

BorsodChem Zrt. Sustainability Report 2016





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CEO's Message



Dear Reader,

You are reading the very first sustainability report of BorsodChem Zrt. after the company joined the Wanhua Group. This report presents the company's non-financial performance in line with the world's most widely recognized and applied industry standard, GRI. Hence we are showing our commitment towards sustainability, corporate responsibility and transparency. The consequences of events in the world, such as the challenges of climate change, call us to action on an individual, corporate, governmental and international level. In 2016, in the year of the ratification of the Paris Agreement in Hungary, we decided to strive for sustainability with even more determination and exemplary behavior, and the results are showing.

We have taken into account many sustainability aspects in the last year. Respecting human rights, equal opportunities and diversity belong to our core values, not only within the organization, but also throughout the supply chain. We continuously examine our environmental impacts, and work to alleviate the effects by our investments and to influence our colleagues' attitudes positively. As one of Hungary's most significant corporations, and one of the region's largest employers, it is our duty to make constructive contributions to the solution of social problems and to serve the interests of local communities.

2016 was another outstandingly successful year for us. We are very proud of the fact that besides financial success, we took a great leap forward in terms of sustainability too. We started to work towards our 2018 energy, quality and health, safety and environmental goals. Also, we started to operate our new hydrochloric acid conversion plant, ensuring greater energy efficiency and flexibility. Also, we started to prepare for the shutdown of the mercury-based chlorine unit and to build a membrane plant as its replacement. Our investments rationalize our energy consumption and alleviates our impact on the environment to a large extent.

We are modernizing our production units and also taking into account our customers' demands; we develop our products, and this contributes to the creation of a sustainable future since the improvements are built into our client's end products.

In constructions our products contribute to sustainability as better insulating base materials. In the automotive industry, by being lighter and more resilient, our products promote energy-efficiency through weight reduction. This way our products' characteristics also contribute indirectly to the creation of sustainability.

We know that we need appropriate know-how for the production of high-quality raw materials, and creativity and entrepreneurial spirit for innovation. Keeping this in mind, we are shaping our human resources and supporting systems and have introduced an incentives system, supporting chemistry training in secondary and higher education, and have made our cooperation with the University of Miskolc closer.

Besides this, we participate in many programs improving quality of life, including the support of local organizations and cultural events.


Our objective is to continue this progress, and – in alliance with the Wanhua Group – to see BorsodChem among the most significant and exemplary chemical corporations in Hungary, in Europe and globally in terms of business and also sustainability.

LIU JUNCHANG
CEO – BORSODCHEM ZRT.

Achievements



24%
the decrease in our specific pollutant emission compared to last year's data.


17%
the decrease in specific GHG emissions compared to last year's data.

70,000m³
of saline water will be neutralized starting this year.


2,676
colleagues
worked with us in 2016

62%
of new employees are under 30 of age.



More than
100
energy efficiency ideas were collected through our LEAN system, and we realized
68
of them.


100,000
Euros were donated to the community.


86,036
hours of training helped the professional development of our employees in 2016

HUF 0.0
fines we had to pay in 2016


1,000,000
tons of raw materials were purchased in 2016.


5 ISOPA audits were performed in the interest of our clients' safety.

100
percent of buyers' audit were passed in 2016

About the Report



Péter Horváth
Officer Sustainability

sustainability@borsodchem.eu
+36 48 511 211
Bolyai tér 1.
3700 Kazincbarcika

This document is the first sustainability report of BorsodChem, since Wanhua Industrial Group gained total control of the company in 2011. The primary objective of the report is to provide detailed and balanced information about the company's operations, and economic, environmental and social performance to stakeholders, including business partners, employers, owners, investors and authorities.

The report based on the guidelines of the Global Reporting Initiative (GRI) Standards depicts the period between 1 January 2016 and 31 December 2016. This report has been prepared in accordance with the GRI Standards: Core option. Beyond the standard ensuring reliability, we emphasize our commitment to sustainability by referring to the UN Sustainable Development Goals.

The data presented in the report is that of BorsodChem Zrt.¹, and its reliability is guaranteed by databases supported by IT systems, and multi-level management reviews. The report was approved by the executives on 20 October 2017. The results of 2016 are not assured by any third party.

Our objective is to ensure the transparency of our operations and to show our continuous development in environmental protection, social responsibility and other topics having intergenerational effects through continuous data disclosure.

Thank you for your interest in BorsodChem's sustainability performance. If you have any questions, or remarks related to the report, please contact our Officer Sustainability.

1 In BorsodChem Zrt's sustainability report we provide data only of the company itself. We indicate when data of the affiliated companies are also shown



“From a strategic point of view, since the mid-90s BorsodChem has identified the expansion of its plants and the development of management systems focusing on the creation of a long-term future. As part of this approach, I would like to make sure that our employees take into account the application of sustainable perspective and acknowledge that their activities today have an impact on the quality of future life.

We believe that in the not too distant future, it will be an important part of the company's competitive potential to deal well with our environment and the health of the people living there. By publishing our Sustainability Report, we want to help the people living in our environment to get to know our activities, efforts and results mainly in the field of environmental protection, and our goals the we would achieve in the future. I trust that with our report we can help open communication between the company and its environment.”

Tibor Klement
Director HSE

Materiality Assessment

Most of the world's and the industry's leading companies² prepare their sustainability reports in accordance with the GRI guidelines³. Using the standards ensures the appropriate disclosure of information of material topics and makes possible the comparison of economic, environmental and social performance of a company with that of other's and indicators of different periods. We have based our report on the GRI Standards, issued in autumn 2016, substituting the G4 guidelines from 2013. The indicators of the Standards enable the balanced disclosure of indicators presenting the effects of operations, including the factors affecting the achievement of Sustainable Development Goals.

The GRI guidelines require the report to be prepared for the right stakeholders with relevant high quality content. Accordingly, we determined the material topics for the report in three steps.

First, we identified the most important stakeholders and topics relevant to BorsodChem. We based our research on benchmarking other chemical companies and interviewing our executives. Secondly, we validated the materiality of different topics by a survey-based quantitative research among the previously identified internal and external stakeholders. We identified 22 material topics based on more than 600 completed surveys.

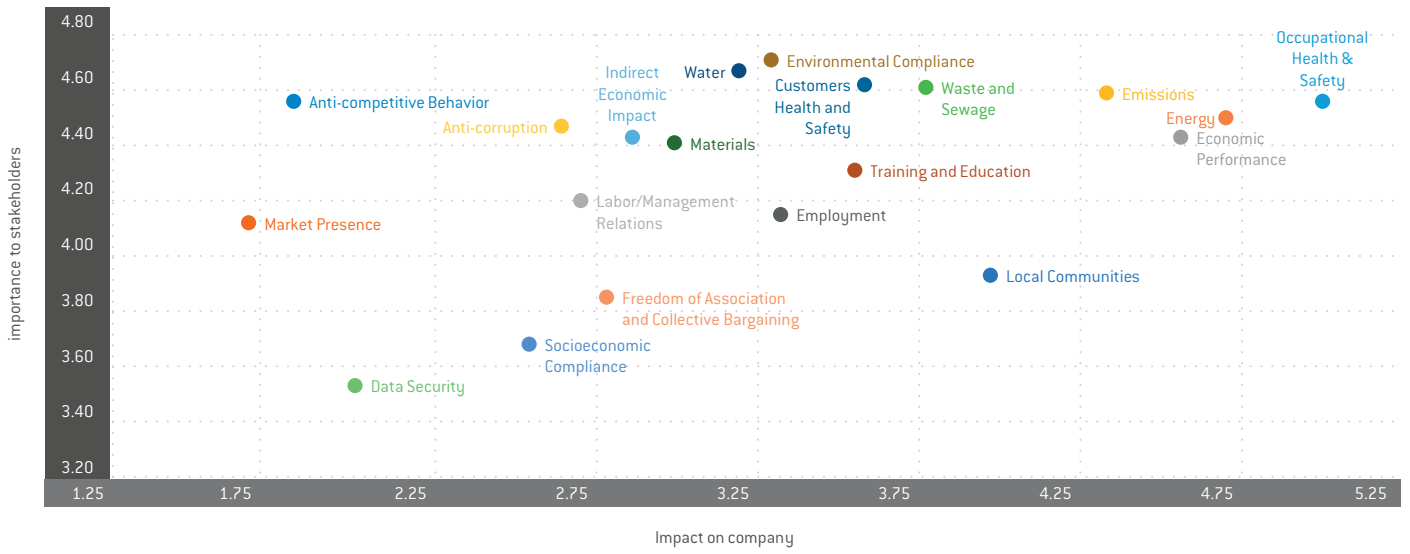
Thirdly, we determined the relevant indicators for each topic. However, the “Core” option of the GRI Standards only requires the disclosure of data on one indicator per topic, so we present 30 of them in this report. In addition, we included extra information in the relevant chapters in order to provide a more complete and interesting picture of our company's operations and performance.

The materiality assessment of the 2016 report was made in cooperation with KPMG Advisory Ltd. The heat map below shows the result of the research.

² KPMG Survey of CR Reporting 2015: <https://home.kpmg.com/content/dam/kpmg/pdf/2015/12/KPMG-survey-of-CR-reporting-2015.pdf>

³ More information on GRI: <https://www.globalreporting.org/Pages/default.aspx>.

Materiality Assessment





1 Global Sustainability Trends

1.1 Global Challenges

At the beginning of the 21st century, no corporation can ignore the global environmental, economic and social forces fundamentally shaping our world.

Climate change, water and air pollution cause indirect and direct risks, which together with the increase of population means an even bigger challenge for humanity. Furthermore, the growth of global middle classes and urbanization may result in significant changes in world economy through the acceleration of the growth in consumption.

Besides this, adapting to the changes, making positive trends and taking advantage of them are also in the interest of responsible companies. Multinational corporations may solve even cross-border issues as they can take charge of the local execution of activities related to global goals. For all this, global guidance and social consensus are needed. One of the most important factors is the Paris climate agreement, negotiated by representatives of 197 countries in December 2015. At COP21⁴ the parties, including Hungary, agreed to make efforts to keep the average increase in temperature below 1.5 °C. The Agreement starts in 2020, and will globally affect energy and transportation systems, and cause changes in industry,

thus influence our lives. Different carbon neutrality initiatives clearly indicate to the business sector that businesses have to change their short-term thinking schemes and structures to long-term schemes to make intergenerational decisions.

The formation of local strategies and action plans, and their compliance with global frameworks are supported by the United Nation's Sustainable Development Goals (SDGs). The goals approved in 2015 globally guide the states, corporations and non-governmental organizations in the setting and achieving of economic, environmental and social goals, such as the – in many aspects successful – Millennium Development Goals did. The 17 SDGs, bringing 169 sub-objectives together, mainly aim to eradicate poverty and create a sustainable future. In order to achieve the goals by 2030, taking into account their resources, the UN member states have to modify their policies⁵. To facilitate the commitment in practice, in cooperation with the UN Global Compact, KPMG has supported these aims by preparing the SDG Industry Matrix for various industries⁶. The Energy, Natural Resources, Chemicals Industry Matrix linked here describes examples of the best practices of industry participants, contributing to the achievement of SDGs. The document contains useful examples and guidelines also for BorsodChem.

4 KPMG – The COP21 Paris Agreement: A clear signal to business: <https://home.kpmg.com/content/dam/kpmg/pdf/2016/02/kpmg-cop21-post-briefing.pdf>

5 SDG Compass Guide: http://sdgcompass.org/wp-content/uploads/2016/10/SDG_Compass_Guide_Hungarian.pdf

6 SDG Industry Matrix: <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/01/SDG-industry-matrix.pdf>

1.2 How does BorsodChem contribute to the achievement of Sustainable Development Goals?

BorsodChem supports the Sustainable Development Goals. Based on our profile and size, we are able to contribute to various goals. In this report we indicate which SDGs are supported by our operations.

SUSTAINABLE DEVELOPMENT GOALS

 <p>1 NO POVERTY</p>	 <p>2 ZERO HUNGER</p>	 <p>3 GOOD HEALTH AND WELL-BEING</p>	 <p>4 QUALITY EDUCATION</p>	 <p>5 GENDER EQUALITY</p>	 <p>6 CLEAN WATER AND SANITATION</p>
Economic Sustainability; Responsibility for Local Communities	Indirect contribution, see Goal #1	Responsibility for Our Colleagues; Responsibility for Our Clients	Training and Education	Similar salaries	Environmental Sustainability
 <p>7 AFFORDABLE AND CLEAN ENERGY</p>	 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	 <p>10 REDUCED INEQUALITIES</p>	 <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>
Energy	Economic Sustainability; Responsibility for Our Colleagues	Products and Services; Economic Sustainability	Economic Sustainability; Responsibility for Local Communities	Products and Services; Economic Sustainability; Responsibility for Local Communities	Sustainability throughout the Value Chain; Environmental Sustainability
 <p>13 CLIMATE ACTION</p>	 <p>14 LIFE BELOW WATER</p>	 <p>15 LIFE ON LAND</p>	 <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	 <p>17 PARTNERSHIPS FOR THE GOALS</p>	
Sustainability throughout the Value Chain; Environmental Sustainability; Products and Services	Materials	Biodiversity	Strategy and Values	Together for the Sustainable Chemical Industry	

SDG Industry Matrix: <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/01/SDG-industry-matrix.pdf>

2 Sustainability in the Chemical Industry

Environmentally friendly vehicles, energy-efficient buildings, fashionable clothes, furnishing and detergents. Nowadays chemical industry is one of the most dynamically developing sectors whose products are essential for society and many industries. The related industries and their customers along with the continuous development of technology require newer materials again and again. The primary objective of the chemical industry is the creation of materials with new characteristics and the development more economical production processes. Therefore, most of the chemical industry needs to be research and development intensive. The value of our everyday products are not exclusively measurable in cash. As our industry transforms natural resources and produces new materials, the risk of environmental impact is significant.

The chemical industry has a dual effect: on the one hand it is one of the main drivers of development, but on the other hand it significantly affects the environment directly and indirectly as well. According to a research carried out in the early 2010s, the external environmental costs accounted for more than 40% of the industry's EBITDA⁷.

The chemical industry's direct environmental impacts are reflected in air pollution, especially in significant greenhouse gas (GHG) emissions, soil contamination and the pollution of natural waters. Due to the high energy intensity⁸ and the generally inefficient use of energy, the industry directly adds to the harmful effects on the environment. The reason for this is the fact that, globally, more

than 80 percent of our energy is generated from hydrocarbon combustion, inducing high levels of air pollution and GHG emission⁹. In order to mitigate negative effects, the amount of investments improving energy-efficiency has grown recently.

The industry participants have great responsibility in terms of international conventions and achievements, evidenced by the COP21's agreement¹⁰ and the SDGs. The ever changing legal environment and rising client expectations force companies to proactively face challenges and look at the sustainability related initiatives as opportunities. Along with this the demand for transparency has increased too. With regular reporting following international standards, chemical companies may create a basis for good reputations, and deepen investors' and clients' trust to improve profitability¹¹.

Concerns in the chemical industry are focused around production-related pollution, energy intensity, and the measures of chemical, renewable and non-renewable raw material usage.

Related to these elements, the responsibility is split between the chemical industry and its clients because many products are released into the environment through them. Thus, the primary mission of the chemical industry is to ensure the safety of production processes, decreasing the emission of harmful substances, and minimizing the adverse effects of end products and the utilization of non-renewable raw materials¹².

⁷ KPMG – Sustainable Insights: <https://assets.kpmg.com/content/dam/kpmg/pdf/2012/03/sustainable-insights-march-2012.pdf>

⁸ International Energy Outlook 2016: <https://www.eia.gov/outlooks/ieo/pdf/industrial.pdf>

⁹ World Energy Resources 2016: <https://www.worldenergy.org/wp-content/uploads/2016/10/World-Energy-Resources-Full-report-2016.10.03.pdf>

¹⁰ United Nations Climate Change Conference Paris 2015 (COP21): <http://www.cop21paris.org/>

¹¹ Road Map Document for a Sustainable Chemical Industry: http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=ENERG_ICE_Road_Map.pdf

¹² Road Map Document for a Sustainable Chemical Industry: http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=ENERG_ICE_Road_Map.pdf

3 Legal and Economic Conditions in Hungary

In 2004, Hungary became a full member of the European Union, which significantly influenced the country's business environment. Almost one quarter of Hungarian GDP comes from the industrial sector, mainly because of the automotive and electronics industries' good performance¹³. Serving these sectors, the chemical industry, including rubber, plastic and precious metal and mineral product production provides more than seven percent of the industrial production value¹⁴. About ten percent of industrial workers are employed by chemical companies¹⁵.

The chemical industry, as in any location, is among the most strictly regulated industries in Hungary too. In Hungary, being a member of the European Union, the community regulations are normative, thus REACH¹⁶ – one of the most comprehensive regulation for chemical products – also applies to local chemical companies. The protection of environment and population is regulated by the European level Industrial Emissions Directive (IED).

The European Union's Climate Protection Objectives and the National Strategy

The European Union, independently from the Paris Agreement, developed a climate and energy package that aims to decrease GHG emissions by 80% by 2050. As part of the energy package there are sub-objectives for 2020 and 2030 too.

The 2030 strategy of the EU defines four major directions: 40 percent decrease in GHG emissions compared to the 1990 levels; 27 percent share of renewable energy of the total energy consumption; the harmonization of the member states' energy-efficiency and energy security plans; the reform of the Emission Trading System.

Hungary developed its independent strategy to reach the energy-efficiency objectives called the National Energy Strategy 2030. The objectives of the strategy are aligned with the EU's fundamental objectives, such as the sustainability, competitiveness and security of supply.

REACH – Registration, Evaluation, Authorization and Restriction of Chemicals

REACH is the 1907/2006/EK regulation of the European Parliament and European Committee in force since 2007. The regulation requires industry participants to moderate risks related to chemical products by ensuring available information about product ownership and risks, and registering data at the central authority. We are committed to the realization of REACH, so we closely cooperate with our business partners. Furthermore, we created a REACH integration team that cooperating with professional organizations proactively handles REACH requirements.

Industrial Emissions Directive

The integrated pollution prevention and control directive (IPPC; 2010/75/EU) is the EU's most important environmental regulation. The directive focuses on industrial operations, and approaches the effect of operations on environment and health in an integrated way. According to IPPC, industrial operations shall decrease emissions at the point source of pollution and use natural resources efficiently.

¹³ <http://doingbusinessinhungary.com/en>

¹⁴ <https://www.ksh.hu/docs/hun/xftp/idoszaki/jelipar/jelipar15.pdf>

¹⁵ <http://nkfih.gov.hu/hivatal/hivatal-kiadvanyai/lehet-huzoagazat-150203-10>

¹⁶ European Union regulation: Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

4 Sustainability in Hungary

The Fundamental Law of Hungary obliges us to respect the protection of future generations and to manage national resources responsibly in the long run. According to this the Parliament approved the National Framework Strategy on Sustainable Development of Hungary, declaring the country's transformation into a more sustainable one by 2024¹⁷. The strategy takes into account local and global challenges and the requirements of international initiatives and legal instruments.

A research by the Hungarian Central Statistical Office with 1000 participants highlighted that the Hungarian society finds sustainability important, however, compared to this, willingness to act is low. The media significantly influences the importance of environmental and social problems in the eye of society, but public awareness about indirect issues, such as soil degradation and endangered biodiversity, is still not high, unlike views about climate change and drinking-water supply¹⁸.

Besides the media, corporations have great responsibility because in spite of the slow evolution of sustainable views, a strongly environmentally conscious, socially responsible social layer has not yet emerged¹⁹.

At the same time, as a consequence of international customer expectations and regulations companies operating in Hungary increasingly give priority to viewpoints related to sustainability. As a sign of this, more and more companies are publishing sustainability reports in Hungary. In 2015, 84 of the 100 biggest companies provided information on their economic, environmental and social performance, improving their own and their industries' transparency²⁰.

With our 2016 sustainability report we wish to show our clients, employees, local communities and other stakeholders that as one of the largest Hungarian companies, and as a member of the international Wanhua Group we are also committed to sustainability. We would like to contribute to the transparency improvement of our corporation and the national industry by publishing our sustainability performance indicators. This should contribute to the improvement of local and international business development and the chemical industry's image.

¹⁷ National Framework Strategy on Sustainable Development of Hungary: <http://www.stakeholderforum.org/fileadmin/files/National%20Framework%20Strategy%20on%20Sustainable%20Development.pdf>

¹⁸ National Society of Conservationists – Sustainable Development, curriculum for decision-makers: http://www.csemete.com/data/source/FF_Magyarorszaghelyzete.pdf

¹⁹ Deák Zsuzsanna (Gradius Journal) – Sustainability and Consumer Society in Hungary (in Hungarian): http://webcache.googleusercontent.com/search?q=cache:Pye4-x7BQ88J:gradus.kefo.hu/index.php/gradus/article/download/2014_2_AGR_020_DEAK/82+&cd=1&hl=hu&ct=clnk&gl=hu

²⁰ KPMG – Survey of CR Reporting 2015: <https://home.kpmg.com/content/dam/kpmg/pdf/2015/12/KPMG-survey-of-CR-reporting-2015.pdf>

- PRODUCTION SITE
- TECHNICAL CENTER
- OFFICE



* the plant has been sold in 2017

5 Our Company

5.1 Company Profile

BorsodChem Zrt is one of Europe's leading plastic raw material and inorganic chemical producer. We supply high-quality MDI, TDI, PVC and chloralkali products to downstream industries, including constructions, automotive, furniture and clothing industries. This way people meet our products indirectly every day.

In 2011, Wanhua Industrial Group Co. Ltd. gained total control of BorsodChem Zrt. The alliance of the two companies resulted in the world's third biggest isocyanate producer, creating new opportunities for growth and technical development.

The results of our joint stock company has been continuously improving since 2013, the ratio of operating profits and revenues increased by 0.4% to 8.4% in 2016. The Return on Assets also shows a steep increase: from 0.3% in 2013 it increased to 6.4% by 2016. The equity of BorsodChem Zrt. was EUR 715 million in 2016, which mainly because of the increasing profits was almost 20% more than last year. The ratio of compared to total assets is continuously improving. Within our liabilities, the ratio of gross loans continued to decrease.

Overall, due to the favorable market demands and the increasing efficiency in production BorsodChem – as part of the Wanhua

Group – is reaching a sustainable level, creating opportunities through successful operations and further development.

In addition to improving profitability, the company has made significant investments over the period from 2013 to 2016, worth over EUR 146 million. The goal of the intense investment activity is to expand existing production capacities, and to improve the cost-effectiveness of production and reduce the use of energy in production.

The production site in Hungary is located in Kazincbarcika, where we have most of our 2676 employees. Besides these individuals, we have colleagues at various sites in Europe and beyond, supporting us in being successful. Our production subsidiaries are located in Kędzierzyn-Kozle*, Poland and Ostrava-Mariánské Hory, Czechia²¹. We have various branch offices all over the world.

The majority of our products are sold in Western Europe, but we supply significant amounts to clients in Central and Eastern Europe too. Furthermore, as a global supplier we are present in North and South American, African and Middle and Far East markets too.

	2013	2014	2015	2016
Operating Profits/Revenues (%)	0.4%	2.3%	2.2%	8.4%
Return on assets (%)	0.3%	2.1%	1.9%	6.4%
Investments (million euro)	23.3	43.3	48.3	31.4

Euro	2013	2014	2015	2016
Total Assets	1,811,347,103	1,593,364,771	1,615,313,198	1,837,645,486
Equity	454,155,590	548,490,168	595,825,618	714,991,469
Liabilities	1,357,191,513	1,044,874,603	1,019,487,580	1,122,654,017

²¹ The report does not include the operations of subsidiary companies.

*The plant has been sold in 2017



5.2 History

BorsodChem grew out of a combination of local chemical factories in the middle of the 20th century. One and a half decades later we established the first polyvinylchloride (PVC) plant, followed by the methylene diphenyl diisocyanate (MDI) plant in the early 1990s. With this BorsodChem's name became associated with isocyanate production. At the turn of the millennium we expanded our product range into toluol diisocyanates (TDI).

From the late 1990s our company has been dedicating special attention to the improvement of its environmental performance. According to this, we realized various investments, we met emission standards before joining the EU, and carried out major developments in our wastewater treatment plant. The more than 20-year-old ISO 9001-based Quality Management System (QMS) ensures the achievement of product quality objectives. In order to reach environmental objectives we introduced the ISO 14001-based Environmental Management System (EMS), which was assured by an independent party. In the interest of the protection of our employees' health, as our major greatest asset, we introduced the Occupational Health and Safety Management System (OHSMS) based on the OHSAS 18001 standard. In 2016, as part of our integrated management system the Energy Management System was assured based on the ISO 50001, supporting efficient energy usage.

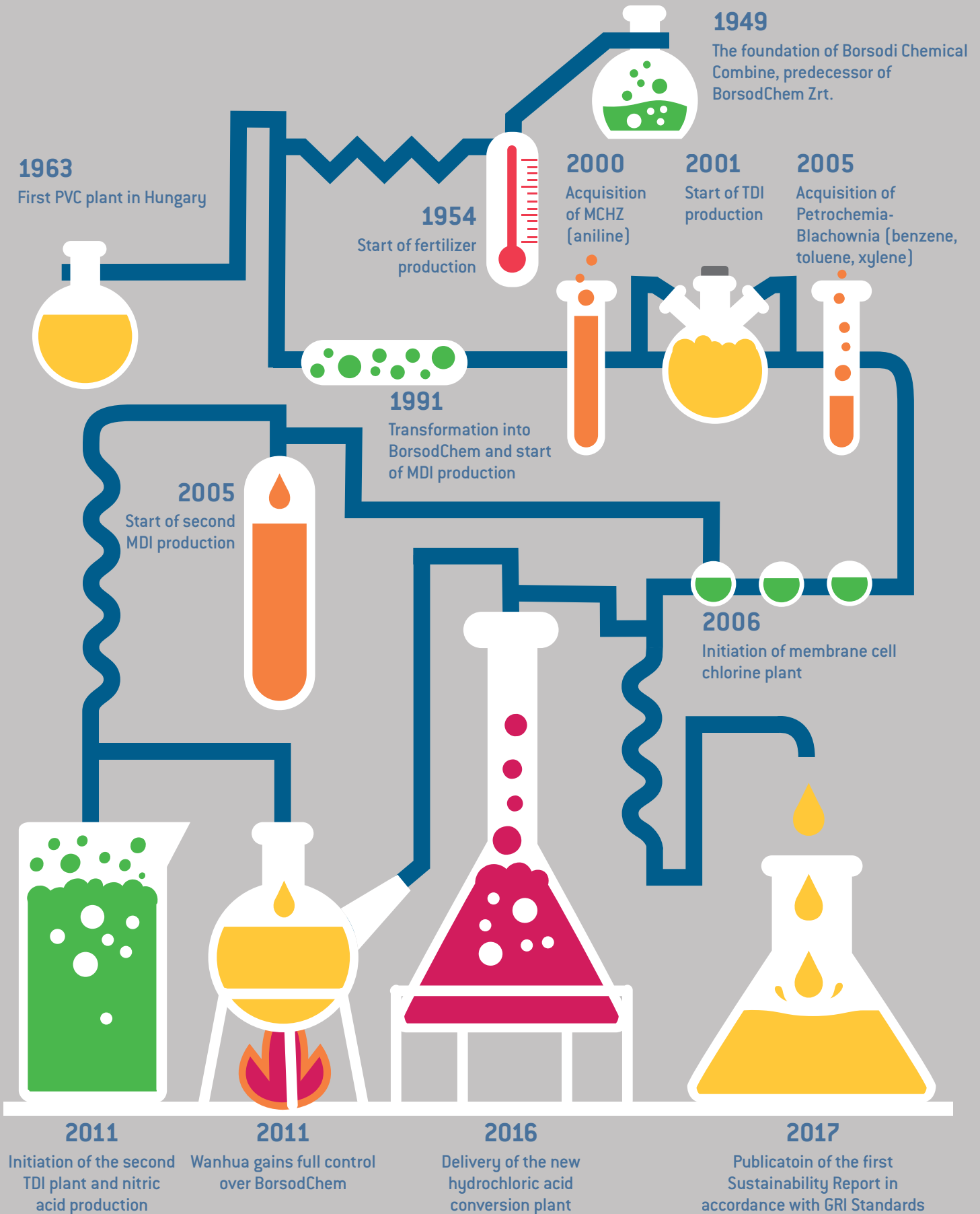
The customer expectations and the increasing demand for our products encouraged us to further develop our technologies.

Besides the development in Kazncbarcika plant, we founded the PU Development Centre in Gödöllő, which takes charge of research and development of polyurethane and its uses.

As a result of our steady work, we received numerous awards for our technical improvement and innovations related to environmental protection.

2002	Innovation Award 2002 (New raw material for plastics in Hungary)
2003	Innovation Award 2003 (Development of an environmentally friendly and energy saving wastewater treatment technology)
2004	Innovation Award 2004 (Development and implementation of a new membrane biotechnical process)
2005	The Inventor of the Year Award 2005 (PVC capacity expansion with closed environmentally friendly technology)
2006	Innovation Award 2006 (A new polyurethane production plant based on our own technology)

Milestones



5.3 Strategy and Values

As part of the Wanhua Group, our objective is to reinforce our position among Europe's leading plastic raw material and chemical manufacturers, also respecting corporate values. The exploitation of potential in markets within and outside the European Union is carried out through additional investments and the alignment of production capacities to customer demand. In the past years we applied strict principles and values resulting in the continuous improvement of our production capacity and product quality.

In the interest of reaching our objectives we ensure the human resources infrastructure required for high level operations, we apply the latest technologies in the production processes, and we continuously monitor and decrease our environmental effects.

In order to take advantage of potential synergies we signed a strategic agreement with the Hungarian Government²². The agreement facilitates new investments, the development of production capacities, the R&D activities, and the cooperation with the Hungarian institutions of secondary and higher education.

We still stick to the priorities that guided us so far. We plan our future taking into account our partners, the communities, the employees and the environment. Thus, the achievement of our economic, quality and environmental objectives are based on four pillars:

– Energy efficiency²³

The responsible management of energy sources is ensured by the continuous improvement of the efficiency of energy usage. Through the accomplishment of our 13 Energy Objectives we reach six percent improvement in energy efficiency compared to the 2015 level between 2016 and 2018. With these improvements we contribute to the UN's SDGs and to the EU's 2030 climate and energy framework²⁴.

– Quality

Our philosophy is that we can gain the confidence of present and future customers by providing reliable and high-quality products and services persistently, including logistics, communications and consultation on application technique. Our quality objectives focus on reaching outstanding cost efficiency, the continuous training of employees, the development of special product ranges with added value, and the supply of consultation services covering industry-specific application techniques.

– Research & Development

Some of our Quality Objectives are related to research and development. We keep up with technological development by constantly improving laboratory methods, and meeting legal requirements.

We started a new project in 2016 with the purpose of developing a foam, for the automotive industry, with eight percent biological origin to reduce the products' ecological footprint. The purpose of our R&D activity is the significant reduction or elimination of the evaporating additives of MDI products, and creating new opportunities in the food packaging and soft foam markets.

– Health, Safety and Environmental Protection

The HSE excellence and prioritizing the principles of sustainable development also contribute to the achievement of our long term objectives. Thus, in activities and the operation of our systems we pursue zero safety incident and accident rates and minimization of environmental impacts.

The safety and health of people, and the protection of the environment are of paramount importance. Applying precautionary principles, these topics are treated just as importantly as business matters.

The identification of safety, health and environmental risks, and the mitigation of negative effects is one of our everyday tasks²⁵.

²² Strategic Partnership Agreement: www.kormany.hu/download/7/72/30000/BorsodChem.pdf

²³ Further information on energy can be found in the „Energy” chapter

²⁴ 2030 Climate & Energy Framework: https://ec.europa.eu/clima/policies/strategies/2030_en

²⁵ Communication with stakeholders: see the chapter „Stakeholders”. To read about our approach to employees see the chapter „Responsibility towards Our Employees”.

Our Quality Objectives

1	Maintain a stable and excellent product quality, which ensures the foundation of competitiveness and growth.
2	Keep up an appropriate flexibility in the ratio of base products and their stockpiling for us to be able to keep pace with the dynamics and seasonality of market demands.
3	Achieve outstanding cost effectiveness at industry level.
4	Establish a differentiated and special product portfolio representing added value and ensure application technology support.
5	Reduce the number of unexpected breakdowns and production losses and minimize operational safety damages by means of the High-level sustenance of operating maintenance and the development of our Maintenance Management system.
6	Contribute to the market growth of Wanhua Group in a global role by utilizing synergies in group cooperation.
7	Support the introduction of new technologies and quality development of our products by continuous laboratory method development in a cost effective way keeping up with technical development in compliance with legal provisions.
8	Train our service partners regularly who participate in the activity of our employees and our Company in order to ensure up-to-date technical expertise and enhance operational safety.
9	Operate the info-communication system on an increasingly wider range to support processes effectively by ensuring inviolability and confidentiality.
10	Optimize our processes and continuously develop our activity by disclosing our operational failures, performing root cause analysis and realizing corrective actions.
11	Expand our Integrated Management System by introducing the Energy Management System and further develop it by adapting the new standard requirements.
12	Implement higher-level dual training in order to supply BorsodChem Zrt.'s highly-qualified engineer stock.
13	Increase commitment towards our Corporate Core Values and our Company Culture.

Our Core Values

We approach our strategic objectives applying our values. Our six principle values express the expectations towards our employees and our commitment towards our partners. We are committed to encourage ownership approach and proactivity by open communication and honest feedbacks. The identification with our values is the responsibility of each employee,

including the staff and management of production plants and service provider departments.

The Code of Ethics updated in 2015 serves as a guideline to follow our values.



Capability of and willingness to change



Being practical



Commitment to excellence



Customer orientation



Performance orientation



Team work

Code of Ethics:

The ownership approach comes together with great responsibility. Our goal is to comply and make employees comply with the ethical norms and regulations indispensable for success. To support this endeavor, we have developed the Code of Ethics, which contains 10 directives:

- Relationships within the company
- Relationship with customers
- Relationship with suppliers and creditors

- Relationship with competitors
- Relationship with state and governmental agencies, the region and the society
- Relationship to quality, safety and environmental protection
- International relations
- Shareholder relations
- Moral responsibility of managers
- Execution and sanctions

The Code of Ethics has to be acknowledged by all new employees, regardless their position, and they have to act in accordance with it every day. The evidence of acceptance is registered in the employees' personal file together with the record of completed training courses regarding operations.

Since we are part of the Wanhua Group and having international partners, the Code of Ethics is also available in English, not just Hungarian. We are proud of our Code of Ethics and expect our clients and partner to respect and accept our norms, which are also included in the General Terms and Conditions.

Leaders have great responsibility related to the content of Code of Ethics because they act as role models to their colleagues, and with their behavior they may have an impact on BorsodChem's operations and reputation.

We also have an Anti-Fraud Policy with the purpose of emphasizing the norms about fair and lawful operations included in the Code of Ethics, identifying the forms of abuse and bribery and the related procedures.



Real or suspected violations of Code of Ethics, Anti-Fraud Policy or other policies can be reported by employees or contractors on our Hotline. The Hotline Policy guarantees the anonymity of the notifying person, defines the methods of data handling and investigation of the case.

The Code of Ethics, the Hotline Policy and the Anti-Fraud Policy were updated in 2015 according to international trends.

5.4 Governance

The responsible, successful and sustainable operation of BorsodChem is based on the properly designed integrated management system, including quality management (QMS), environmental management (EMS), operation, health and safety management (OHSMS), and energy management (EnMS) systems. In addition, the systems aim to ensure the company's compliance with ethical and legal requirements. In the interest of efficient operations, we constantly monitor our policies and instructions, and update them when necessary.

The members of senior management, just like the CEO and Chairman delegated by the owner have decades of experience.

Bearing in mind the rational use of natural resources and the company's efficiency, the reduction of specific raw material,

energy, and water usage, and the minimization of waste is in the interest of every responsible leader. The key performance indicators related to these metrics are the basis of the leaders' evaluation.

There were changes in the governance of BorsodChem in 2016. Mr. Jiansheng Ding retired from the position of CEO and Chairman. The owners chose Mr. Hongjie Lu as the new Chairman. Before his election, from 2012 he worked as a Senior Vice President responsible for production. Mr. Liu Junchang, from 2011 responsible for marketing and sales, was appointed as the new Chief Executive Officer.

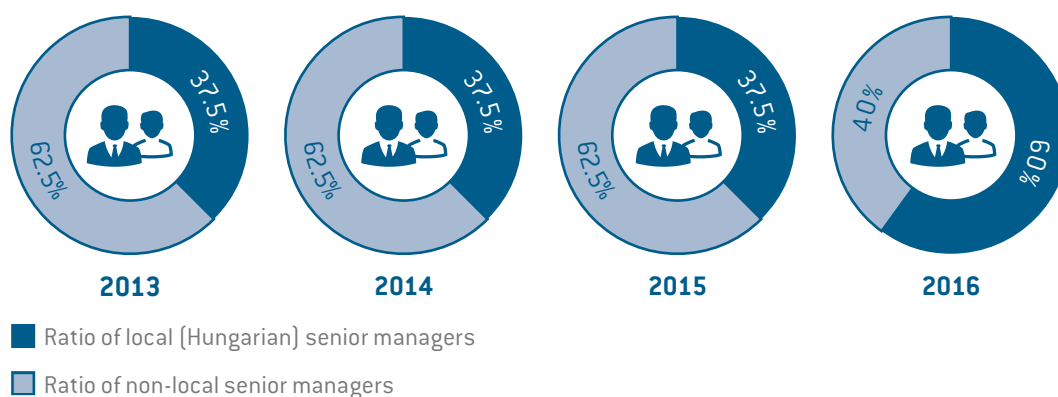
The Board of Directors is the governing body of the company, with the purpose of making decisions related to BorsodChem's management.

By the end of 2016, 60 percent of the senior management (six persons) were local citizen.

The managers are responsible for the implementation of corporate strategy and the coordination of operational procedures.

The company is organized based on functions. This structure serves the most efficiently our strategic goals.

Percentage of local (Hungarian) senior managers



Our Leaders:



Lu Hongjie
Chairman of the Board



Liu Junchang
CEO



Béla Varga
HR and Communication



Li Junyan
Finance and IT



István Hegedűs
Finance and Controlling



László Kruppa
Sales and Marketing



János Szabó
Procurement



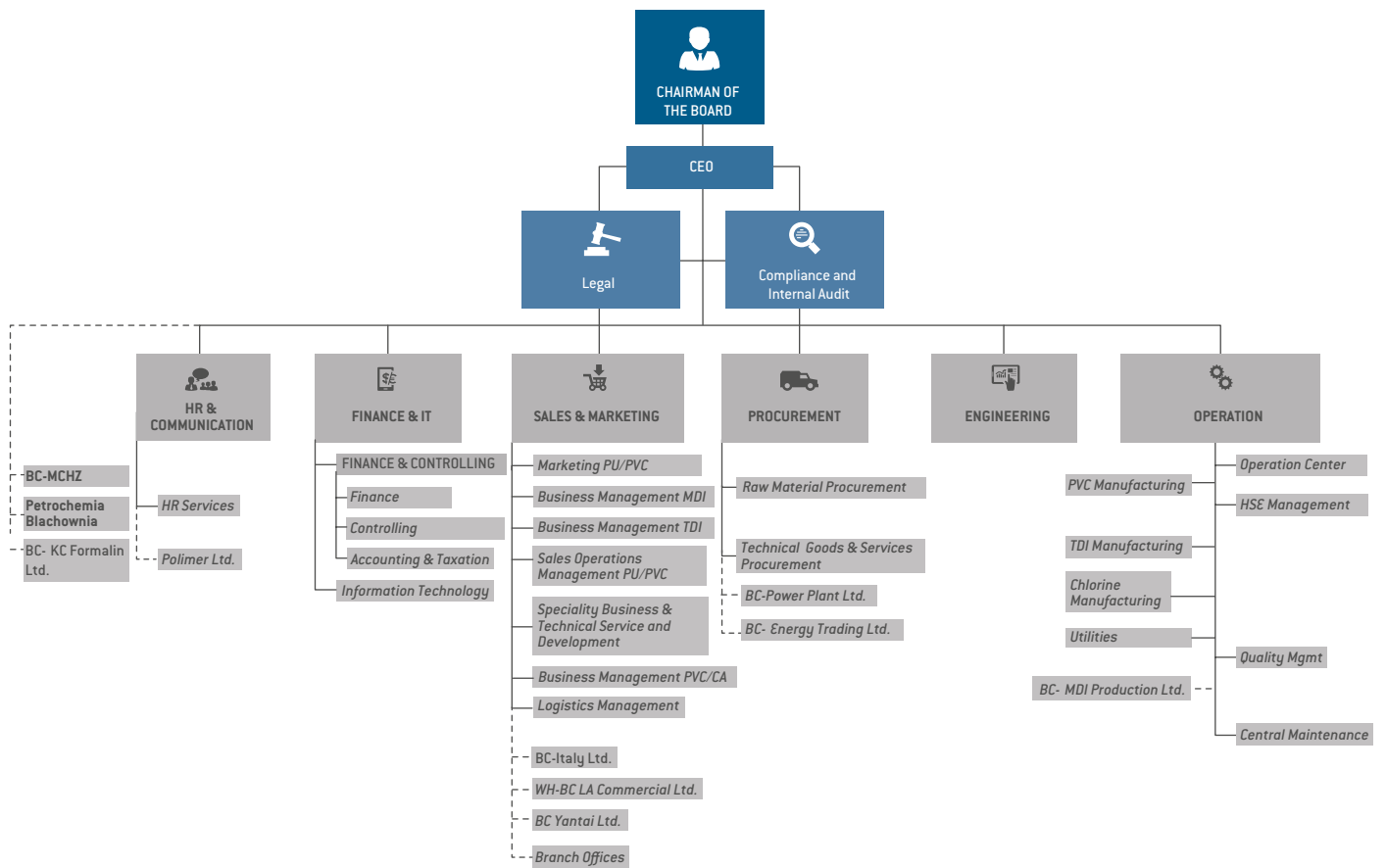
Tamás Purzsa
Engineering



Csaba Kohajda
Operation



Vladimír Karkoska
Strategic Projects



Our company is audited by Deloitte Hungary. The third party auditor chosen by the management is responsible for the investigation of our business activity and the compliance review of our annual financial reports based on the Hungarian accounting standards.



Freedom of Association and Collective Bargaining

In 2016, our company took several steps to promote the freedom of collective bargaining and association, including the SA 8000 standard. The instruction about social commitment coming into force in 2016 states that our employees have the right to found associations representing employee interests, and to join or stay away from such organizations. In accordance with the instruction, the Collective Agreement and Code of Ethics BorsodChem also respects the right of collective bargaining and ensures that union members are not exposed to discrimination, harassment, intimidation or retaliation.

We consider these principles to be present in our suppliers' and clients' policies, so in 2016, all of our 551 affiliated partners were required to comply with our Code of Ethics. Furthermore, the acceptance of the Code is required for applying to our procurement business processes. Violation of the Code is considered a serious offense, which may result in the termination of the contract. However, we do not know about any cases when the freedom of association and collective bargaining is harmed at any of our partners.



5.5 Products and Services

We produce isocyanates, PVC resin, chlor-alkali and special chemical products. These products are used in more than 30 industries, thus we can say that BorsodChem products built into end products are present everywhere, used by every generation.

Environmental protection and sustainability are present not only in the production procedures, but also in the whole value chain, as every product contributes to SDGs in a different way.

5.5.1 Isocyanates

Our ONGRONAT® isocyanates (MDI and TDI) are the base materials for polyurethane (PU) production. Polyurethanes a versatile plastic which contributes to making our life more comfortable and environmentally friendly in many fields of application.

5.5.1.1. Isocyanates in the automotive industry

The characteristics of our isocyanate products enables car manufacturers and their suppliers to make durable and at the same time lightweight materials. The flexible polyurethane foams made of TDI components efficiently reduce the noise and vibration in the passenger compartments, increasing comfort. Thanks to its durability and versatile usability, PU is ideal for the production of seat cushions and leather-like interior trims. PU plays a major role in the weight reduction of vehicles due to its low specific weight. On the long run this results in the reduction of pollutant emissions.

5.5.1.2 Isocyanates in the wood industry

In the wood industry, PU is used as an adhesive for the production of wood fiber sheets and chipboards of different hardness. Its advantage is, that compared to traditional adhesives it does not contain toxic and carcinogenic formaldehyde and solvents. The adhesives and coatings made of ONGRONAT® MDI products guarantee strong and fast bonding and water resistance, allowing the versatile use of wood. Fast bonding improves productivity, the strength and water resistance contributes to sustainability by enabling the usage of renewable and waste wood from other industries as a building material.

Products of this segment (CASE) are also popular among clients in constructions because of these attributes.

5.5.1.3 Isocyanates in the furniture industry

Our TDI- and MDI-based ONGRONAT® products are widely used in the production of furniture, foams and coatings. Because of their versatility our MDI products are popular among designers, manufacturers and final users. Our products used as binders, industrial household waste foams become reusable. After recycling, waste foam may serve as underlay, floor covering or sound absorbing material.

5.5.1.4 Isocyanates in Insulations

PU is versatile and cost-efficient, thus sustainable. Our ONGRONAT® products has a variety of uses, such as binder, adhesive or insulation, in the building industry too. Used as insulation material may result in energy savings: 25 percent in case of walls, 28 percent in case of roofs, 16 percent in case of floors, 20 percent in case of windows. Compared to other heat-insulating materials, hard PU foams have lower thermal conductivity, providing better performance at the same thickness. PU is durable, thus delivers the same performance throughout its life cycle, indirectly contributing to the reduction of greenhouse gas emissions.

Sandwich panels, spray foams and pipe insulations are also made from our products. Due to its outstanding insulating characteristics sandwich panels made of PU are suitable for insulating walls, roofs and also garage doors. Foam spray insulations can be applied to any surface in a contiguous layer, so it can be applied to walls, roofs, floors, and even in industrial tanks where temperature control is particularly important. Besides its superior performance in temperature control this type of insulation prevents from air, moisture, dust, and pollen penetration as well. The hard PU used for insulating pipes is useful at industrial plants where besides temperature control mechanical protection is also important. The efficiency and resilience of insulating materials helps companies and households to reduce their energy needs, thus reducing greenhouse gas emissions and heat-related costs.

Isocyanate-based insulating materials can be found inside the buildings, not only in their structure. It is estimated that half of the world's food stock is stored in hard PU-fired refrigerators and freezers. The reason for this is that PU's thermal efficiency, specific weight and cost are low. These insulating materials are also ideal for equipment, such as water heaters and display coolers, designed with the consideration of environmental protection and energy efficiency viewpoints.





5.5.1.5 Isocyanates in the textile and clothing industry

Thanks to its elasticity, resistance, durability and comfort PU products made of our products became an indispensable raw material for clothing and footwear production. Due to its formability, it can be used in many ways in these industries. PU is the raw material of elastin, one of the fabrics with best characteristics, and it is also used as a flexible laminating material for waterproof fabrics. Because of its durability and elasticity, PU also serves as a base for shoe sole and synthetic leather. Its resilience and comfort makes it suitable for the production of sportswear and sports equipment.

5.5.2 PVC

Our Az ONGROVIL® PVC product range offers solutions for the production of soft and hard products, so it can be used versatility in the construction industry, for packaging materials, for insulation of wires and in many other areas.

Circular Economy in Production

Thanks to the integrated production we use hydrochloric acid gas generated in isocyanate production as one of the main raw materials for PVC products. With this solution we apply and realize the principles of circular economy. We use a by-product for the production of a different product.

5.5.2.1. PVC in the construction industry

Because of its special physical and technical properties, PVC has been used in the construction industry for decades. In addition to meeting the architectural requirements of the era, it has low cost

and long service life, thus it substitutes traditional materials, such as metal and wood. Its UV stability is a fundamental factor when it comes to the production of outdoor elements exposed to the changing weather conditions. Doors and windows made of PVC provide an opportunity to increase the residential buildings' energy efficiency, reducing energy costs and GHG emissions, improving quality of life. Due to its abrasion resistance and cleanability, the role of PVC as floor covering has increased recently. For example in healthcare, its resistance to disinfectants makes its application extremely efficient. The classic and most common use of PVC is for pipe manufacturing. At the same time, it is also used for waterproof membranes in the construction of buildings and tunnels.

5.5.2.2. PVC as packaging material and insulation

In packaging technology, PVC is one of the most attractive raw materials because its versatility; it can be used in hard or soft form. It is a safe and low cost material. It is non-toxic, lightweight and recyclable, so it is ideal for packaging foodstuff or pharmaceuticals, such as infusion bags and tubes.

Besides the fire resistance and formability of soft PVC, it also has good insulating properties. Because of this, it is widely used for the insulation of electric cables, and the production connectors and other electronic parts.

Due to its excellent properties, the number of PVC applications is constantly expanding.

5.5.3 Chloralkali Products

In addition to plastic raw materials, our company also produces hydrochloric acid, sodium hydroxide solutions and sodium hypochlorite too.

Hydrochloric acid is a good acidification chemical, ideal for steel pickling and for controlling the pH of water. The main customers buying hydrochloric acid are companies in the metal, chemical and food industry, and those of water treatment and producing water treatment agents. Due to its high quality synthetic hydrogen chloride solution it is suitable for pharmaceutical use.

The sodium hydroxide solution is a cleanser and solvent that effectively dissolves grease, oil and protein deposits, but does not react with iron or steel. The main buyers of the solution come from the metal, paper, textile food and chemical industries.

Sodium hypochlorite is bought by chemical, textile and water treatment companies due to its disinfectant effect and high efficiency against microorganisms and bacteria.

5.5.4 Services

We consider our customers' satisfaction important, so we provide them with PVC and isocyanate product-related professional technical services.

We develop our product mixes according to customer requirements in close cooperation with them. Upon request we provide them professional and technical guidance. The services and the quality control are implemented with the cooperation of the Vinyl Technologies and PVC Plant organizational units.

The Technical Service and Development department in Gödöllő works as a product development laboratory and technical showroom. Colleagues working in the Development Centre, just as those working at Vinyl Technologies provide technical and product development services to clients.



5.6 Sustainability Throughout The Supply Chain

The supply chain of BorsodChem is based on the logic of obtaining the sufficient quantity of raw materials of appropriate quality in order to ensure uninterrupted production, from the lowest possible geographical distance. Most of our raw materials (ethylene, toluene, aniline) are petrochemical products.

Our company is in direct contract with petroleum refining plants. As the number of petrochemical complexes are limited in our environment, our goal is to make the most of the available resources. Another group of raw materials (methanol, ammonia, nitric acid) can be obtained by processing natural gas. In this case we also strive for the direct purchase from the extractor of natural gas. In volume rock salt is the most significant raw material we use. Its quality is of utmost importance due to the sensitivity of the electrolysis technology, so that we pay particular attention to the good relationship with rock salt suppliers.

The turnover of strategic raw materials almost reached 1 million tonnes in volume and half a billion Euros in value in 2016. The amounts of aniline, used for the MDI product range, toluene used for the TDI product range, ethylene, used in the PVC production and industrial salt were the most significant in volume in 2016.

The incoming materials are used in BorsodChem integrated production system. The essence of the system is to minimize losses in the production process by utilizing all the materials involved (raw materials, auxiliary materials, and catalysts etc.) in production, reducing the costs of logistics, energy consumption and waste generated during the process.

2016 was an outstanding year in terms of investments. After a successful test run, our hydrochloric acid conversion plant has begun to operate. In addition we started the construction of the new membrane cell chlorine plant, which will substitute the obsolete mercury-based electrolysis technology. With the new plant, the raw material and energy savings will be significant.

Today, the viewpoint of sustainability is seen throughout the whole value chain of the company. Together with our clients we consider sustainable operations a fundamental goal, this is why we expect from each other to work in a sustainable manner and to adopt each other's codes of ethics.

In the last two years, more and more customer inquiries have been received related to our ethical business behaviour, social commitment and environmental compliance practices. By emphasizing the principles of SA 8000²⁶, in 2016, we reinforced further our requirements of social commitments, and incorpo-

26 <http://www.sgs.hu/hu-HU/Sustainability/Social-Sustainability/Audit-Certification-and-Verification/SA-8000-Certification-Social-Accountability.aspx>

rated into our policies that BorsodChem, since any responsible employer is against child and forced labor, prioritizes occupational health and safety, and does not restrict freedom of association and does not discriminate employees.

The policy contains the essence of all the guidelines (Hotline Policy, Anti-Fraud Policy, Code of Ethics, Collective Bargaining Agreement, HSE Policy, Regulation of the Qualification of Suppliers and Service Providers) that support BorsodChem's responsible and sustainable corporate endeavours.

BorsodChem's compliance with sustainability requirements is being investigated by an increasing number of audits initiated by our partners. In 2016, three international customers checked our operations based on the SA 8000 standard or relative to their own code of conduct. In each case, our operation proved to be adequate. These audits are reported to the senior management in the quarterly reports about the integrated management system. This way the leaders can get feedback about our company's sustainability performance from the viewpoint of our partners.

Our goal is to incorporate sustainability guidelines into the scope of the on-the-spot audits of our partners. On-the-spot audits, if justified, are initiated by the department in contractual relationship with the partner, for example if quality or performance deterioration is detected. Such audits are carried out by a group led

by a chief auditor, the team members are representatives of the organizational unit that uses the product or service. On-the-spot checks have been applied for more than 20 years.

5.7 Stakeholders

As a raw material producer, our activity has various impacts on the economy, society and environment, so the quality of our relationships with stakeholders significantly affects our operations and our success. We consciously cultivate these relationships in order to strengthen positive interactions and reduce negative ones.

From the point of view of operations, we identified eight stakeholders with strategic importance.

Most of our success originates from the efforts of our **employees**. In order to maintain work and employee satisfaction on a high level, it is important to provide employees with safe, non-discriminatory working conditions and opportunities for development. We consider it fundamental to ensure them equal treatment, fair salary, human rights and freedom of advocacy. Our relationship with our colleagues is characterized by mutual respect and open communication, with forums including internal communication channels, executive forums and corporate events.

SA 8000

The SA 8000 international certification standard is designed to enable companies to develop and apply socially acceptable workplace practices. The standard includes the conventions of the International Labor Organization, the Universal Declaration of Human Rights and the United Nations Children's Rights. BorsodChem has complied with SA 8000 in the audit carried out by SGS in 2016. This demonstrates our commitment to responsible and sustainable operation to our employees and customers.

Whistleblowing/Hotline

The purpose of the hotline is to help our employees and contractors or suppliers, or any other stakeholders to communicate their remarks about product quality, compliance or sustainability. The notifications, just as the complaints about human rights, freedom of association and collective bargaining are judged and handled based on the Whistleblowing/Hotline Policy.

We are responsible to the **owner** for the preservation and increase of shareholder value, so prepare our strategy plans in cooperation with them, and provide them with regular and ad hoc reports on the progress and results.

With our **suppliers and customers**, we expect each other to respect basic and corporate rules of business ethics, and to treat environmental protection as a priority. The individual communication with suppliers is implemented on the basis of our internal policies.

Due to the diversity of our customers, there may be need for a wide variety of products and services, so we believe that it is extremely important to ensure smooth communication. Whether it is a phone call, electronic consultation or personal meeting, we are always ready to provide information. The most frequently encountered topics are health and safety, environmental protection or data protection. As our customers are industrial businesses, it is of utmost importance that we keep their data safe.

The **environmental** impact of our company and our activities' degree of danger are obvious to both public and intergovernmental organizations and communities living near our site.

We are constantly consulting and cooperating with national and regional **regulatory authorities**, local governments and other organizations to ensure legal, environmental and social compliance, open communication and smooth operations.

We get in touch with **local communities** typically in residential forums and events. For them, the most important topic is health and safety, the direct and indirect economic impact of our company, and the promotion of cultural and sport life

We consider it important to inform our stakeholders about our activities, developments and successes, so we care about our **media** contacts. We communicate with media contacts individually or through press conferences about our core business activities, successes, sponsoring or other social investment programs.

In order to ensure our workforce pool, we take care of future generations. We cultivate our relationship with **vocational and higher educational institutions**. Our programs include career orientation presentations for students, technical presentations, professional demonstration days and project competitions for students. Our goal is to acquaint students with the beauty of the chemical industry, its role in value creation, and

BorsodChem as an attractive employer. By engaging in education, we also contribute to the long term development of Hungary's industry.

Apart from the above mentioned channels, we also discuss the topics important to our stakeholders in our sustainability report. The report complements the existing channels of communication with our stakeholders.

Also, we address important issues for stakeholders in our sustainability report. The report, as a yearly summary, completes the regular reports with variable frequency.

In terms of value creation, it is important to work together with our stakeholders to find solutions to our problems and to provide thorough planning to ensure sustainable operations.



5.8 Together for the Sustainable Chemical Industry

As a responsible chemical company, BorsodChem has joined several professional organizations. Our memberships allow us to collaborate with and grow alongside other companies and learn from each other. The memberships give us good reference points that push us for even more improvement.

We are members of the following professional organizations:

- III (International Isocyanate Institute)
- MNB&DNT Safety Conference (MDSC)
- ISOPA (European Diisocyanate and Polyol Producers Association)
- PU Europe / BING
- Euro-Moulders
- European Panel Federation
- Euro Chlor
- Oxy Vinyls
- EPCA (The European Petrochemical Association)

- AC-Fiduciare
- French Rigid PU Foam Association
- Dutch Rigid PU Foam Association
- German Rigid PU Foam Association
- Austrian Wood Industrial Association
- Hungarian Chemical Industry Association (member of CEFIC) (MAVESZ)
- Hungarian Chemical Society (MKE)
- Confederation of Hungarian Employers & Industrialists (MGYOSZ)
- Hungarian Association for Innovation (MISZ)
- Hungarian Hydrological Association Borsod region (MHT)
- Association of On-site Fire Brigades Fire Brigades (LTSZ)
- Hungarian Internal Auditors Association
- Chamber of Commerce & Industry BAZ County (BOKIK)
- Federal of the North Hungarian Industrialists
- Hungarian Credit Management Association
- Hungarian Private Wagons Association

MAVESZ

The Hungarian Chemical Industry Association represents the professional interests of chemical companies and promotes consultation and communication. Its purpose is to keep members informed about the local and international trends and events of the industry.

III

The main objective of the International Isocyanate Institute is to promote the safe handling of MDI and TDI. III achieves this with the sharing of information related to health and safety among the companies, authorities and companies outside the association.

Euro Chlor

Euro Chlor brings together Europe's chlorine producers and other chlorine companies. Its purpose is to effectively represent chlorine producers and engage with industry stakeholders, promoting best practices and environmental protection in the sector.

ISOPA

ISOPA is a professional association of producers of the main building blocks of polyurethanes in Europe. It aims to establish best practices in the distribution and use of diisocyanates and polyols. It ensures that all stakeholders in Europe can obtain accurate and up-to-date information on substances.



6 Sustainable Operations



6.1 Economic Sustainability

6.1.1 We Create Value

In 2016, we worked to improve ourselves further and create value for our owners, staff and society. We had a successful year: we increased our profit and cost effectiveness, expanded our market presence, and improved our products and technologies.

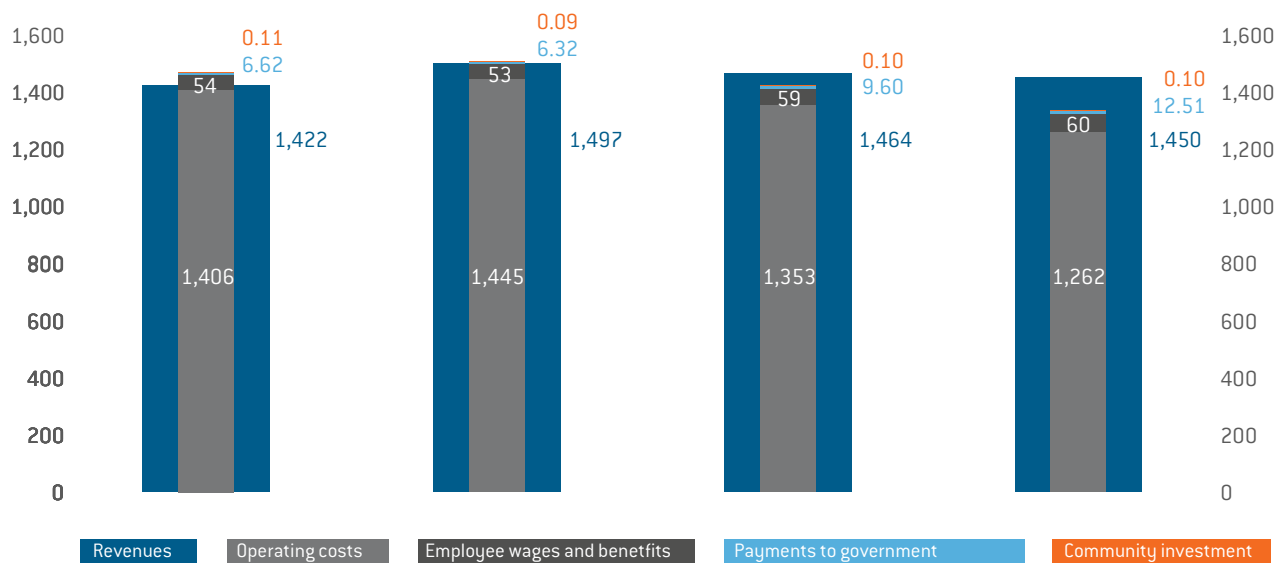
In 2016, the company achieved a EUR 115 million profit, meaning a significant, EUR 72 million increase compared to the previous year's profit. Our revenues did not change significantly compared to that of 2015, however, our operating costs – mainly due to lower energy and raw material prices – fell sharply by 7%. The

amount paid to the employees increased by 4% in 2016. Legislated payments to the government increased by nearly 30 percent due to higher profits. The amount spent on local communities remained close to EUR 100,000 similarly to the previous years.

As our company is one of the largest employers providing families with a livelihood, its successful operation significantly influences the regional social trends. In addition to employment, BorsodChem indirectly contributed to the increase in employment through the increased demand for raw materials, the increased volume of sold products, and continuous investments. Besides the economic impacts, we also support to the development of local communities with subsidies.

Incomes and expenditures (million EUR)	2013	2014	2015	2016
Incomes	1,421.91	1,496.85	1,464.11	1,449.88
Net revenues	1,385.39	1,460.77	1,398.35	1,406.46
Other revenues	36.52	36.08	65.76	43.42
Expenditures	1,466.42	1,504.70	1,420.84	1,334.66
Operating costs	1,405.55	1,444.90	1,352.60	1,261.45
Employee wages and benefits	54.14	53.39	58.54	60.60
Payments to government	6.62	6.32	9.60	12.51
Community investments	0.11	0.09	0.10	0.10
Profit after tax	-44.51	-7.85	43.27	115.22

Revenues and expenditures (million EUR)



BorsodChem has a positive effect on public finances primarily by the amount of tax paid. Furthermore, most of our products are sold abroad, so the company also has a positive impact on the balance of trade.

The Chief Financial Officer is responsible for the development of strategy that defines financial results. The capital provided by the Chinese owner created basis for expanding our production capacity, introducing new, more efficient technologies. By combining production technologies of BorsodChem and Wanhua, we were able to significantly increase our cost efficiency. The mutual knowledge sharing in technology and product development, just as global market presence strengthens our market position and the production of products with higher added value.

BorsodChem has sales offices in Istanbul and Zagreb, and subsidiaries focused on sales activities in Milan, Italy and Sao Paulo, Brazil. Through our foreign sales offices we are directly present in those regions, so we have a more profound knowledge of the local markets and we can have a closer relationship with our clients and react more effectively to market changes and challenges.

We keep our books in line with Hungarian accounting rules. In addition, accurate accounting and financial reports is guaranteed by our accounting policies, our cost accounting policy and our management accounting policies. Managing cross-company transactions, involving market risks is guided by our transfer pricing, financial risk management and competition law policy.

Our purpose is to comply with these policies in the interest of efficiency and fair competition. To this end, we review our processes and procedures through internal, and third party audits. Our goal is to increase the sales of isocyanate and to grow in Europe, while preserving our leadership in the region. As a leader in the industry, we use high-quality innovative technologies, we continuously strive for product and technology development, and improve efficiency, while meeting environmental criteria.

We took many measures in 2016 to reach our economic and environmental goals. The most important is the building of a hydrochloric acid conversion plant in the framework of Green Chlorine Recycling Project. The total cost of the project was EUR 86 million.

The treatment of hydrochloric acid as a by-product of isocyanate production, as well as the excess chlorine for isocyanate production is necessary for the company. Our goal is to handle these substances in a way that reduces their environmental impact and benefits society.

With the launch of the new plant, we have created a new way of using hydrogen chloride gas efficiently. In this respect, the reduction of the risk proceeding from chlorine gas transport is a significant achievement. By the conversion of hydrogen chloride gas into chlorine gas and its recirculation in the isocyanate production we reduce the use of sodium chloride, as natural resource (rock salt). In order to minimize the environmental impact and the risks of transport, the company decided to implement the on-site hydrogen chloride gas processing,

creating possibility of the vertical flows of large quantities of materials between plants. Our company selected the most energy efficient fixed bed catalytic oxidation process. The process saves great amount of electricity and generates chlorine. The procedure ensures the availability of part of the chlorine amount required by the plants for isocyanate production.

Taking into account the minimization of environmental impacts the plant's cold-energy demand is partly satisfied by waste heat, using absorption refrigerators instead of high-consumption compressor refrigeration.

Beside the existing efficient solution – as hydrochloric acid is used in PVC powder production – the plant offers another opportunity to use hydrochloric acid gas in an economical way. With the new plant we were able to increase the production of isocyanate, improving productivity and cost-effectiveness.

According to Decision 2013/732/EU setting the BAT requirements for chlor-alkali production, mercury cell electrolysis plants must be decommissioned in the near future. In preparation for this, BorsodChem launched the "Membrane Cell Brine Electrolysis Plant Expansion Project" in 2016. The objective is to replace the existing 136 kilotonne chlorine/year capacity mercury based plant and to build a new one in line with complying with the economic, technical and BAT (2013/732/EU) requirements of modern age.

The project's environmental aspects are significant:

- Significant energy savings due to the minor specific electricity consumption
- CO₂ emission reduction
- Water saving
- Eliminating the use of mercury in production.

The planned amount of the investment is EUR 114.5 million. The scheduled completion and launch of the new plant is 2018.

With the involvement of our colleagues in collecting LEAN ideas, we further optimized our processes, and thus we reduced the environmental impacts and increased economic performance.

Our company is constantly striving for energy efficiency. In connection with this, we implement a number of energy-saving measures and technological innovations within the realization of LEAN ideas. In 2016, we launched many energy-effi-

ciency enhancing investments to achieve six percent energy savings by 2018. To this end, we harmonized the Energy Managing System (EnMS) with the business plan, thus further reducing energy costs.

Our economic performance is largely determined by customer satisfaction, so we are flexible in serving the demands in the spirit of customer orientation.

Our goals are supported by the optimal organizational structure, and the precisely defined tasks and responsibilities related to the job descriptions.

Our economic performance is monitored by controlling and profitability analysis, business planning, continuous benchmarking.

In internal audits, we analyze our processes that point out any shortcomings and unidentified opportunities.

Our financial results are published in the Annual Report and the Business Report. In addition, the Controlling Department reports monthly performance to the management and the owner. In order to support leadership decisions effectively, we constantly develop the reports.

6.1.1.1 Indirect economic impacts

Just like any other company in the chemical industry, our operations generate indirect economic impacts that can be identified in the wider economy and the labor market.

Impact on the national economy

In 2016 we completed our hydrochloric acid conversion plant with the objective of decreasing our environmental burden, to minimize environmental risks as well as to support the production of isocyanate. Furthermore we completed numerous efficiency and capacity enhancing investments that will add value to both our financial performance and the performance of the national economy. We offer continuous work and livelihood to people living in the region, on the one hand to our employees, and on the other hand, to our suppliers and partners. Procurement related to our new investments increase the revenues of our suppliers. Therefore our partners can also increase the number of their employees and their production capacity. This improves macroeconomic performance and the disposable income in the region.

We also support the local communities near our site of operation, through sponsoring cultural, social and sports events.

Impact on the Labor Market

Our impact on the labor market is marked due to the fact that we are the biggest employer in the region, which is one of the least developed ones in Europe and Hungary. Our new plants and continuous investments create new job opportunities. We also support professional- and higher education in the region to ensure long-term specialized workforce in the region, and offer internship positions for students. We contribute to the economic and social growth of the region by creating jobs and developing education.

6.1.2 Compliance and Fair Competition

Our goal is to provide an example to other organizations and society at large regarding transparent operations. In line with this effort, we wish to become Europe's leading plastic producer in fair competition. When working together with our partners, we dedicate great effort to compliance with competition laws, and our management receives training courses regarding this topic.

As stated in our Code of Ethics, our employees are obliged to report any competition-related risks identified. This practice enhances our legal compliance and contributes to the company's long-standing good reputation. Potential reports are received and processed as defined in our Ethical Reporting Line Regulation. It is the responsibility of our Legal Department to ensure legal compliance with fair competition rules, as well as any other compliance areas. We continuously monitor needs and requirements to ensure that all resources, such as training courses, are available.

No legal action was launched against BorsodChem regarding anti-competitive behavior or violations of anti-trust and monopoly legislation in 2016 or in the three years prior. Therefore we did not receive any fines or non-monetary sanctions. We attribute this to our corporate culture and strong oversight of our internal regulations.

6.2 Environmental Sustainability

Due to the size, character and social perception of our industry, we emphasize on minimizing the negative impacts of our operations and on strengthening our positive impact. Material and energy efficiency are our key priorities.



6.2.1 Materials

Our strategic material procurement reached 1 million tonnes in 2016. The decreasing price of materials and energy and our efficiency investments contributed not only to increasing our net profit, but also to improving our environmental impacts.

We aim to decrease our costs through our site integration efforts and through producing necessary materials on-site. The latter also decreased the environmental impact of transporting the materials used in the production processes. Our annual production plan drives our material procurement, and our suppliers are selected by our departments handling procurement processes.

The Vice President Procurement, the Department of Material Supply Department and the Purchasing Officer of specific materials are responsible for ensuring sustainable material procurement. The Purchasing Officer manages the supply and the stock of materials based on the plants' requirement plans while considering aspects of sustainability (such as ensuring optimal stock levels, avoiding unnecessary movement of products, etc.). A performance evaluation and incentive system is in place for our colleagues working in Procurement, which is set up based on internal regulations.

Every supplier receives an equal chance at our tenders, however due to the strict quality requirements, it is important for us to purchase from certified suppliers. It is important for us to develop and sustain a transparent and fair partnership with our suppliers, therefore our contracts include clauses related to anti-corruption, our Code of Ethics, and aspects related to health and safety.

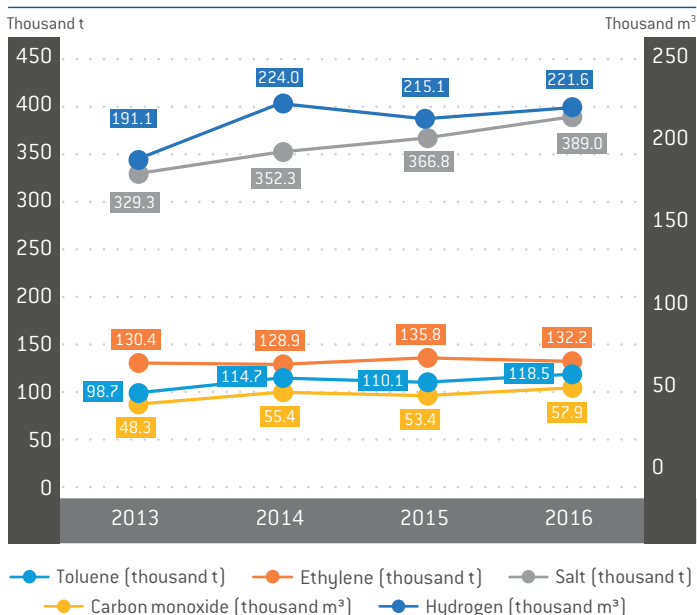
Most materials used for our production processes are non-renewable and externally sourced. We purchase strategic raw materials mainly from subsidiaries.

Due to the characteristics of our products, we cannot use renewable packaging materials – except for the wooden pallets used for transportation. In 2016 we changed the presentation of our products to make them more environmentally friendly and more economic and that is why the ratio of packaging materials changed. Our products are sold in large volumes, most of them are shipped in bulk containers. Our products are transported via roads, railways or by sea. Packaging materials are only used in a small portion of our products.

When we consider moving materials, it is our goal to minimize transport time and to choose the method with the lowest environmental effect. As a result, we prioritize rail transport over trucking.

We are continuously working on decreasing the geographical distance of our supply chain together with the lead times, hence minimizing the transport of dangerous materials. To ensure appropriate quality, we request samples from new suppliers. This way we mitigate the risk of return transportation, and the risk of destruction of the material as well as possible problems from chain reactions.

Non-renewable materials used



Environmental Protection Award to our Director of Logistics

István Papp, our Director of Logistics received the Dezső Radó award in 2016. This award was founded by the Clean Air Action Group and the Club of Logistics Directors. The award is assigned to directors who achieved remarkable results in decreasing the environmental impact of transport.

István Papp was responsible for changing our company's transport into an intermodal model, which makes up over 70% of our transport (in tonnekilometers). As a result of improvements enacted in transport and environmental protection technology, we managed to substantially decrease our emissions of greenhouse gases.

Purchased packaging materials	2013	2014	2015	2016
Renewable materials				
Wooden pallets (pcs)	219,582	221,975	229,647	216,190
Non-renewable materials				
Big-bag (pcs)	62,258	68,112	71,203	74,806
Labels (pcs)	602,426	680,149	689,974	706,103
Metal cans (pcs)	329,338	363,430	365,847	316,969
IBC barrel (pcs)	8,335	8,760	12,152	14,400
Plastic can, barrel (pcs)	1,282	1,157	783	2,135
Paper bags (pcs)	2,542,200	2,588,300	2,382,915	2,656,330
PE-foil (kg)	138,052.0	152,224.5	127,585.8	147,570.1

Complaint management is important in Procurement processes. Managing complaints related to raw materials or means of transport is the responsibility of the material purchasing officer. Depending on the degree of the complaint, the purchasing officer may decide about claim adjustment and managing the complaint. It is our goal to close every complaint within a month. We run an internal separate system for managing complaints, where interested parties can follow the process. Complaints are also considered when we perform the annual evaluation of our suppliers.

Work completed by the Raw Material Supply Department is evaluated in the company's internal performance management system, based on key performance indicators (KPIs) as well as based on the results of internal and external audits.

To reach our goals, we are working on decreasing the proportion of raw materials that needs to be supplied. In 2016 we invested in a formalin plant in Kazincbarcika, thus the constraint of external sourcing of formalin ceases. Opening a hydrochloric conversion plant also serves our goals, as it may decrease the need for purchasing chlorine from external sources, and for selling hydrochloric acid, thus decreasing the demand for transport.

We are also strengthening our cooperation with our on-site hydrogen suppliers in order to increase their technological efficiency through investments.



6.2.2 Energy

BorsodChem's operations are based on technologies with significant energy consumption. The amount of energy consumed to produce our leading products affects our company's competitiveness and its environmental burden. We aim to increase our energy efficiency by 6% in 2018, compared to its 2015 level. We have identified 13 sub-goals to help us decrease consumption and increase efficiency.

Energy Goals

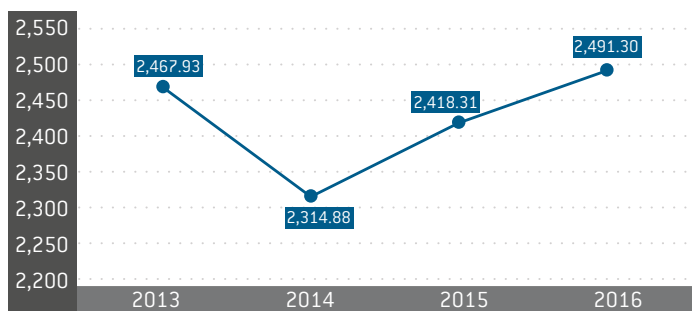
1. Introduce and efficiently operate the Energy Management System according to regulations of the ISO 50001 Standard.
2. Development of the methodology for energy audit to see our energy use more in detail and take measures to improve our energy efficiency.
3. Increase energy efficiency by developing and renewing our technological processes and equipment.
4. Inspect the possibility of energy saving solutions in terms of all our activities.
5. Reduce electricity consumption by the introduction of more advanced technological solutions.
6. Disclose the reduction of steam consumption and the possibilities of its reuse.
7. Enhance energy efficiency by increasingly improving the capacity utilisation of our plants.
8. Keep our equipment in a technical status by means of preventive maintenance, which results in optimal energy consumption in the course of their operation.
9. Reduce energy consumption per unit of product by eliminating energy losses.
10. Disclose and reduce the heat loss of our production and service facilities.
11. Develop the energy conscious thinking of our employees via training courses and the operation of incentive scheme.
12. Comply with energy laws at all times and other voluntary requirements.
13. Select equipment in our procurements with the possibly lowest energy consumption.

Through our LEAN program we receive over 100 ideas yearly regarding the improvement of energy efficiency. In 2016, we started the implementation of 86 ideas, and 68 of these were successfully completed until the end of the year. Resources are provided for these projects based on the evaluation of their short- and long-term impacts.

Our Energy Policy is public, we commit to operations in accordance with ISO 50001 and to continuous monitoring. Certified in September 2016, our Energy Management System (EMS) complies with ISO 50001 criteria. The PDCA cycle ensures continuous development, the identification and correction of negative effects. Our quality management regulations and the rules of the ISO 50001 ensure the uninterrupted running of this system. We check the effectiveness of the EnMS in an internal annual review audit.



Energy Intensity – In proportion to sales (MWh/million EUR)



We monitor the energy consumption of each of our plants. In 2016 our energy consumption increased by 2% due to increased production. Our direct energy consumption (“Scope 1” according to the GRI) represented 64% of our total energy consumption, while purchased energy made up the other 36% (“Scope 2”). Our revenues-based energy intensity increased by 3-4% in 2016.

Seeing the results of our investments aimed at decreasing our energy requirements, we are continuing on this path. The stability and close monitoring of our plants also contribute to the continuous improvement in our energy efficiency. The continuous improvement of operational parameter analysis makes it possible for us to make well-founded decisions about energy, water and raw material savings, which all have longer payback time, as well as helps the efficient planning of maintenance activities.

Based on their sources, complaints related to energy services are handled with our suppliers or customers. In the latter case, processes are designed in line with our internal policy, with all relevant legislation and with the terms specified in our contracts.

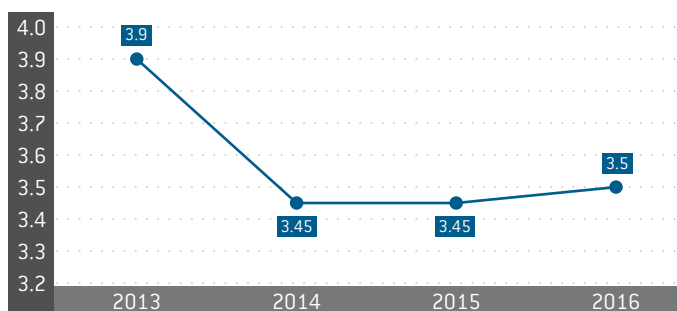
The head of the Energy Management Department is responsible for energy management.

6.2.3 Emissions

BorsodChem is one of the leading chemical companies of Hungary, and one of the biggest energy consumers. We responsibly monitor our impact on air quality and our role in global warming. By decreasing the emissions of air pollutants and greenhouse gases (GHGs), we are protecting not just our environment, but the atmosphere as well.

Our emissions targets and action plans are defined by our ISO

Energy Intensity – In proportion to produced products (MWh/t)



14001 Environmental Management System (EMS, introduced in 2009) and our ISO 50001 Energy Management System (EnMS, introduced in 2016). Our key goal is to improve our energy efficiency by 6% by 2018 (compared to 2015), and hence decrease our GHG emissions.

When planning our future investments, we have always given great emphasis to monitoring and optimizing our energy consumption, since we are working in an energy intensive industry. As part of this effort, we decided to take ownership of electricity production and significant part of steam production.

By using modern technologies, transporting heat produced during chemical processes between plants, planning preventive maintenance and applying energy performance indicators, we can decrease our direct energy consumption, and hence our emissions.

We undertake to keep emissions below the IPPC²⁷ limits, to procure the refrigerants with the lowest global warming potential (GWP) indicators possible, and we improve the stability of the operation. With the goal of reducing the emissions outside the factory too, we also aim to use the most efficient ways of material procurement, and we improve the energy conscious thinking of our employees.

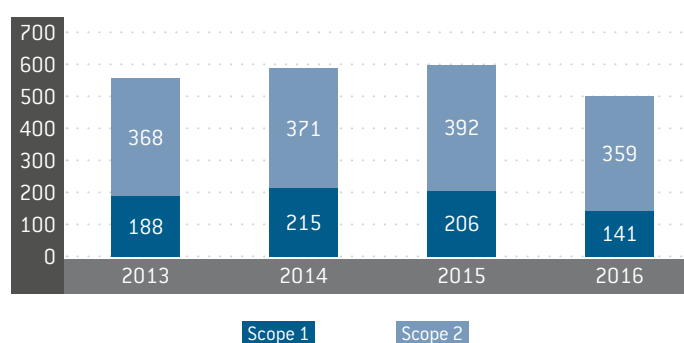
The energy performance and emission indicators are continuously monitored and annually reported to the management. Some of our plants have high-tech meters, which measure various types of air pollutants (NO_x, CO, HCl, TOC etc.). Direct emissions are measured and declared in the frequency specified by law. As a voluntary commitment, we inspect the air quality of our direct environment through quarterly repeated immission measurements.

²⁷ More information about IPPC in Hungarian: <http://ippc.kormany.hu//>

The Director HSE, the EnMS leader and the manager of utility services is responsible for the regulatory compliance, energy efficiency improvement and emission reduction. The objectives of EnMS and environmental management programs, beside environmental investments are achieved by human resources provided by HSE staff, department dealing with technology development, energy and environmental protection.

BorsodChem's greenhouse gas emissions come from four sources: refrigerant loss; emissions of air pollutants (such as, carbon dioxide, carbon monoxide, nitrous oxide, methane, trichloromethane and tetrachloromethane); use of energy sources (energy generation, and during production and transportation); and indirectly, by emissions from the purchase and use of electricity. In accordance with GRI's methodology, we distinguish between direct (Scope 1) and indirect (Scope 2) emissions.

BorsodChem's specific GHG emissions (kg CO₂e/t product)



Our report shows CO₂e²⁸ emissions per tons of products.

Our 2015 data may distort the specific emissions data because we reviewed the refrigerant quantities in high-performance refrigeration equipment that year.

Indirect energy consumption accounted for 72% of our 2016 loads.

Thanks to our technological developments and the less electricity purchased from external sources, both Scope 1 and Scope 2 GHG emissions declined, the former by 31 the latter by 8 percent.

Overall, our specific emissions were 17 percent less than in the previous year.

In the case of non-greenhouse gases, BorsodChem's specific air pollutant emissions decreased by 11% in 2016. This happened mainly due to a reduction in NO_x and VOC emissions because of the regular technological developments and preventive maintenance. In order to adjust the emissions to the limits coming into effect on 1 January 2016, the minor modification of BC-Therm power plant's combustion unit was required, causing the reduction in NO_x emissions.

Emission of air pollutants (kg/year)

Type	2013	2014	2015	2016
NO _x	81,220.09	98,960.45	89,970.95	69,528.29
SO ₂	9.89	6.64	8.46	6.09
PM	13,049.41	7,326.71	3,968.63	2,899.30
VOC	5,504.39	6,596.94	12,200.86	9,111.12
Hazardous Air Pollutants (HAP)	159.18	190.80	131.61	136.73
Total	99,934.92	113,072.21	106,272.09	81,670.77

²⁸ Carbon dioxide equivalent (CO₂e) indicates the CO₂ concentration that would cause the same pollution that a given type and concentration of greenhouse gases

The emission of significant air pollutants (g/t product)

Type	2013	2014	2015	2016
Nox	90.27	98.60	87.72	67.34
SO ₂	0.01	0.01	0.01	0.01
PM	14.50	7.30	3.87	2.81
VOC	6.12	6.57	11.90	8.83
HAP	0.18	0.19	0.13	0.13
Total	111.08	112.67	103.63	79.11



6.2.4 Water Usage

The large amount of water withdrawn from the river Sajó is vital to the production processes. The reducing of water supplies due to climate change and the fluctuating watercourses can thus have a direct impact on the company.

During the preparation, production and post-treatment, we continuously monitor water, and we ensure water usage efficiency with performance indicators and production technology improvements. Water saving programs and the installation of related technologies are integral parts of our HSE system. We reuse large amounts of water indispensable for production several times, to reduce the environmental impact of our company. Hence, we optimize the multiple water transfers between plants, the water consumption of cooling circuits and the reuse of the MDI plant's brine after the extraction of organic materials.

Our goal is to return the used water in adequate quality and quantity to nature, minimizing the impact on the rivers ecological state. For this purpose, since 2008 every year we voluntarily and transparently investigate the river's ecological condition.

The leader of the Director HSE and the Manager Steam-Water-Gas Plant are the main people responsible for achieving the goals. The plant managers are responsible for

reducing and exploring the opportunities to reduce water usage, and reporting about the results. We undertake to respect the regulations about water usage, the European Chemical Industry Council Responsible Care²⁹ principles and the European Union's Water Framework Directive, which aims to achieve the good condition of surface and groundwater, and to prevent them from quality deterioration. Our results are measured on the basis of our audited management systems.

As part of our Energy Management System, first audited in 2016, the improved water utilization indicators complement the emission data monitored within the framework of Environmental Management System, thus shedding more light on water usage and this also raises the awareness of our colleagues.

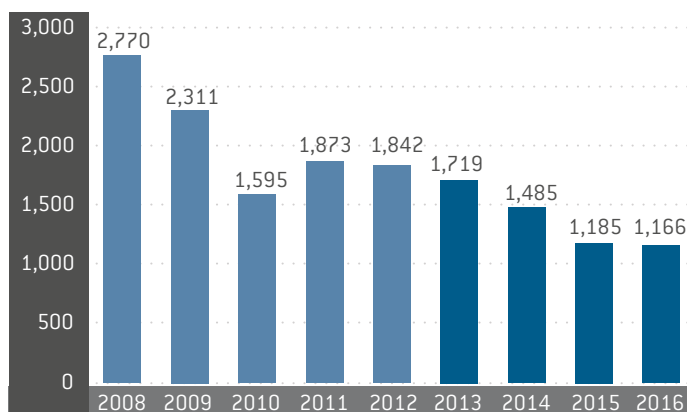
In addition to water recycling programs, we launched a project to minimize vapor-condensate spills and loss. We undertook to reduce the amount of stored saline water by 70,000 m³ through the use of our sewage treatment technology by 2018. With this, using the substance streams from production, we reduce the amount of carbide sludge needed to neutralize the wastewater at our TDI plant.

In terms of water consumption, the consumption of the Kazincbarcika site significantly exceeds that of the other non-production facilities in Hungary. The usage of drinking water is not related to industrial activity, it is used only for communal purposes. The fluctuation in the use of drinking water depends on the number of contractors working on site and weather conditions. Our environmental consciousness campaigns include the reduction of the use of tap water.

For industrial use, water is entirely withdrawn from the river Sajó, from which we produce soft and deionized water. There are two ways to soften water: using lime or via a membrane.

²⁹ <http://www.cefic.org/Responsible-Care/>

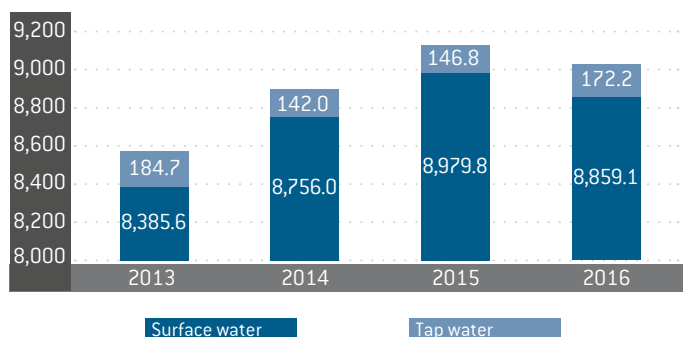
Carbide sludge used [m³]



Depending on the suspended solids content of Sajó water, we alter the rate/levels of the used technologies. Soft water is mainly used in the water circuits of cooling towers, deionized water is used for steam generation.

The total volume of our cooling systems is about 24,000 m³. Water is kept circulating multiple times a day, while the losses from evaporation and filtration are continuously compensated.

Water withdrawal (thousand m³)



ed. Among BorsodChem's technologies, the operation of the cooling water circuit, the collection and use of condensate for steam production, and the brine recovery are the systems where significant recycled water is used. The amount of water reused in the cooling water circuit is estimated based on the operating hours of pumps and the load levels, and it is dependent of the weather as well. The changes in the quantity and saline water and condensate are measured on a daily basis, their quantity varies depending on production capacity. Compared to 2013, the amount of recycled and reused water fell by 6.34 percent, because the Energy Management System programs reduced the demand for cooling water.



6.2.5 Sewage and Waste Management

For some years it has been among our goals, but in 2016 we reaffirmed our desire to further reduce the amount of wastewater and waste generated during production. In addition to reducing production specific waste, we aim to increase the proportion of recyclable waste. As part of our responsible way of thinking about our water resources, we are committed to complying with the legislation and certain set water emission standards. In order to reach our goals, all of our employees with influence have performance indicators, measuring their achievements.

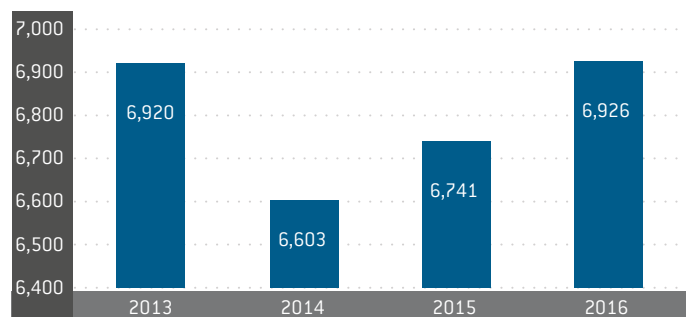
We control our sewage emissions at several self-test sampling points, and we use online measuring devices for the continuous tracking of emissions. We volunteered to reduce the amount of

	2013	2014	2015	2016
Recycled and reused water (thousand m ³)	400,101	380,319	374,670	374,711
Ratio of recycled and reused water and water withdrawal	4,668%	4,274%	4,105%	4,149%
Total water usage (m ³)	8,570,360	8,897,950	9,126,530	9,031,286

saline water stored in Sóstó by 70,000 m³, to recultivate the pools and to landscape the area. As an important improvement in 2016, the second Solar Bee installed in the pool of the Waste and Waste Water Treatment Plant now enables us to use less hydrochloric acid to adjust the final pH of purified sewage. By using the devices in an environmentally friendly manner, and by adding and evenly distributing enzymes, we prevent the appearance of algae and sludge in the pools.

Our wastewater and rainwater are, without exception, treated in the Waste and Waste Water Treatment Plant. The system is built so that untreated wastewater cannot leave the premises of the company. In order to increase the treatment's efficiency, the generated wastewater is classified according to its chemical properties for the appropriate cleaning technology: inorganic technology, SBR system for high nitrate waters, anaerobic system and activated sludge system. Besides improving the efficiency of selective wastewater treatment, we try to maximize the amount of bio-gas produced, thereby reducing the use of natural gas in the wastewater treatment plant. The purified sewage flows into the River Sajó through the neutralizing pools. The produced dried sewage sludge from the cleaning process can be reduced used in incinerators to generate energy. No unplanned sewage emissions happened in the last years; all water discharge happened in a controlled environment.

Water discharge (thousand m³)

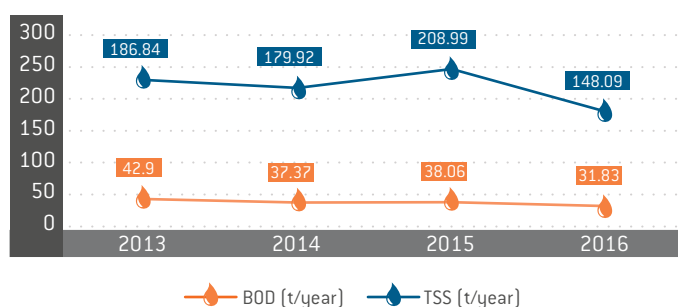


The amount of chemical components in the purified and discharged water periodically show natural fluctuation. In our wastewater the concentration parameters are approximate to the minimum detection limit. Because of the large amounts of purified sewage, small changes in concentration can also cause significant fluctuations. The main reason for this is the higher measurement uncertainty experienced when the concentration is low. The measured values of concentration do not

exceed the legal limits for any component. In the neutralizing pools, weather (sunshine hours, precipitation, evaporation etc.) significantly influence algae activity, the concentration of suspended solid, and the biochemical oxygen demand (BOD).

In waste management, we also urge continuous improvement. Accordingly, we increase the efficiency of waste selection. As a development in 2015, we introduced a new system, including unique identifiers for all waste containers, so that they can be traced. Also we encourage all employees to selectively collect waste and respect environmental requirements during their work.

Quality of total fluid discharge



In our own waste management unit we further sort the waste and prepare it for reuse or disposal. Waste suitable for incineration is used for energy generation, substituting primary energy carriers. Via catalyst waste management and the recovery of metal, we reduce the use of finite mineral resources.

In the course of our environmental activities in 2016, 37,949.11 tonnes of waste were disposed, most of which (36,494.65 tonnes) was non-hazardous waste and the rest (1,454.46 tonnes) was hazardous waste. During the recultivation work in 2016, our company utilized 19,120 tonnes of uncontaminated soil to properly and attractively complete the landscaping of the landfill site built by the predecessor of the company.

Our company has made significant improvements and investments during the past few years, including the demolition of unused buildings. As a consequence, the amount of the generated construction and demolition waste increased, however, thanks to selective demolition technology, most of these were utilized.

Also, specific quantities of waste per product decreased continuously over the reporting period.



Significant fluctuations in the amount of recycled and reused waste are explained by the varying use of soil and concrete waste from demolition. The fluctuation of the amount of composted waste is linked to the varying yearly weather conditions. The increase in incinerated waste is due to the fact that sludge from the wastewater treatment plant previously used in recultivation is now disposed of by incineration for energy generation.




The waste generation of our Development Centre in Gödöllő is less significant, at 0.2 percent of all non-hazardous waste compared to the average of the last four years. The communal waste generated here is landfilled and disposed of in a waste incinerator.

Non-hazardous waste (t)		2013	2014	2015	2016
	Reused	1,793.07	58.46	0.00	19,120.00
	Recycled	3,807.08	22,430.86	1,204.32	2,254.69
	Compost	170.38	162.16	147.86	182.14
	Incinerated	40.31	707.35	826.79	949.89
	Landfill	10,079.06	10,252.16	12,187.76	13,989.58

Hazardous waste is recycled or used for energy production. As a result of more stable operations, in 2015 less hazardous waste was disposed of by incineration. Hazardous waste is generated mainly in our Kazincbarcika plant; from 2013 to 2016 in Gödöllő, an average of 1.5% of our total quantity was generated.

Proper waste and wastewater treatment is a joint responsibility of all our colleagues. Based on the regulations approved by the top management, the control of waste generation and wastewater discharge is the responsibility of the Director/HSE. The plant manager is responsible for the waste and wastewa-

ter quality at plant level. We spend a considerable amount of money each year on the operation and development of the wastewater treatment plant and on waste disposal. In 2016, the amount spent on waste disposal exceeded EUR 330,000 and on sewage treatment exceeded EUR 210,000. Complaints about wastewater and waste management are handled on the basis of the regulations for investigating and managing incidents and for contacting HSE stakeholders.

Hazardous waste (t)		2013	2014	2015	2016
	Recycling	548.03	282.87	449.48	426.94
	Incinerated	755.36	860.31	609.51	833.46
	Landfill	228.03	131.76	116.67	201.10



Specific waste values	2013	2014	2015	2016
Amount of waste per product (t/t)	0.01936	0.03476	0.01516	0.03677
Amount of hazardous waste per product (t/t)	0.00170	0.00127	0.00115	0.00142
Amount of non-hazardous waste per product (t/t)	0.01766	0.03349	0.01401	0.03535



6.2.6 Biodiversity

There are Natura 2000³⁰ sites within 1 km of our Gödöllő and Kazincbarcika sites. While a 4km² part of the Natura 2000 area of the Sajó Valley is close enough to the Kazincbarcika plant's impact area, the area adjacent to the site of Gödöllő is only 1.28 km². For these areas, we also take into account their important role as an ecological corridor. Our Kazincbarcika activity has an impact on land and water environments, as well as on the wildlife of areas adjacent to operation sites. The effects of production related substances entering the air on living organisms were evaluated when assessing the ecological status of lichens. The surroundings of saline water pools at the site were planted with salt-bearing plants. The industrial activity of the Kazincbarcika area provides a unique resting place for many migratory birds in the area.

Our goal is to preserve the biological condition of the Sajó Valley and Sajó River, and to work with environmental organizations to effectively investigate our impacts on different organisms. For this purpose, the quality of Sajó's water and the bird population is monitored annually. Lichens as sensitive atmospheric indicators are investigated every three years with the involvement of external experts, including the Green Action Association (Zöld Akció Egyesület) in Miskolc, with the involvement of the Budapest-based Hungarian Natural History Museum's Botanical Department and Bioaqua Pro Ltd. in Debrecen. The tests help us to improve the ecological status of the Sajó Valley, to protect the Natura 2000 areas and to continuously control our environmental effects.

Based on the biological investigations carried out in our area of impact, there is an increasing amount of knowledge of biodiversity in the area. Our monitoring system has expanded in recent years to study aquatic wildlife, continental flora, fauna, the lichens' ecological health survey and migration areas of birds.

We deal with biodiversity complaints based on our HSE regulations with the involvement of the competent leader.



6.2.7 Environmental Compliance

We give priority to compliance with statutory requirements, including compliance with environmental compliance in all areas of procurement and production. Environmental compliance is an integral part of EMS, every manufacturing technology unit holds IPPC licensing. We are constantly observing the legal environment and preparing for change in advance. Our emissions are kept below the prescribed limits, through improvements and compliance with BAT³¹ regulations to continuously improve our environmental performance. In some cases, we use internal norms more stringent than the regulatory requirements. Our performance is analyzed through self-monitoring and independent lab tests. Our goal is to prepare for the legal changes and EU directives with our activities. Environmental compliance is the responsibility of the Director Operation Centre and Director HSE, the Environment Officer and the Plant Operators. Compliance is ensured with the resources allocated for technological development.

³⁰ A coherent European ecological network established by the European Union. It ensures the conservation, maintenance and restoration of biodiversity through the protection of habitats, and plant and animal species.

³¹ Best Available Technology

Every year we report our actual emissions data, we communicate the extent of possible fines to our management and in the financial report. In cases of complaints received via our hotline or other channel, we engage with the affected parties to find a solution.

The last time BorsodChem was fined by the authorities was in 2013 because of air contamination problems. The fine was HUF 220,000. In addition, there is a continuous conflict resolution process (2013-2016) regarding environmental noise. Our company started a project to solve the problem, and started the construction of noise barriers in the field of operation, together with the installation of two monitoring stations. We had no other non-compliance cases in 2016 nor in the previous three years.

6.3 Social Sustainability

6.3.1 Responsibly for our colleagues

The professional knowledge and motivation of our colleagues is the key to our successes. Therefore, it is important for us to strengthen their commitment to our company by maintaining their satisfaction, providing professional training courses and showing respect.

6.3.1.1 Our company is in the labor market

In 2016, we had to face increasing work environment fluctuation. The phenomenon mainly affected engineers and workers in production; hiring new colleagues was difficult due to the scarcity of the qualified workforce on the labor market. The problem is essentially present in terms of chemist, engineers and electrical experts. Apart from economic and social issues, the problem is exacerbated by the lack of professional training, which BorsodChem seeks to offset involving its own resources, and organizing re-education courses.

In addition to training courses, our company is committed to making BorsodChem an attractive workplace, supported by the introduction of new motivation systems and the review of benefit systems. For example, we have an employee recom-

mendation system, we encourage the education of system operators, and we support the entry-level employees' career-starter support package.

The 2017 wage agreement intends to increase BorsodChem's retaining power. The preparation of the agreement began in 2016. In the agreement we undertake to provide a promotion system based on professional knowledge, and related to this, the closure of the pay gap.

The HR Service Department is primarily responsible for the reduction of such fluctuation, but all relevant departments have an active role to play in this matter, particularly with regard to working conditions and employee satisfaction. We have financial and human resources available to strengthen our brand as an employer and to increase employees' satisfaction.

As a result of the measures taken in 2016, the fluctuation of engineers fell to the same level as in previous years, which is considerably lower than the national average. At BorsodChem, the turnover rate of engineers was 6.82 percent in 2016 and that of systems operators was 8.5 percent; at national level engineers have a fluctuation rate of around 20 percent, for system operators it is 38 percent. In the reporting period, the number of applicant who had previously worked at BorsodChem was equal to one third of those who left the company voluntarily.

In cases of each colleague leaving the company, we hold an exit interview. The results of the interviews are regularly analyzed and used in the development of our programs for strengthening BorsodChem's employer branding. Our employees can report complaints and suggestions via several communication channels. In addition to employee satisfaction surveys, we have the HR Business Partner System, Leaders Roundtable Conversations and HR Let's Chat Programs.

We appreciate our qualified colleagues, and we aim to establish long-term cooperation with them. To this end, from the beginning of the cooperation, we try to properly reward their work. Therefore the entry-level salary is determined year by year at a higher level compared to the current guaranteed minimum wage.

We compare the average wages of men, as system operators, and women as laboratory technicians, in line with the guaranteed wage minimum for the given year.

HR Let's Chat Program

The goal of the initiative is to provide direct communication between HR managers and employee groups. HR executives visit the organizational units, allowing them to talk about issues related to HR, submit their comments, complaints and suggestions within a direct conversation.

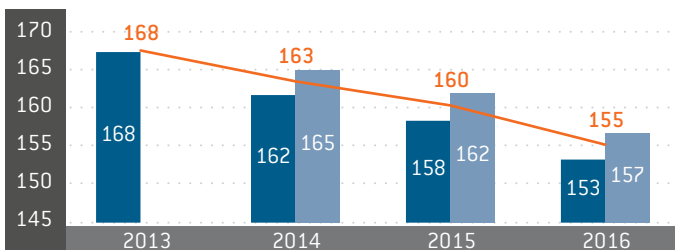
Recruitment of system operators

In 2014 we created a system operator pool to ensure seamless operation despite high fluctuation. Until 2016 we organized the chemical manufacturer training courses in cooperation with the Employment Departments of the District Offices ensure the required number of system operators. From 2017, we run the courses in-house. We offer a contract to candidates for training courses to ensure a basis for long-term cooperation.

The HR Business Partner System

The purpose of the system is to support organizational units, employees and managers with HR issues. HR colleagues, in addition to their daily tasks, are assigned to a department to assist its members in matters related to human resources. The system keeps leaders up-to-date with HR, improving communication and flow of information between departments.

The ratio of entry-level wages and the guaranteed minimal wage by gender (in percentage)



■ Guaranteed minimum wage – men (%)
 ■ Guaranteed minimum wage – women (%)
 — Guaranteed minimum wage – average (%)

6.3.1.2 Employment

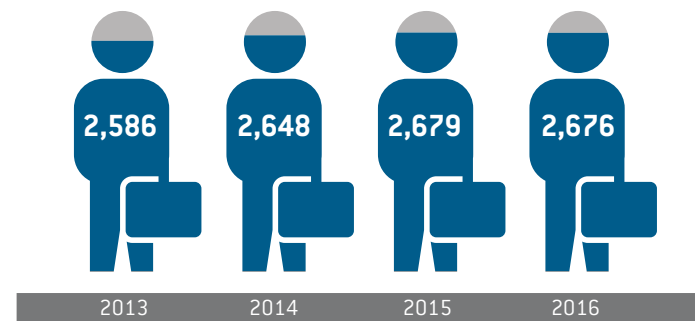
It is important for our company to recruit and retain a motivated, committed and highly skilled workforce. That is why we aim to create a safe and secure working environment, to employ colleagues in the right jobs, and to increase efficiency, satisfaction and commitment. Our goals are also supported by the conscious construction of the employer brand and our Collective Agreement, which includes more favorable employment and remuneration terms than the Labor Code.

The number of our staff has been rather stable in recent years; in 2016 our closing headcount was 2,676, including MDI Termelő Kft. As a result of our activities, nearly half of our staff perform physical work, therefore, 78% of employees are men and 22% are women.

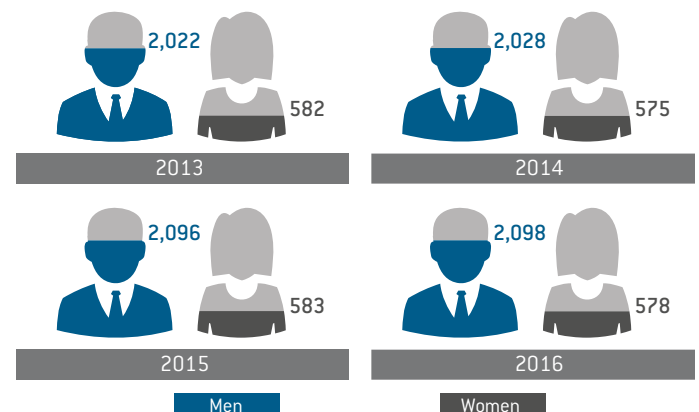
98 percent of our employees work at our Kazincbarcika site; 32 persons in the Budapest office; 26 people at our Development Centre in Gödöllő.

94.5 percent of our employees have an indefinite contract, only 5.5 percent work with a fixed-term contract. According to our employment practices, new entrants are usually employed with a fixed-term employment contract during the first year of their employment. This explains how in 2016 the num-

Number of employees



Number of employees by gender





ber of employees with fixed-term contracts increased by nearly 20, since the increase in fluctuation resulted in increased number of new entrants.

In 2016, almost all of our employees worked full-time schedules, we had only 8 part-time employees, most of them returning from maternity leave.

One of the key strengths of BorsodChem as an employer is to provide long-term, secure employment for its staff. The company's average period of service is 16.38 years. A significant proportion of our employees had their first job at BorsodChem, and had their entire professional careers at the company.

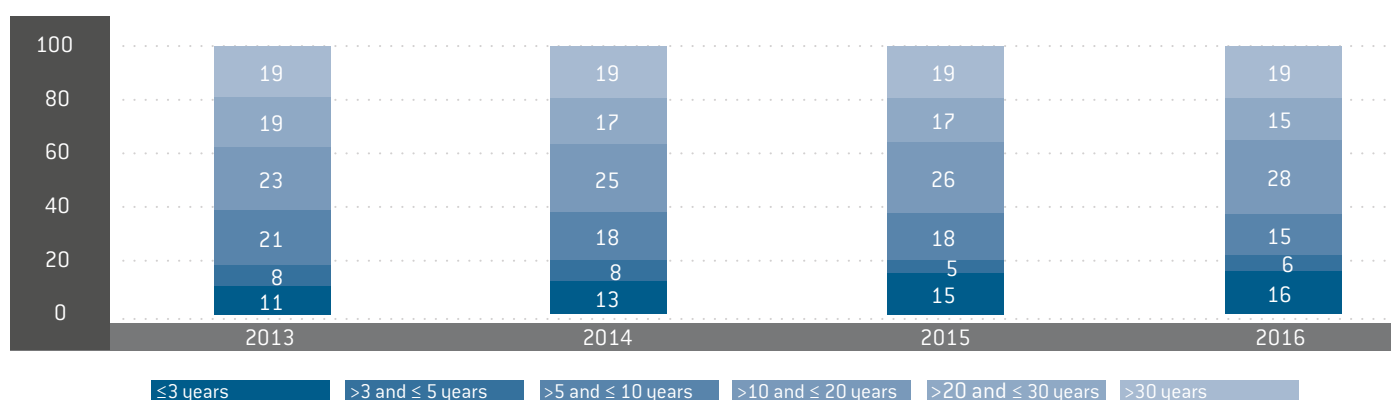
The average time spent at our company indicates that significant BorsodChem-specific skills have accumulated. Almost 20 percent of our colleagues have more than 30 years of ex-

perience. Additionally, recruitment and talent acquisition is of particular importance in our staff management strategy. This is reflected in the ever-rising number of new recruited staff.

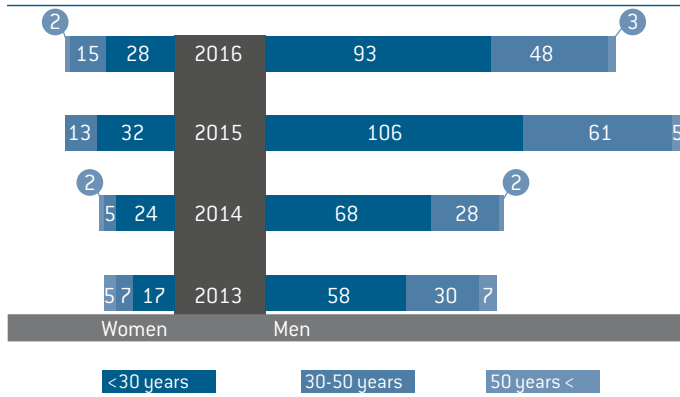
The number of leaving and joining employees was almost the same in 2013 and 2014; in 2015, we had more entrants than leaving colleagues. The reason for this is that, in order to ensure the basis of the supply of the system operators, we have increased the number of them and we hired two groups of graduates. We continued the recruitment of graduates in 2016, but we have no longer extended the number of systems operators.

In 2016, 35% of all leaving staff were younger than 30; 36% are over 30 years old, but younger than 50; 29 percent were over 50 years of age. Compared to this, 62% of our entrants were younger than 30; 35 percent are over 30 years old, but younger than 50; and 3 percent were over 50 years of age.

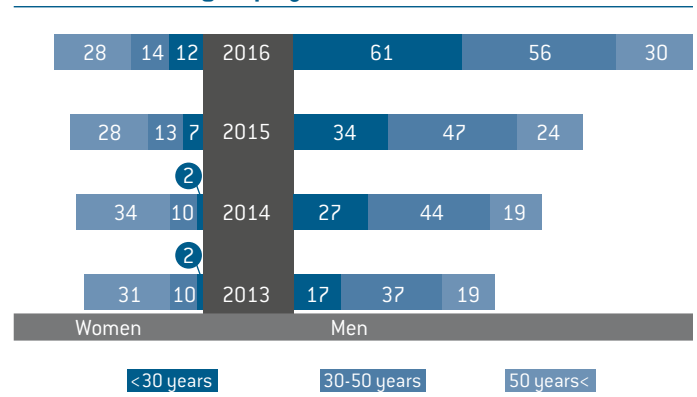
Period of service indicator among employees (in percentage)



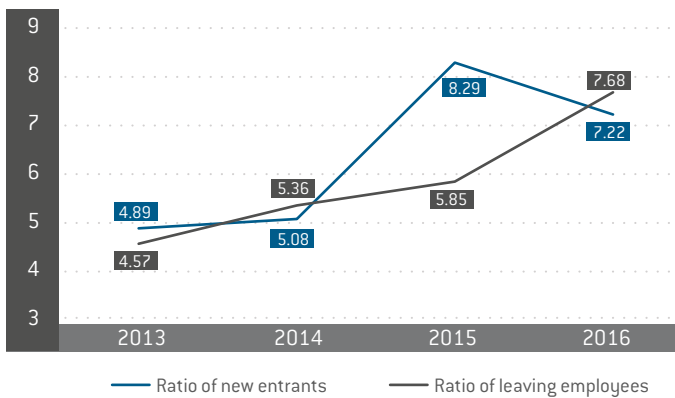
New entrants



Number of leaving employees



Ratio of new and leaving employees (in percentage)



In Gödöllő two people left the company, and we hired five people; in Budapest two people left the office, while we had four new colleagues. We closed the Brussels office in 2016, four colleagues from there joined the Kazincbarcika staff.

In 2016, we took a number of measures to improve the stability of employment and increase BorsodChem's attractiveness.

Our HR Service Department continuously analyzes the staff management indicators and monitors international benchmarks. Independent audits and feedback from employee satisfaction surveys are also taken into account when making decisions affecting employee groups. These results help us revise the HR strategy annually, as well as define organizational and individual goals.

Employee-related complaints are handled according to the Collective Agreement and the Code of Ethics. Complaints about performance appraisal are handled by the rules of the performance management system involving subordinates and executives. The two interest representation organizations in the company also play an important role in the dialogue between employees and management, and decision making.

As a result of our efforts in 2016, BorsodChem became a more attractive firm to work:

- We introduced a new fair and balanced wage system.
- We launched our employee referral system.
- We improved our mentor system.
- We improved the results of the employee satisfaction surveys.
- We follow our leaders' commitment.
- We look for new recruiting channels.
- With the regional industry companies, we have made progress in restoring chemical vocational training to the OKJ system.
- We improved our internal training system.
- We extended our scholarship program.
- We offer a system of knowledge enhancement and a career model for our system administrators.

6.3.1.3 Diversity and Equal Opportunities

We consider the protection of human rights, diversity and equality important from the point of view of staff and job applicants and partners, so we expect them to adopt the principles included in our Code of Conduct and other related policies. We are committed to the SA 8000: 2014 guidelines, and we pay special attention to avoiding any negative discrimination, whether it be sexual, racial, religious, political or other. The principle of equal treatment is also applied to the recruitment, evaluation and dismissal of our employees, this is also included in our Collective Agreement.

Since the second half of 2016, we have incorporated the content of our Code of Ethics into the compulsory training of new entrants, so our employees are familiar with the policies and expectations about diversity and equal opportunities already in the first period of their employment.

Our aim is to incorporate the responsibility for each other, and the feeling of equality, belonging and security into our high-quality work culture with the involvement of all our employees. For the achievement of this, and for the legal and ethical compliance all our leaders are responsible.

Our company's approach to equal opportunities and diversity is also important for our partners. We are proud that we have successfully closed all three key related audits conducted in 2016 and that our interested customers can confirm the effective implementation of our ethical value system.

In order to protect human rights and equal opportunities, we provide various communication channels to receive related complaints. Any complaints about diversity and equal opportunities are handled on the basis of the Code of Ethics, the Anti-Fraud and the Hotline Policy. Notifications are handled by the Compliance and Internal Audit Office. Alleged or actual complaints reported through our two interest representation organizations in our company are investigated jointly with the HR Service Department. The investigations are carried out in compliance with the relevant applicable laws and with respect for the dignity of those concerned.

In the interpretation of our diversity and equal opportunity data, it is important to note that, in the area of production, based on the occupational health policy a small proportion of the engineer positions can be filled by women. For example, only male workers can work in production at plants.

Diversity 2016

Age (year)	Production	Services	Sales	Management*
<30	16%	13%	13%	0%
30-50	55%	57%	68%	70%
50<	29%	31%	19%	30%
Gender				
Men	89%	61%	30%	87.50%
Women	11%	39%	70%	12.50%

Age (year)	Manual workers	Intellectual workers with secondary education	Intellectual workers in higher education Lower-level managers	Lower-level managers	Line managers	Middle managers	Executives
<30	16%	12%	25%	1%	1%	0%	0.00%
30-50	54%	56%	53%	62%	73%	75%	62.50%
50<	30%	32%	21%	36%	25%	25%	37.50%
Gender							
Men	97%	44%	57%	96%	68%	79%	87.50%
Women	3%	56%	43%	4%	32%	21%	12.50%

The proportion of women's basic salaries and remuneration that of men by business area

Production	2013	2014	2015	2016
Manual workers	87%	88%	93%	90%
Intellectual workers with secondary education	84%	81%	81%	82%
Intellectual workers in higher education	96%	96%	96%	93%
Lower-level managers	87%	86%	91%	106%
Line managers	90%	95%	90%	91%
Middle managers	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			
Executives	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			

Services	2013	2014	2015	2016
Intellectual workers with secondary education	77%	78%	80%	78%
Intellectual workers in higher education	93%	91%	87%	86%
Lower-level managers	119%	118%	105%	97%
Line managers	97%	100%	104%	98%
Middle managers	84%	76%	82%	96%
Executives	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			

Sales	2013	2014	2015	2016
Intellectual workers with secondary education	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			
Intellectual workers in higher education	81%	73%	87%	81%
Lower-level managers	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			
Line managers	95%	95%	80%	102%
Middle managers	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			
Executives	Because of the small sample, we cannot provide anonymity, so we do not publish the data.			

6.3.1.4 Labor/Management Relations

We believe that the basis for the realization of our strategic goals is a satisfied, constructively and fairly across our working teams. We enjoy partnering with our colleagues and advocacy bodies. Our co-operation is characterized by openness, constructiveness and honesty. Our goal is to maintain good relationships, and primarily the Vice President HR and Communication and the HR Service Department are responsible for this. Complaints about the relationship between employees and management can be brought to these colleagues or to the Internal Audit Office.

The basic feature of our operation is the involvement of employees and stakeholder bodies. Our Collective Agreement with more than 30 years evolution regulates the framework of cooperation so that the principle of honesty, reciprocity and good faith prevails. The rules governing the relationship between management and employees were developed jointly with interest representation organizations. Communication with organizations and directly with employees is through various forums and HR Let's Chat events.

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6.3.1.5 Health and Safety

When manufacturing our products, we work with hazardous materials in industrial conditions. The basis of our corporate

values is that we are all responsible for each other's health and safety. It is our job to minimize the risks we face in our working environment. Our goal is to prevent accidents and reduce their number to zero. To this end, we introduced the OSHAS 18001 Health and Safety Management System for work and our own safety regulations. In our Collective Agreement, we have also concluded HSE-related agreements that aim to protect BorsodChem and its employees' interests and security. The Collective Agreement applies to nearly a quarter of topics related to the HSE.

Everyone in the company is responsible for maintaining safe working conditions and minimizing risks. This is why our communication always emphasizes compliance with health and safety regulations. In order to create a security/safety culture, we rely on four pillars: to set clear goals; to provide supporting tools; emotional communication; and to enable the necessary cultural change.

Raising the awareness of our „Security First” motto is the basis of the trust we want to strengthen among our colleagues, partners and within the local community.

During the execution of our new investments, stakeholders are always given full information about the safe operation of the new facility. Knowing the properties of our chemical substances is also a basic precondition for safety. This is provided by REACH databases containing the rules for the safe handling of chemicals in the company, available to all employees.

We focus on prevention in the field of healthcare, and therefore provide our employees with regular medical screening tests more frequently than prescribed by law. Depending on the risk to the workplace, the frequency of the tests varies, thus ensuring the prevention of any kind of health damage.

Our company operates a fire protection department, including full-time firefighters too. The fire brigade of the facility is responsible for the immediate handling of emergencies and the protection of our employees' physical integrity and health in the event of an emergency. Our firefighters work with state-of-the-art equipment that allows rapid intervention. Their performance is demonstrated by their outstanding results in firefighting competitions.

Minimizing on-site damage is based on equipment and manufacturing safety. Therefore, we use the most advanced and safest technologies during design and construction. We regularly inspect the existing equipment, and we also carry out several special tests in addition to the statutory requirements.

In addition to the safety of our own employees, special attention is paid to the safety of subcontractors and suppliers who work in our area. Their work is strictly controlled even before the start of the works. Contractors receive safety training to familiarize themselves with the company's HSE rules.

At corporate level, the HSE Director is responsible for the development and operation of a HSE system that creates safe working conditions that do not endanger health. Like any employee (from the CEO to the lowest level of hierarchy), he/she is also assessed on the basis of performance targets assigned to the goals. The Director's work is supported by a group larger than defined in the Work Safety Act. The group's job is to integrate labor safety regulations into the company's internal control system and to supervise and operate the system. Our occupational health and safety performance is analyzed through external and internal audits and our safety statistics. Based on the results, we launch campaigns for areas to be developed,

for example, in 2016, about protective equipment. In the work safety committee at BorsodChem, employees represent all areas of work. Our co-operation with unions in several forums is successful. Essential decisions always ensure open communication and mutual interest in the common goal. In case of important decisions, the arrangement of mutual interests, and open communication are always ensured for a common purpose.

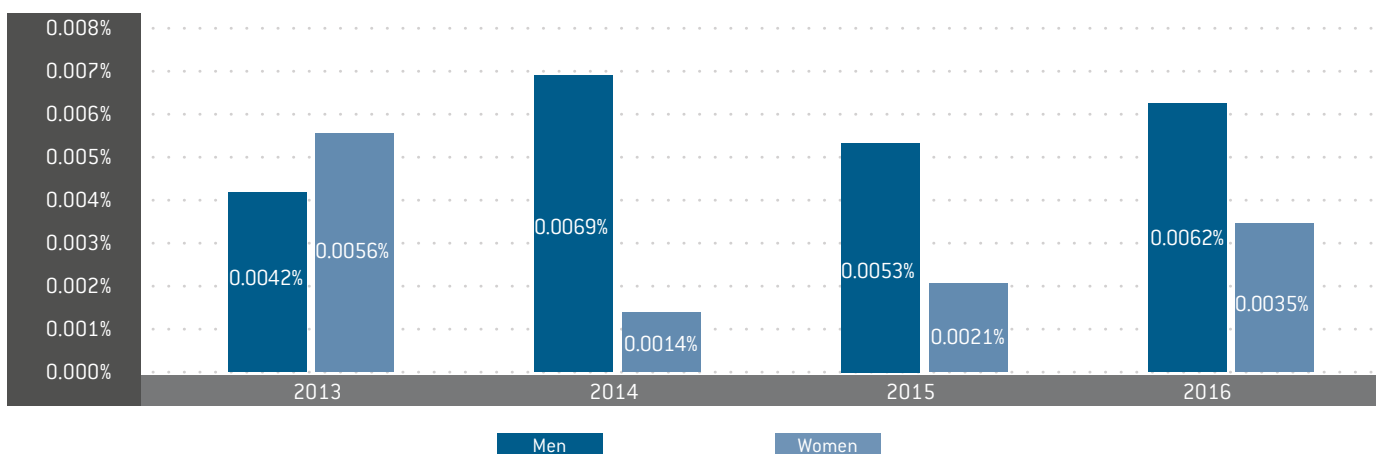
Both parties are involved in the investigation of accidents and incidents. The occupational safety committee elections are conducted jointly with the trade unions, establishing the success of cooperation in the field of health and safety.

As a result of the commitment of colleagues and leaders, our occupational safety statistics are outstanding in the region.

In 2016, a total of 38 injuries occurred, which is a small increase compared to 2015. Due to the different nature of the injuries, the number of sick days may change significantly. Significant differences in data are also due to the different lengths of healing time of injuries, which in many cases are not related to the severity of the accident.

There were no fatal accidents in the reporting period. The last case happened in 2014.

Injury rate





HSE Week



Our company pays special attention to safe work, and health and environmental protection. In order to extend the employees' related knowledge, the HSE Management Department each year organizes its one-week-event.

Participants can choose from a variety of programs: In addition to lectures, they can attend fire and security trainings, professional fairs and shows. People can get to know the natural environment of BorsodChem through the „Green Walk”, and they can participate in organized tree planting.

Within the framework of the HSE Week, we run a photo contest for employees on „Health, Safety and the Environment in Everyday Life, Including Good and Bad Examples”. The top ten photographers are rewarded by the jury.

During the HSE Week, we give points for activity and solved tasks. The most active and best performing groups get prizes. Besides staff gaining knowledge, team spirit is also strengthened.



Blood Donation

BorsodChem lays emphasis on social engagement, thus we have been providing a venue for blood donations for more than 20 years.

	2013	2014	2015	2016
Finished blood donations	421	455	472	585
New blood donors	21	34	38	42

Blood is an indispensable component of healing. It is indispensable for major surgeries, treatment of various

diseases, and pharmaceutical research. In today's science, blood is produced only by the human body, so blood donations are constantly needed.

In co-operation with the Red Cross, approximately 40 colleagues on average donate their blood each month to help others.

In 2016 our employees donated blood 585 times, there were 42 first-timers.

We are proud of our colleagues so we provide them with a certified paid absence after each donation, so that their body can regenerate in peaceful conditions.



6.3.1.6 Training and Education

A well-trained specialist and management team is a basic condition for safe, efficient and successful operations on the long run. Hence, our company considers training and development of our employees to be very important. So, a mentoring system is integrated into the corporate culture while we provide opportunities for participation in professional and competency development training courses. Our goal is to keep BorsodChem's technical equipment safe and high quality through regular evaluating feedbacks, our continuously improved training system and maintenance of our talented specialists by increasing employee satisfaction. By increasing the knowledge and experience of our employees this has a very good effect on the stable operation of the plant.

For the training and performance evaluation processes, the Vice President HR & Communication and the HR Service Department are responsible. Within a comprehensive performance management system, performance managers are responsible for defining the performance goals of the subordinates, assessing their performance, conducting feedback discussions, and defining development directions. Decisions about the training of employees are made, on the one hand by the units themselves, with the training budget allocated to them, but on the other hand, we also operate target group-specific development programs organized and operated at company level.

In BorsodChem's training range, both internal and external training courses can be found to provide the training for each job required by authorities. We also provide compulsory safety training for all employees, including contract contractors.

The expectations on the labor market are high: the employees should be professionally prepared, experienced and able to speak at least one foreign language. Besides these expectations, within the company we provide our employees with all the support they need for their development. As the Chinese proverb says:

“ *If your plan is for one year plant rice.
If your plan is for ten years plant trees.
If your plan is for one hundred years
educate children.”*



Dr. Csaba Deák

Chancellor, University of Miskolc

A key goal of the University of Miskolc is to have complex and wide-ranging relationships with the region's business stakeholders. BorsodChem Zrt. is considered a great strategic partner: the cooperation between the company and the university is extremely versatile, a great example for the cooperation between higher education and industry.

For example, the company 'adopts' students for dual education – giving them opportunity to development in an innovative, internationally competitive professional environment. Through our contact involving Research and Development and innovation, the company also actively contributes to the creation of the new Center for Higher Education and Industrial Cooperation.

In addition, the Conficius Institute is the true bright spot of the campus, and BorsodChem provided the lion's share of its establishment.

Furthermore, the University's Sports Hall, which served as a venue for the European Basketball Championships in Miskolc, was renewed with the tax support of BorsodChem Zrt, for which I express my gratefulness here too.



Dr. András Torma
Rector, University of Miskolc

We consider the development of practice-oriented technical training a priority, both in regular and dual education formats. In this regard we work together with BorsodChem's leaders and associates, as partners with positive attitude. The company's experts provide essential support for updating our current training schemes for material and mechanical engineers by channeling real-life industrial demands.

BorsodChem's support in the foundation and the operation of the Confucius Institute, and the assistance that we receive in the form of curriculum reviews and in assistance in obtaining government support regarding for launching the new Chemical Engineer Bachelor's programme are great examples of BorsodChem's forward-looking social responsibility. The company's commitment to the partnership is treated as a particularly important asset by the University of Miskolc. I would like to express my greatfulness for this.

In addition to the introduction of the mentor system, we have begun to develop a structured vocational training system for system managers. We motivate our internal vocational trainers and trainers through a remuneration system for quality knowledge sharing. We cover deficiencies of the public vocational training system by self-funded retraining and further training.

Continuous operation and development is maintained through the operation of our performance management system, which is to break our corporate goals into organizational unit-level goals and individual key tasks. The performance of employees on individual key tasks plays a major role in their career path.

Every employee of our company is subject to the performance management system, in which every employee annually receives feedback from his performance manager. The performance targets of the organizational units are reviewed and evaluated quarterly, ensuring that projects starting during the year, in line with economical and environmental challenges, could form part of the key tasks to be executed.

Our employees may consult the Performance Management Committee with their comments and complaints on performance evaluation for investigation and remediation.

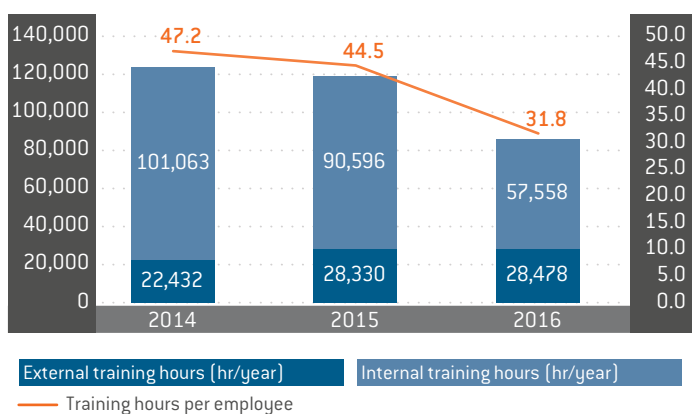
We are committed to the development of our employees, which is based on the strengths and weaknesses identified during performance evaluation and our talent management and replenishment plans. The regulation of our training system is extraordinarily wide, ranging from training planning, organization, preparation of training materials, remuneration for trainers for internal courses, and support for integration in the workplace.

Based on the results of the satisfaction surveys from the participants of training courses and the feedback from the annual employee satisfaction survey and the evolution of operational needs, we continuously expand our internal and external training offerings. The effective operation of our training system is controlled and reviewed by external audits and the Training Policy that define not only the organizational order of the courses and the encouragement of participation, but also the way of precise documentation. The results and availability of training programs are continually reported through internal communication platforms.

Taking into account the needs of the company, we have an increasing role in the training of professionals, and we also support professional training in secondary vocational education and higher education. We are involved in the training of engi-

neers, participating in dual education. We also run a scholarship program for highly qualified secondary and university students. In the last four years, besides the subsidies for corporate tax, we continuously increased the value of other subsidies, which exceeded HUF 5 million in 2016. We pay special attention to the development of our talented employees, we currently operate a talent program for 165 colleagues. Up to the foreman level, we organize complex development programs for our leaders: With the participation of 60 leaders, we started our Leadership Academy program in 2016, and have 200 co-workers in the foreman development program. We are constantly improving the electronic support of our training processes.

Training hours



Our unique technologies made it necessary in the past years to progressively develop our own curricula and training staff besides offering external courses. Thus, while the number of external training hours decreased, we emphasized the development of internal professional and on-the-job training. As a result, in 2016, our employees completed a total of 86,036 hours of training (32 hours /person), excluding the hours of on-the-job training. The number of hours run by external trainers is about half the number of hours of internal courses.

6.3.1.6.1 Improving our environment

Apart from training people looking for work, we also play a role in local public schools and higher education institutions. It is with our help that the Chemical 4+1-year technician course was launched at the János Irinyi Technical School, and that in 2016 the chemical system operator training got returned to the National Qualifications Register as a school-based training. Working with the Chemical Technology Department of the University of Miskolc, we support the training of material engineers by contributing to enhance the level of education as



Ferenc Csernaburczky

Director, Irinyi János Grammar School, Vocational Collage and Student House

BorsodChem Zrt., just as today, has always been a distinguished partner of Irinyi János Grammar School, Vocational Collage and Student House. From September 1, 2013 – after 12 years – The 4+1-year chemistry course was re-initiated in the institution. After a decade-long break, it was a difficult task to focus the public's attention of this undeservedly forgotten and neglected chemist course.

Together with BorsodChem Zrt. we managed to start a chemistry class in sectoral and vocational training. Their support is realized through a continuous active relationship.

BorsodChem's associates are present in the regular classes, in the professional days organized by the company, in the regional chemistry competitions organized in primary schools, at interim and summer practices. This good relationship is extremely important for the students because it makes their training more practical, concrete and colorful. Thus, students become more motivated, resulting in improved academic results, which is important from their and BorsodChem's point of view too.

This results in improvement in quality for the institution, is that we provide the company with highly skilled workforce. The donated goods and laboratory equipment from BorsodChem greatly contributes to seamless running of studies.

It is an indisputable fact that the most significant benefit for the institution is that BorsodChem Zrt. employs all our chemist graduates. This ensures the existence of chemistry education, and encourages further expansion in the number of enrollments.



“Clean and ethical competition is highly important from the perspective of sustainability. We wish to become successful by continuously developing our skills and operations and by striving for excellence, which benefits not only us, but also our operational environment and business partners. Events that distort competition enable parties to reach success at a lower level of excellence – and these harm not just the environment, but all competitors as well. Therefore our company, as a leading chemical company operating in a sustainable way in the Central-Eastern European region, is committed to comply with the ethical norms of business conduct.”

Márton Döbröczöni
Director Compliance & Internal Audit

well as to the strengthening the chemical industry's labor force. The impact of our work extends indirectly, by enhancing the available professional workforce in the region, so Borsod-Abaúj-Zemplén County becomes more attractive for investors as well.

6.3.1.7 Anti-corruption Training

Our community's ethical commitment is as important as our business performance, so we comply with the general ethical norms and rules of business throughout our operations and we encourage our employees to do so. We also comply with anti-corruption law, and we act in accordance with applicable law.

Corruption restricts economic and social development, and it is a source of legal and reputational risks to our company. We work against all forms of corruption and we expect our employees and partners to do so, and to comply with our norms for effective and fair operation.

Our goal is to prevent any corruption associated with the company, thus contributing to a transparent related economy.

Corruption (and other ethical issues) is managed by Compliance and Internal Audit with the supervision of the director. The independence of the investigation is ensured by direct reporting to the CEO.

An internal regulatory background helps us in preventing corruption, including the Anti-Abuse Policy, the Code of Ethics, and the Hotline Policy, approved by the Chief Executive and the Chairman of the Board. We shape our corporate culture and internal courses on the subject according to these policies.

In our course about ethics we also cover the prevention of corruption, in which all our employees participate up to director level. Each new entrant must complete the course at the beginning of their work. In 2016 a total of 51 people attended such training course.

6.3.2 Responsibility for Our Clients

In the long run, our own and the industry's success and reputation depend on our relationships and quality of cooperation with our partners. That is why we apply our sustainability approach also to customer health and safety, and data protection.



6.3.2.1 Health and Safety

Most of our products are potentially dangerous goods, so their handling requires special attention and expertise from us and the customer too. The issue of product safety goes beyond the boundaries of our company; our customers also need the appropriate theoretical and practical skills to protect health and safety. Based on our policies, all the products we sell are supplied with a Safety Data Sheet (SDS) in the buyer's language. If needed, technical data sheets (TDS) are also attached. Our policies are in accordance with ISO 14001 and OHSAS 18001 standards.

The delivery of TDSs and SDSs to buyers is the responsibility of the contact salesperson. The delivery is tracked through our dedicated IT interface. The REACH Coordination Office is responsible for managing the SDS database. Our isocyanate products can only be delivered by a driver with an ISOPA license. In cases of unfavorable events during transport, our customer can request assistance at the expense of BorsodChem via SGS's multi-language helpline.

For the sake of safe product handling, our sales managers inform our customers about BorsodChem's ISOPA audit and Walk the Talk³² services. We completed five ISOPA audits, five Walk the Talks, and completed 63 questionnaires or declarations in 2016.

ISOPA Audit

Based on the professional recommendation of the organization, we carry out on-site audits at the customer plants, where after testing the unloading and product management practices, we make suggestions when necessary in order to improve the processes for enhance safety and health.

In addition to audits, in developing countries, such as Tanzania, Ghana and Egypt, we organized trainings on the safe handling of our products.

The audit is carried out by our ISOPA certified staff, whose number increased by one in 2016.

If a customer experiences an event linked to our services that endangers health or safety, it may file a complaint with us about our product or service. We investigate all customer reports according to our internal regulations. We provide feedback to our partners about the outcome of the investigation and the preventive actions taken with the coordination of the complaint manager. The Quality Management Department reports such complaints on a weekly basis, and we hold monthly meetings about reclamations. On request, we investigate the complaint at the customer's premises. The topic of health and safety is also examined in the customer satisfaction surveys. We also report on such complaints in the quarterly report of the integrated management system.



32 <http://isopa.org/product-stewardship/walk-the-talk/>



“The pillars of the strategic partnership between the city of Kazincbarcika and BorsodChem Zrt. are job creation and predictable economic policy. This strategic agreement between the two parties was signed in September 2014. The agreement is considered a milestone in the history of Kazincbarcika, and the corporation that has been supporting the municipality for more than 60 years. Since 2013, Kazincbarcika has been developing a new image of the town and the region, whose results are evidenced by various national and international recognition. The trademark characteristics of Kolorcity and Kolorcountry – playfulness, modernity and creativity – appear in the cultural and sport events, touristic attractions and development activity of the town and other settlements nearby. This brand could not be so successful without the support of BorsodChem Zrt. The nationally known Kolorfesztival, organized in Kazincbarcika, is a great example of this, as the company is one of its gold rated supporters.

Kazincbarcika is grateful to BorsodChem Zrt for breathing together with the town, taking advantage of the resources and opportunities, and for performing all the points of the strategic agreement.”

Péter Szitka
Mayor of Kazincbarcika

One Step Ahead

The OSA program targets the isocyanate users and distributors of the African and Middle Eastern regions, and provides alternatives on the safe handling and use of the chemical products through by providing tailor-made solutions. Our goal is to participate in as many OSA events as possible.

6.3.2. 2 Data Protection

Confidentiality is a basic requirement in business, serving the interests of ourselves and our partners alike, as the leakage of information can negatively affect fair competition. Just as we expect it from our partners and competitors, we do not attempt to obtain unfair and unlawful information about our competitor’s businesses.

As stated in the Code of Ethics, we treat our customers in a discreet and non-discriminatory way, including the application of legitimate business practices and confidential treatment of the data received from them. This also helps to maintain good relationships based on mutual trust with our partners. At BorsodChem, all partner information is considered confidential on the basis of the Information Security Policy and the Information Security Code.

The handling of potential complaints is based on BorsodChem’s Code of Ethics. In the last four years, we have been aware of a total of three data misuses that occurred at third-parties. In 2016 we did not receive any complaints about data issues via our Ethical Line.



6.3.3 Responsibility for Local Communities

As one of the dominant companies in the region and Hungary, BorsodChem is responsible for local communities, whose welfare is beneficial to both parties. Since this group is of strate-

gic importance, the whole top management is responsible for maintaining a good relationship with them. Our policy governing social responsibility and the support policy cover the topic of social community initiatives, but the final decision is made by the CEO taking into account a committee's opinion. The initiatives for local communities are always sponsored from a predefined budget, including the corporate tax subsidies.

Our social engagement is based on traditions and the commitment of our employees. Our modern corporate structure also supports the local community's sustainable development locally. We are committed to the economic well-being of the region; in particular we support the municipalities around our sites of operation, but we also stay in touch with several educational institutions in the country in order to establish professional cooperation.

Through our social responsibility goals we enrich the cultural life of Kazincbarcika and the surrounding settlements, including the promotion of Chinese culture among local communities, and the support of environmental protection projects. We promote healthy lifestyles within and outside the company. We are proud of our social sensitivity and that we support education.

As part of the environmental licensing related to our core activity, we inform the public of all major developments and capacity changes. An impact assessment is carried out in the IPPC licensing process. Our licenses are all publicly available.

In the statutory public hearings related to IPPC licenses, BorsodChem's officials inform the public about the company's operations, the expected impacts and results of the new investments and constructions. The purpose of these events is the sharing of information and bilateral communication.

Feedback on subsidies and initiatives are important to us, because this way we get information about the correctness of our actions, or they show new directions of development. Financially supported organizations have a reporting obligation about the usage of resources, moreover, after their events and programs we take into account the participants' feedback. When planning subsidies for the upcoming period, we take into account any new considerations, and make the necessary changes.

If the members of representatives of local communities wish to complain about our company's activities, they can do it either verbally or in writing. Complaints are handled according to the provisions of the Hotline Policy.

The results of our efforts for the local community are proudly communicated within and outside the organization, in reports, newsletters, message boards and through social media.

Just as in the three years preceding the reporting period, in 2016, we also consulted with local communities in regarding operations affecting them.



Our Commitments

Developing employees:



Within 5 years we will introduce **e-learning** in our company as one of the most effective forms of knowledge acquisition and knowledge sharing. At the same time, we can run training processes more easily and transparently with IT support.



When using process control systems for plants, it is necessary for **plant managers** to have basic **IT literacy**. By the end of **2018**, the knowledge assessment of the plant managers will be complete, and all the **plant managers** who do not possess the necessary level of knowledge will be involved in **IT training courses**.



The basic training of **new entry-level system operators** will be increased from the current 40 hours to a minimum of **200 hours** within one year, and the theoretical **training** will be supplemented by practical training, using demonstration and **simulation tools**.



In 2016, 60% of **new entrant workers** were giving **mentoring**. This ration will be **increased by 50% within 3 years** by extending the mentoring process to all new recruits.

Social Responsibility:



Organizing **volunteer help groups**:

We organize activities for the good of local communities without expecting any benefits from them. Organizing groups contribute to the strength of team spirit, solidarity and trust.

„Let's do something good and feel better by helping someone.“

Increasing workers' quality of life:



Setting organizational **30-day challenges** that are related to some kind of exercise or a healthy lifestyle with the purpose: of promoting regular movement, **healthy culture and life style.**



By 2020 in addition to compulsory health inspection, we will organize employee **screening programs** in the framework of health promotion projects [e.g.: screening stations, etc.]

HSE:



With further integration of our supply chain, and the help of investment in new technologies we will decrease our CO₂ footprint.

- By the year **2021** we will have started building our MNB/Anilin Plant, saving more than **14.000 tonnes of GHG emissions**, from the raw material transport.
- By **2030** we will have reduced our specific **GHG emissions by 40%** compared to the year of 2013.



BorsodChem continuously aims to eliminate "old wounds" (contamination sources) that we inherited from our predecessor state owned company.

- Recultivation of our saltwater by 2030.** Elimination of 2 pools (M4 and M6) in the first phase by 2019.
- The **recultivation** of the **ash lagoons** by **2034**, in 3 phases [cassette No 1 by 2023, cassette 2 by 2027, and cassette 3y 2034]

Water scarcity is one of our main risk factors and we continuously aim to reduce the water removed from the river Sajó.



- In 5 years** we reduce the amount of water taken from Sajó by **5%**
- By 2030** we will reduce the amount of water taken from the **Sajó** by **10%** compared to 2015.



By 2030 we **reduce** the number of events resulting from **improper wearing of personal protective equipment** by **40%**.



We reduce **lost time injury rate**

a. **by 25% in 5 years**

b. **and by 50% by 2030** compared to 2015.

Ethics:



We will continuously increase the percentage of company leadership and employees participating in annual ethics and anti-corruption courses.



We will increase communication with our business partners about ethics and anti-corruption topics, this covering our whole value chain from our regular suppliers to our costumers.



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Glossary

BAT	Best Available Technology
BOD	Biological oxygen demand expresses the water's biodegradable organic matter content. It helps to estimate indirectly the water's organic nutrient load.
CO ₂ e	Carbon dioxide equivalent: a quantity of greenhouse gases equivalent to one tonne of CO ₂ or other GHG with equivalent global climate change potential.
COP21	21st Climate Change Conference of the United Nations in 2015.
EBITDA	Earnings before interest, taxes, depreciation and amortization. It shows the current business performance of companies.
GDP	Gross Domestic Product: The value of all goods produced for final use in the given area over a given period of time.
Global Compact	Global Compact is the world's largest corporate responsibility initiative created by the United Nations.
Global Reporting Initiative (GRI)	A Dutch NGO is preparing and developing an internationally accepted reporting standard.
Global warming potential (GWP)	It is used to quantify the greenhouse effect of gases. Compared with the same weight of carbon dioxide, its value is usually determined over a period of 100 years.
Greenhouse gases (GHG)	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds.
Hazardous Air Pollutants (HAP)	Hazardous air pollutants, also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.
IED – Industrial Emissions Directive	Directive 2010/75 / EU on industrial emissions.
IPPC	Integrated Pollution Prevention and Control Directive 96/61 / EC.
Intermodal transportation	Combined transport in which most of the distance is taken on railway, inland waterway or short sea shipping, and the distance taken on road is as small as possible.

ISO 14001	The standard stipulates the rules that companies can use to create an efficient environment-oriented approach. It serves as a guide to the development of the environmental management system.
ISO 50001	The standard includes requirements for the design, maintenance and development of energy management systems. Its purpose is to enable organizations to continuously their improve energy performance.
Isocyanates	Organic compounds containing isocyanate. In the isocyanates there may be several isocyanate groups, the compounds containing two isocyanates is called diisocyanate. The diisocyanates are used together with polyhydric alcohols for the production of polyurethanes.
LEAN	For a LEAN corporation the basis is the value for the client. What does not create value for the client is considered as a loss (waste). The efficiency of workflows is improved by the prevention, elimination and minimization of these losses.
MDI	Methylene diphenyl diisocyanate
Natura 2000	A coherent European ecological network established by the European Union. It ensures the conservation, maintenance and restoration of biodiversity through the protection of habitats, and plant and animal species.
NOx	Nitrogen oxides: Summary names of compounds with different ratios of nitrogen and oxygen. Their role is decisive in the formation of photochemical smog, probably contributing to ozone depletion.
OHSAS 18001	The standard encompasses security obligations and tasks for companies in the area of work, health and fire protection. The central element of the standard is the definition of danger, risk assessment and the planning of how to handle them.
PDCA	Plan-Do-Check-Act: Cyclical, four-step management method.
PU	Polyurethane: the collective name of plastics resulting from the copolymerization of di- and polyisocyanates or di- and polyol units.
PVC	Polyvinylchloride
REACH	Regulation of the European Parliament and of the Council of 2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals.
SA 8000	The purpose of the international standard is to make companies use socially acceptable workplace practices.

Safety data sheet (SDS)	Provides users with information on the effects and safe use of chemicals and dangerous substances. Content requirements are regulated by REACH.
Solar Bee	A machine running on solar energy that improves the water quality of still waters in an environmentally friendly way.
Sustainable Development Goals (SDGs)	Goals accepted in the 2015 Climate Summit of the United Nations based on the Millennium Development Goals.
TDI	toluene diisocyanate
Technical data sheet (TDS)	The document provides information on the recommended uses, advantages and physical properties of (chemical) products.
TOC	Total organic carbon content: all organic carbon bound in water.
TSS	Total suspended solids: a metric used to determine water quality.
VCM	Vinyl chloride (or monochlorethylene) is an organic compound, a chlorine-containing derivative of ethylene.
VOC	Volatile Organic Compounds: Natural or synthetic organic compounds whose vapor pressure is normally high enough to evaporate.



Contact:

Péter Horváth

Officer Sustainability

T: +36 48 511 211

E: sustainability@borsodchem.eu

BorsodChem Zrt

Bolyai tér 1.

3700 Kazincbarcika

T: +36 48 511 211

E: bc@borsodchem.eu

borsodchem-group.com