800 MECHELEN, Belgium

Bureau Veritas Certification Belgium NV/SA hereby declares that the 2011 Sustainability Report was verified and validated on 30/03/2012, with the Bureau Veritas reference BE003593-3

The report is well structured, is easily readable and is well-organised.

The text, data and facts in the 2011 Sustainability Report are relevant, verifiable, reliable and reproducible. All of the selected items for the environmental, social and economic aspects are of sufficient importance and are dealt with adequately in the Sustainability Report.

Data and facts can be systematically kept and reported as a result of the management systems which Indaver uses. The integrated management systems which Indaver uses fit into the ISO-9001, ISO-14001 – and OHSAS-18001 approach.

Bureau Veritas has awarded a certificate for the majority of Indaver sites and carries out an annual monitoring audit.

Validation declaration no.: BE003593-3

Peter Bonnaerens
Managing Director

Bureau Veritas Certification Belgium N.V./S.A.

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