



# Integrated Report of Grupa Azoty 2018

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## INTRODUCTION

# Letter from the President of the Management Board

[102-10] [102-12] [102-14]

Ladies and Gentlemen,

2018 was a breakthrough year for the Grupa Azoty Group. I can safely say that we have managed to achieve something we have all been waiting for many years – we are no longer perceived as individual companies, but as a single integrated Group. Thanks to the resulting synergies, strength and combined potentials, we are better positioned to compete on the challenging market. An emblem of this change is the consolidation of sales across the Group. Work on this pivotal and challenging project had actually continued since the Group's inception. I am truly glad that we brought it to successful completion. Consolidation of purchasing activities, optimisation of logistics as well as production and maintenance synergies led to more than PLN 700m in savings.

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We are Poland's largest chemical producer, our products are used in virtually all branches of the economy. We were recognised as the TOP BRAND 2018. We are constantly growing our business by opening new research and development centres, upgrading the infrastructure, continuously improving our products and seeking new markets. If market conditions are favourable, we embark on foreign acquisitions. An example in point may be the transaction carried out in 2018 whereby we acquired

a German manufacturer of specialty fertilizers COMPO EXPERT, which brought measurable benefits for the Polish economy. The deal helped the Group to consolidate its position among leading global providers of farming solutions.

Each year, we allocate billions of złoty to investment projects. Our debt level in 2018 resulted from the need to finance the acquisition of COMPO EXPERT, completed on November 26th 2018.

We have developed a reliable model for integrated management of social, environmental and economic performance. For years now, our shares have been a constituent of the FTSE4GOOD Global Index and we have been listed in the Polish Responsible Companies Ranking. We also submit to assessment for the MSCI rating. We promote the production of safe, high-quality and economically viable food, in combination with measures to protect the environment and foster prosperity of local communities. In 2018, we were awarded a distinction in the 'Most Attractive Employer Poland 2018' ranking.

The Grupa Azoty Group operates on a highly competitive market, not only in Poland but almost in every part of the world. Nonetheless, I am deeply convinced that we will be able to maintain a strong footing in each area of our business, while winning new markets and customers.

Best regards,

Wojciech Wardacki, President of the Management Board



#### Awards and distinctions 2017–2018

### Good business



- TOP BRAND 2018
- Second position in the survey of best investor relations in 2017, organised by the *Parkiet* daily and the Polish Chamber of Brokerage Houses
- Grupa Azoty Police and Grupa Azoty awarded the 'Transparent Company of the Year 2017' title
- The 'Ambassador of Polish Chemical Industry' title received during the 5th Polish Chemical Industry Congress
- Grupa Azoty included in the Respect and FTSE4GOOD indices
- Grupa Azoty as the main partner of the UN Day 2018 gala event organised by Global Compact Network Poland
- The 'Key to Success' statuette for Witold Szczypiński, the Grupa Azoty CEO; the award distinguishes people who have played a particularly important role in the development of the chemical industry



### Innovation

- Two 'Golden Rose' awards from by the *TEM!* weekly of Tarnów
- Medal for the "development of an innovative technology for modified Tarnamid" at the 22nd International Fair of Plastics and Rubber Processing PLASTPOL
- Distinction from the *Gazeta Polska* weekly for Grupa Azoty in the category 'Innovative Company of the 100th Anniversary of Poland's Regaining Independence'



### Community involvement and contribution to the Group's environment

- The 'Patron of Sports' distinction awarded to Grupa Azoty Police by the West Pomeranian Football Association
- Medal of 'Merit in the Service of Kraków University of Technology' for Grupa Azoty in recognition its "outstanding contribution to the development of the university"
- The Polish Radio's Business Award for Grupa Azoty in the 'Philanthropist' category







## Labour practices and decent work

- Distinction for Grupa Azoty in the 'Most Attractive Employer Poland 2018' ranking



OUR BUSINESS – WHO WE ARE AND HOW WE OPERATE

## Overview of the Group

[\[102-1\]](#) [\[102-3\]](#) [\[102-4\]](#) [\[IR-Organizational profile and external environment\]](#)

We are Poland's leading chemical business.

Grupa Azoty is a brand standing for superior standards. The wider the range of our products and services, the greater care we take of the surrounding world and quality of human life. Striving for excellence in every area of our activity, we focus equally on enhancing our corporate value and on guaranteeing satisfaction of all users of our products. We have built a modern, strong corporate group. We pursue a set of ambitious goals.

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[\[102-7\]](#)





# 15



Nearly 15,000 employees

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# 5



Segments

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- Agro Fertilizers
- Plastics
- Chemicals
- Energy
- Other Activities



# 5



Locations of main production plants

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- Tarnów
- Puławy
- Police
- Kędzierzyn-Koźle
- Münster (Germany)



# 9



Key raw materials procured and processed to manufacture products

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- Ammonia
- Benzene
- Phenol
- Phosphate rock
- Propylene
- Sulfur
- Potassium chloride
- Coal
- Natural gas



# 5



Geographic areas where our products are present

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- European Union
- South America
- Asia
- Africa
- North America



## Leader at home

Grupa Azoty is Poland's largest chemical producer.

## TOP 1 among:

- manufacturers of nitrogen, nitrogen-sulfur, nitrogen-phosphorus and compound fertilizers\*
- polyamides
- manufacturers of OXO alcohols, plasticizers,
- titanium white and melamine

\* Total compound fertilizers (AP, NPK, PK).

## Top EU producer

We stand among the top European chemical producers.

## TOP 2 among:

- manufacturers of nitrogen fertilizers

## TOP 3 among:

- manufacturers of melamine
- manufacturers of compound fertilizers







See our product portfolio

[102-2]

See our product portfolio

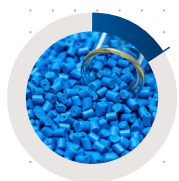
Contribution to the Grupa Azoty Group's revenue in 2018



**49%**  
FERTILIZERS



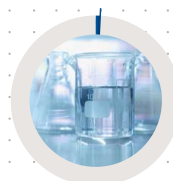
**31%**  
CHEMICALS



**16%**  
PLASTICS



**2,5%**  
ENERGY



**1,5%**  
OTHER

[102-2]

Our principal business includes:

#### Agro Fertilizers

Mineral fertilizers are the main source of our revenue – the Group is Poland's largest and European Union's second largest manufacturer of mineral fertilizers. We offer nitrogen and compound fertilizers, as well as ammonia and other nitrogen-based intermediate products. Fertilizers are manufactured by the Group companies based in Tarnów, Puławy, Kędzierzyn, Police, Gdańsk, Chorzów and Münster (Germany).

(For more information on our fertilizers, visit the customer zone at: <https://nawozy.eu/> and <http://nawozy.grupaazoty.com/pl/main.html>)

#### Plastics

Plastics represent the second largest segment of the Group's sales. Our offering includes Tarnamid®, Alphalon® (the trade names of polyamide 6), Tarnoform® (the trade name of polyacetal (POM)), and other modified plastics. Plastics are manufactured by the Group companies based in Tarnów, Puławy, and Guben (Germany). We are the leading manufacturer of polyamide 6 (PA6) in Poland and its third largest producer in the European Union.

#### Chemicals

The Chemicals segment comprises OXO products (OXO alcohols, plasticizers), technical grade urea, melamine, sulfur, titanium white and other products.

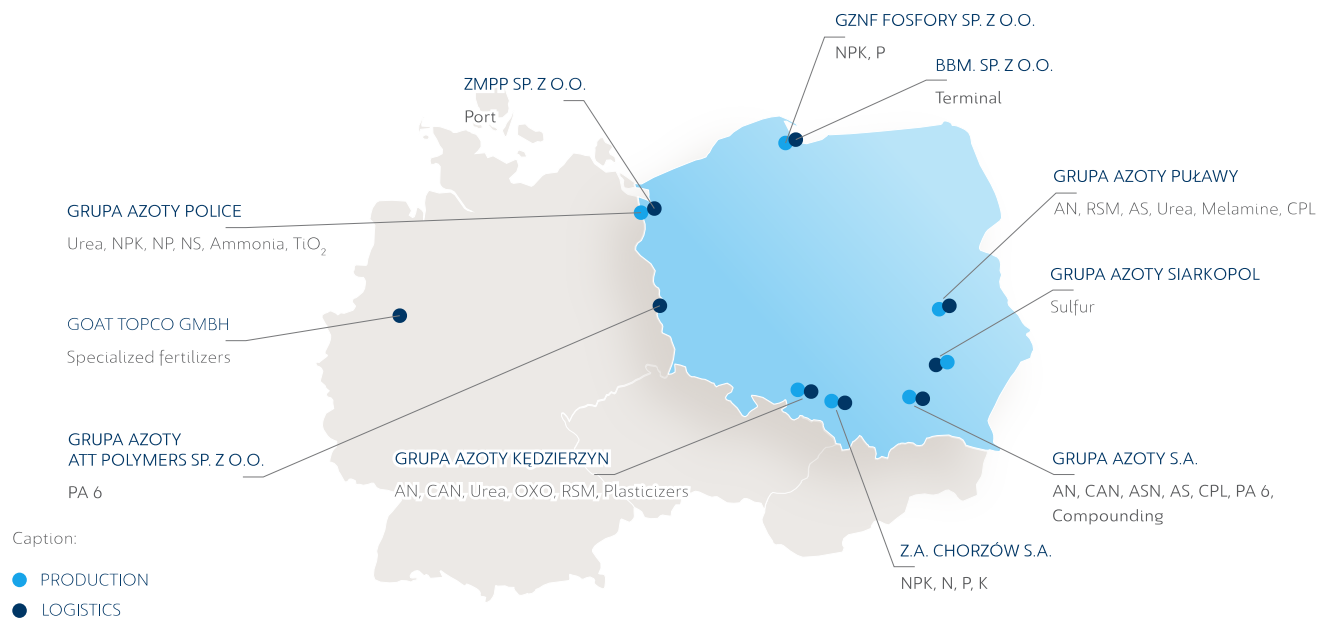
Energy


Our main production plants operate their own in-house units generating electricity and heat, which is then transmitted over our own distribution networks, mostly to the Group companies. We also supply electricity and hot domestic water to meet local demand.

In addition, the Group operates as a service provider. Its key service lines include maintenance (automation, design, repair, etc.), logistics (road transport, rail transport, port facilities), and catalyst manufacturing.

**See the locations of our manufacturing plants**

Core business of the Group



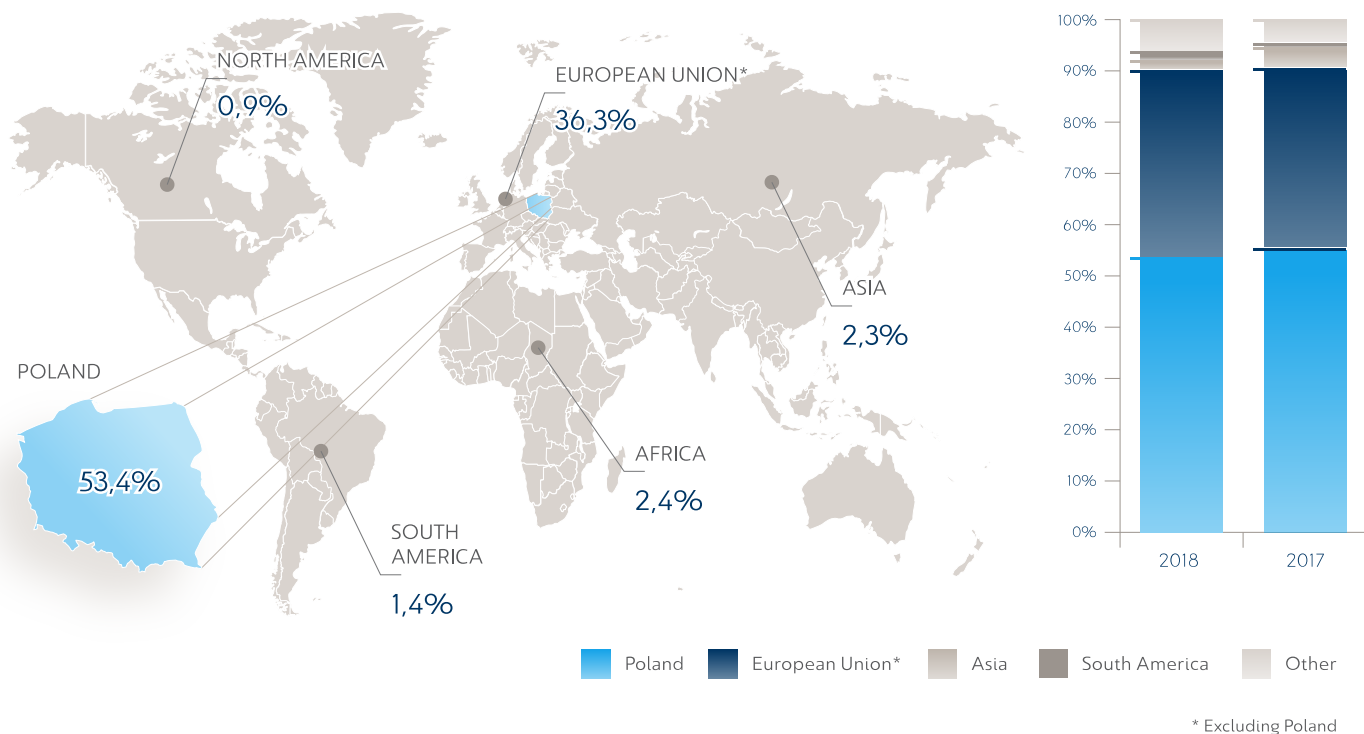
**See the markets to which we sell our products**

[102-6]

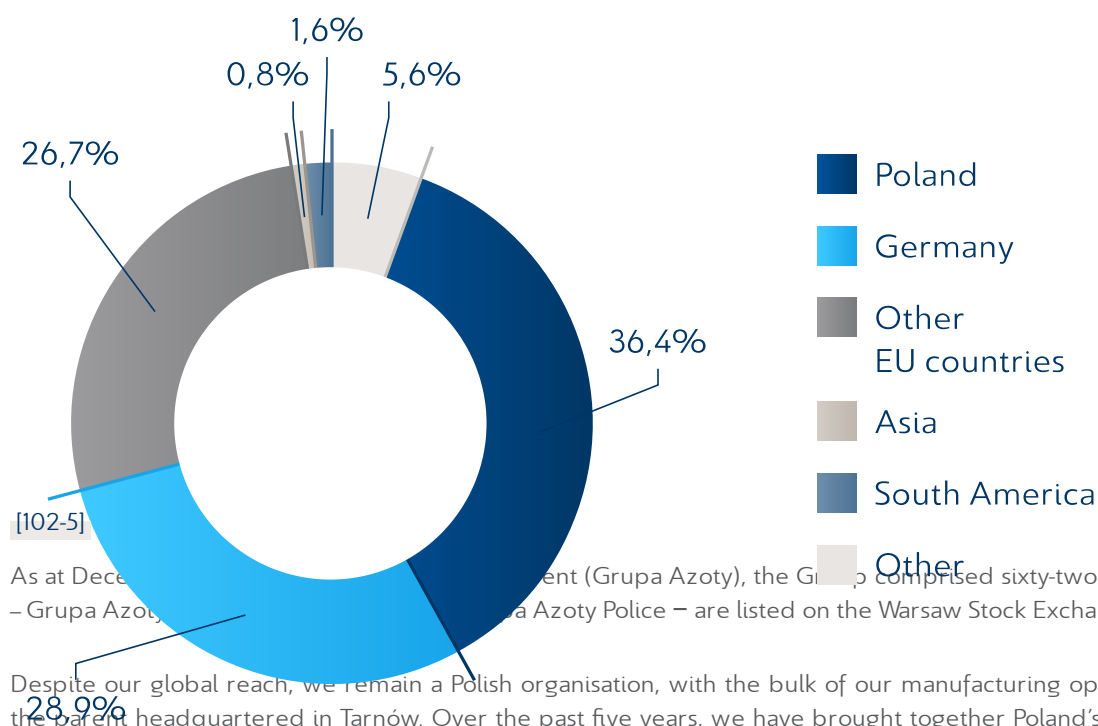
[102-6] We create state-of-the-art, top-of-the-range products, sold mainly in Poland. The target markets for our exports are mainly EU countries, especially Germany, the United Kingdom, the Czech Republic, Italy, France and Belgium, as well as Asia and South America.

The Group's sales by geographies (by revenue)





## Geographic breakdown of the parent's sales (by revenue)



As at December 31, 2018, the parent (Grupa Azoty), the Group comprised sixty-two subsidiaries. Three companies – Grupa Azoty, Grupa Azoty Polina and Grupa Azoty Polina – are listed on the Warsaw Stock Exchange.

Despite our global reach, we remain a Polish organisation, with the bulk of our manufacturing operations located in Poland and the parent headquartered in Tarnów. Over the past five years, we have brought together Poland's largest chemical plants under the single brand of Grupa Azoty, comprising a host of companies with different traditions and diverse, albeit complementary, business profiles. This has led to the creation of Poland's largest chemical group and a major industry player in Europe. We actively contribute to the progress of the industries in which we operate, sharing our expert knowledge as members of several dozen associations and organisations.















See the organisations of which we are members

[102-13]

[102-13]

In 2018, the Grupa Azoty Group was a member of the following organisations and associations:











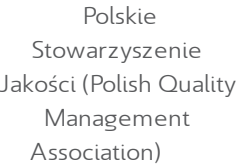


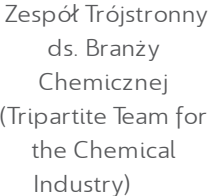

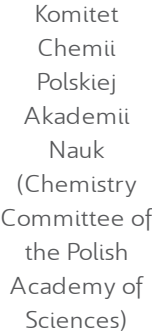
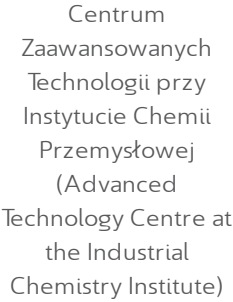

## Membership of organisations in 2018

 <p>Polska Izba Przemysłu Chemicznego (Polish Chamber of Chemical Industry – PIPC)</p> <p><a href="#">Website</a></p>	 <p>Fertilizers Europe (Europejskie Stowarzyszenie Producentów Nawozów)</p> <p><a href="#">Website</a></p>	 <p>International Fertilizer Industry Association (IFA)</p> <p><a href="#">Website</a></p>	<p>European Phosphate Fertilizer Alliance</p>	 <p>Izba Energetyki Przemysłowej i Odbiorców Energii (Polish Chamber of Industrial Power and Energy Consumers)</p> <p><a href="#">Website</a></p>	 <p>Stowarzyszenie Emitentów Giełdowych (Polish Association of Listed Companies)</p> <p><a href="#">Website</a></p>
 <p>EPCA (European Petrochemical Association)</p> <p><a href="#">Website</a></p>	 <p>Stowarzyszenie Eksporterów Polskich (Association of Polish Exporters)</p> <p><a href="#">Website</a></p>	 <p>Institute of Internal Auditors IIA Poland</p> <p><a href="#">Website</a></p>	 <p>Internationaler Controller Verein</p>	<p>Transparency Register</p> <p><a href="#">Website</a></p>	 <p>System pomocy w transporcie materiałów niebezpiecznych SPOT (SPOT System Assistance in Hazardous Material Transport)</p> <p><a href="#">Website</a></p>
 <p>Forum Liderów Bezpiecznej Pracy (Forum of Safe Work Leaders)</p> <p><a href="#">Website</a></p>	 <p>Konsorcjum Bezpieczeństwo Gospodarcze Polski (Polish Economic Security Consortium)</p> <p><a href="#">Website</a></p>				

SCROLL TABLE

Grupa Azoty

## Grupa Azoty










 <p>Związek Przedsiębiorców i Pracodawców (Association of Entrepreneurs and Employers)</p>	 <p>Towarowa Giełda Energii S.A. (Polish Power Exchange)</p> <p><a href="#">Website</a></p>	 <p>Towarzystwo Obrotu Energią (Energy Trading Association)</p>	 <p>Polish- Brazilian Chamber of Commerce</p> <p><a href="#">Website</a></p>	 <p>R&amp;D Club (TechBrainers Sp. z o.o.)</p>	 <p>Stowarzyszenie Elektryków Polskich Oddział Tarnowski (Association of Polish Electrical Engineers, Tarnów Branch)</p> <p><a href="#">Website</a></p>
 <p>Izba Przemysłowo – Handlowa w Tarnowie (Tarnów Chamber of Commerce and Industry)</p> <p><a href="#">Website</a></p>	 <p>Polskie Forum ISO 9000 (Polish ISO 9000 Forum)</p> <p><a href="#">Website</a></p>	 <p>Stowarzyszenie Inżynierów i Techników Przemysłu Chemicznego (Polish Association of Chemical Engineers)</p> <p><a href="#">Website</a></p>	 <p>Klub Polskich Laboratoriów Badawczych POLLAB (POLLAB Club of Polish Research Laboratories)</p> <p><a href="#">Website</a></p>	 <p>Polskie Stowarzyszenie Jakości (Polish Quality Management Association)</p>	 <p>Stowarzyszenie Księgowych w Polsce Oddział Kraków (Accountants Association of Poland, Kraków Branch)</p> <p><a href="#">Website</a></p>
 <p>Stowarzyszenie Polskich Skarbników Korporacyjnych (Association of Polish Corporate Treasurers)</p> <p><a href="#">Website</a></p>	 <p>Zespół Trójstronny ds. Branży Chemicznej (Tripartite Team for the Chemical Industry)</p>	 <p>Polska Izba Rzeczników Patentowych (Polish Chamber of Patent Attorneys)</p> <p><a href="#">Website</a></p>	 <p>Komitet Chemii Polskiej Akademii Nauk (Chemistry Committee of the Polish Academy of Sciences)</p> <p><a href="#">Website</a></p>	 <p>Centrum Zaawansowanych Technologii przy Instytucie Chemii Przemysłowej (Advanced Technology Centre at the Industrial Chemistry Institute)</p> <p><a href="#">Website</a></p>	 <p>Polska Platforma Technologiczna Wodoru i Ogrzewania Paliwami (Polish Hydrogen And Fuel Cell Technology Platform)</p>

SCROLL TABLE

## Grupa Azoty

 <p>Polska Platforma Technologiczna Zrównoważonej Chemii (Polish Technological Platform for Sustainable Chemistry)</p>	 <p>Polska Platforma Technologiczna – Bezpieczeństwo Pracy w Przemśle (Polish Technological Platform for Safety at Industrial Work Places)</p>	 <p>Narodowy Fundusz Ochrony Środowiska (National Fund for Environmental Protection)</p> <p><a href="#">Website</a></p>	 <p>Naczelna Organizacja Techniczna NOT (Polish Federation of Engineering Associations NOT)</p> <p><a href="#">Website</a></p>	 <p>Izba Rzemieśnicza oraz Małej i Średniej Przedsiębiorczości w Tarnowie (Tarnów Chamber of Craft and SMEs)</p> <p><a href="#">Website</a></p>	 <p>Konsorcjum Inżynierów Tech-Med (Inżynierów Tech-Med Consortium)</p>
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## Grupa Azoty Zakłady Azotowe „Puławy” S.A.

 <p>Polskie Forum ISO 9000 (Polish ISO 9000 Forum)</p> <p><a href="#">Website</a></p>	 <p>Klub Polskich Laboratoriów Badawczych POLLAB (POLLAB Club of Polish Research Laboratories)</p> <p><a href="#">Website</a></p>	 <p>Stowarzyszenie Księgowych w Polsce Oddział Lublin (Accountants Association in Poland, Lublin Branch)</p> <p><a href="#">Website</a></p>	 <p>ISSA – Information Systems Security Organisation</p> <p><a href="#">Website</a></p>	 <p>Stowarzyszenie Polskich Skarbników Korporacyjnych (Association of Polish Corporate Treasurers)</p> <p><a href="#">Website</a></p>	 <p>Towarowa Giełda Energii S.A. (Polish Power Exchange)</p> <p><a href="#">Website</a></p>
 <p>Puławskie Centrum Przedsiębiorczości (Puławy Entrepreneurship Centre)</p> <p><a href="#">Website</a></p>	 <p>EASEE-gas</p> <p><a href="#">Website</a></p>	 <p>Związek Przedsiębiorców i Pracodawców (Association of Entrepreneurs and Employers)</p> <p><a href="#">Website</a></p>			

SCROLL TABLE



## Grupa Azoty Zakłady Chemiczne „Police” S.A.

 <p>Stowarzyszenie Zachodniopomorski Klaster Chemiczny (West Pomerania Chemical Cluster)</p> <p><a href="#">Website</a></p>	 <p>Polskie Forum ISO 9000 (Polish ISO 9000 Forum)</p> <p><a href="#">Website</a></p>	 <p>Klub Polskich Laboratoriów Badawczych POLLAB (POLLAB Club of Polish Research Laboratories)</p> <p><a href="#">Website</a></p>	 <p>Polska Izba Odzysku i Recyklingu Opakowań (Polish Chamber of Packaging Recovery and Recycling)</p> <p><a href="#">Website</a></p>
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## Grupa Azoty Zakłady Azotowe Kędzierzyn S.A.

 <p>Opolska Izba Gospodarcza (Opole Chamber of Commerce)</p> <p><a href="#">Website</a></p>	 <p>Klaster Chemii Specjalistycznej Chem-Ster (Chem- Ster Specialty Chemicals Cluster)</p> <p><a href="#">Website</a></p>	 <p>Krajowa Sieć Informatyczna Europejskiej Agencji Bezpieczeństwa i Zdrowia w Pracy (National IT Network of the European Agency for Safety and Health at Work)</p> <p><a href="#">Website</a></p>	 <p>Polska Izba Gospodarcza Elektrotechniki (Polish Economic Chamber of Electrotechnics)</p> <p><a href="#">Website</a></p>	 <p>Europejskie Plastyczne <a href="#">Website</a></p>
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## A HANDFUL OF NOTEWORTHY FACTS:

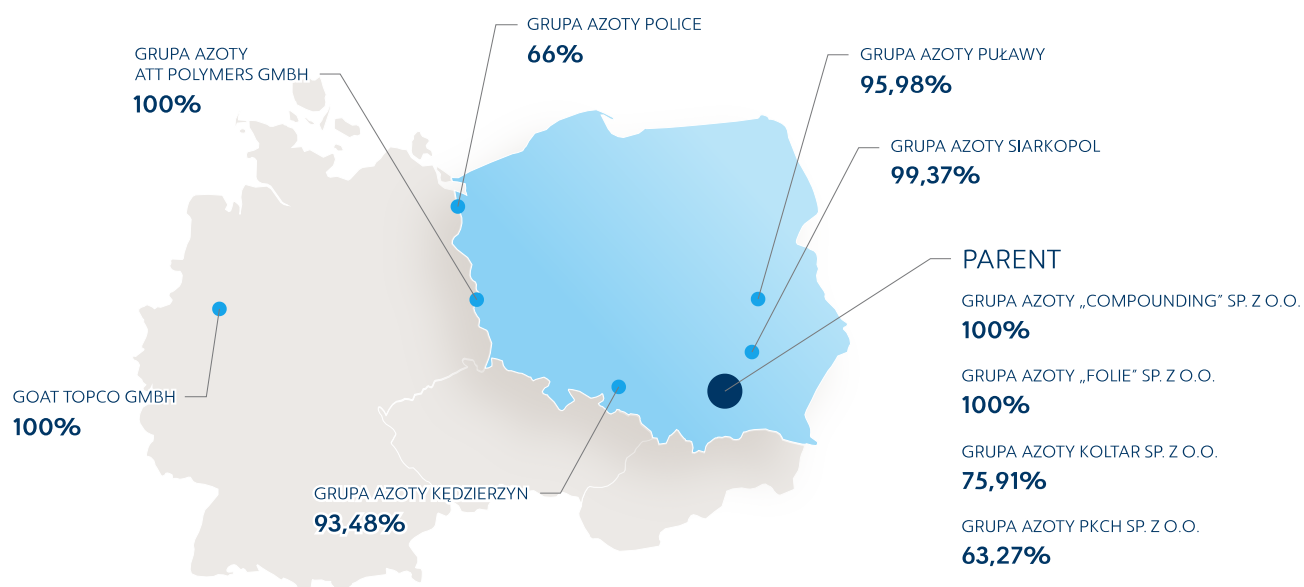
*Grupa Azoty is one of the leading chemical companies globally according to the 'Value Creation in Chemicals 2016' ranking, compiled based on a review of 190 largest industry players rated in terms of their total shareholder return. The review covered the value of shares and the amount of dividends. These in turn are driven by various factors, including fluctuations in revenue, profit margins, number of outstanding shares and debt level.*

[ IR – Corporate governance]

# Structure of the Grupa Azoty Group

Our Group builds its value operating as a single entity. This strategic objective is supported by our management model. Our Group builds its value operating as a single entity. This strategic objective is supported by our management model, based on centralisation of the functions which generate the greatest synergies and management of key business processes at the Group level, while maintaining the separate legal identity of the Group companies.

## The parent and its subsidiaries as at December 31st 2018



## Key information about the Group companies:

**Grupa Azoty** – the parent of the Grupa Azoty Group

- Manufacture of, trade in and services related to nitrogen fertilizers, engineering plastics and intermediates

Registered office: Tarnów

**Grupa Azoty Puławy**

- Manufacture of nitrogen fertilizers
- Manufacture of melamine
- Manufacture of caprolactam

Grupa Azoty Zakłady Azotowe Puławy is a leading organisation within the Grupa Azoty Group. The Puławy-based company is the largest supplier of nitrogen fertilizers for Polish farmers and the second largest player on the EU market of prilled urea (PULREA),

**Grupa Azoty Kędzierzyn**

- Manufacture of nitrogen fertilizers
- Manufacture of OXO alcohols and plasticizers

Registered office: Kędzierzyn-Koźle

	<p>ammonium nitrate (PULAN), ammonium sulfate (PULSAR), and urea-ammonium nitrate solution (UAN).</p> <p>The Puławy plant is Poland's only and Europe's third largest manufacturer of melamine, which is widely used in the furniture making and construction industries. The company is also the only producer of hydrogen peroxide in Poland and a significant producer of caprolactam.</p> <p>Registered office: Puławy</p>	
<p><b>Grupa Azoty Police</b></p> <ul style="list-style-type: none"> <li>■ Manufacture of nitrogen fertilizers</li> <li>■ Manufacture of compound fertilizers</li> <li>■ Manufacture of titanium white</li> </ul> <p>Registered office: Police</p>	<p><b>Grupa Azoty ATT Polymers</b></p> <ul style="list-style-type: none"> <li>■ Manufacture of polyamide 6 (PA 6)</li> </ul> <p>Registered office: Guben (Germany)</p>	<p><b>Grupa Azoty Polskie Konsorcjum Chemiczne</b></p> <ul style="list-style-type: none"> <li>■ End-to-end design services for investment projects in the chemical industry</li> </ul> <p>Registered office: Tarnów</p>
<p><b>Grupa Azoty Kolar</b></p> <ul style="list-style-type: none"> <li>■ Railway transport services</li> <li>■ Repair of rail car chassis and tanks used in the transport of hazardous materials</li> </ul> <p>Registered office: Tarnów</p>	<p><b>Grupa Azoty Kopalnie i Zakłady Chemiczne Siarki Siarkopol</b></p> <ul style="list-style-type: none"> <li>■ Production and processing of sulfur</li> <li>■ Production of liquid, prilled, insoluble, milled, granulated and flaked sulfur</li> </ul> <p>Registered office: Grzybów</p>	<p><b>Grupa Azoty Compounding</b></p> <ul style="list-style-type: none"> <li>■ The company's business model is based on a portfolio of specialised engineering plastics manufactured through the compounding of plastics with the use of innovative technological solutions</li> </ul> <p>Registered office: Tarnów</p>
<p><b>Goat TopCo GmbH</b></p> <p>A holding company for 22 other entities, including the main operating company COMPO EXPERT GmbH, one of the largest global manufacturers of specialty fertilizers.</p> <p>Registered office: Münster (Germany)</p>	<p><b>PDH Polska S.A.</b></p> <p>The company's purpose is to construct a PDH propylene and polypropylene production plant with related infrastructure, auxiliary systems and inter-unit connections, and extension of the Police sea port facilities to include a handling terminal for chemicals that would provide the required logistics infrastructure for receiving and storing the raw material.</p> <p>Registered office: Police</p>	<p><b>Grupa Azoty „Folie” Sp. z o.o.</b></p> <p>The company's principal business is research and development in technical science. In 2018, the company did not carry out any operating activities or employ any personnel.</p> <p>Registered office: Tarnów</p>



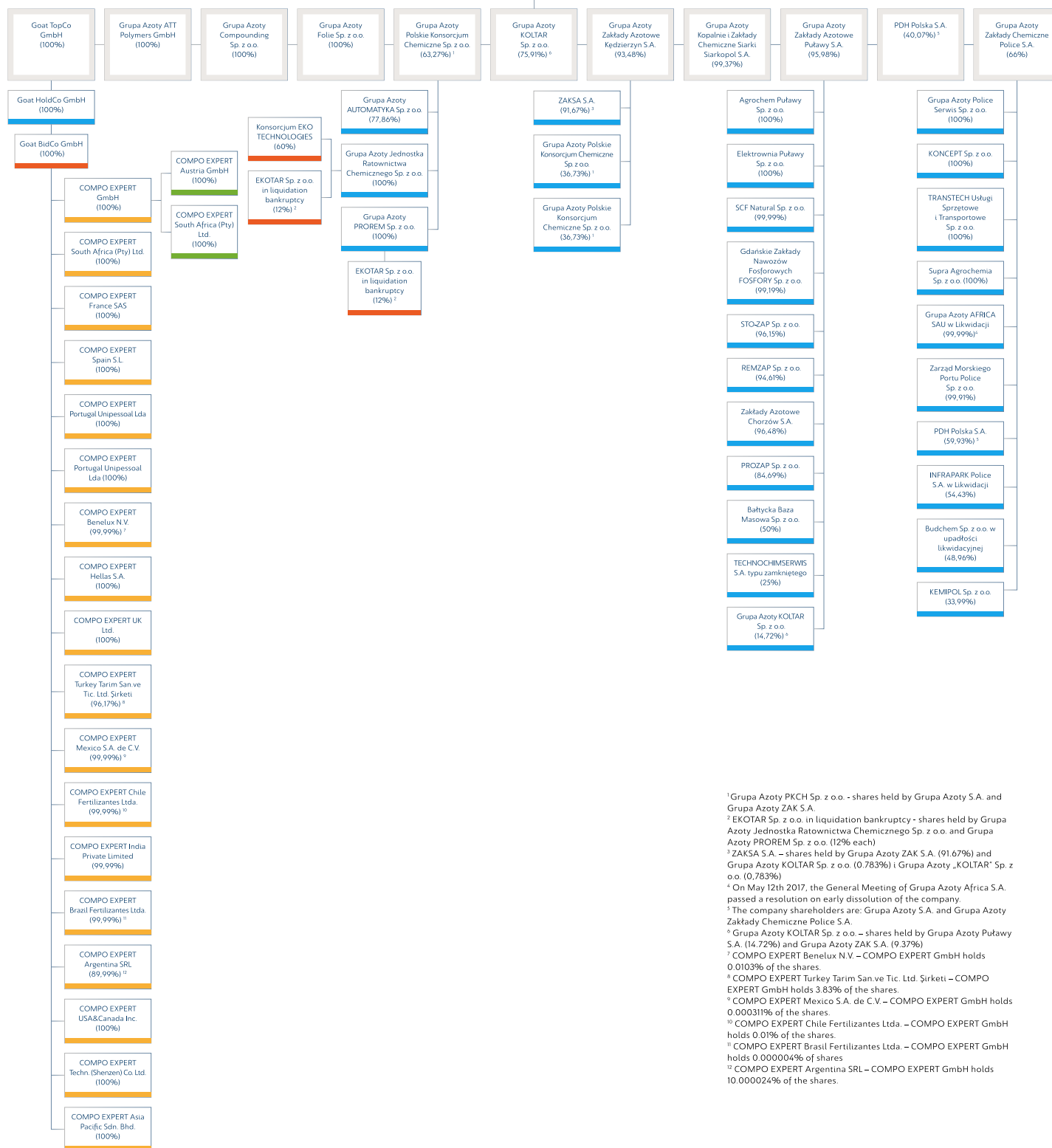
See the Group structure and shareholding structures of the listed Group companies

[102-18] [102-10] [102-5]

[102-18]

## Structure of the Grupa Azoty Group as at December 31st 2018

## GRUPA AZOTY S.A.



<sup>1</sup> Grupa Azoty PKCH Sp. z o.o. - shares held by Grupa Azoty S.A. and Grupa Azoty ZAK S.A.

<sup>2</sup> EKOTAR Sp. z o.o. in liquidation bankruptcy - shares held by Grupa Azoty Jednostka Ratownictwa Chemicznego Sp. z o.o. and Grupa Azoty PROREM Sp. z o.o. (12% each)

<sup>3</sup> ZAKSA S.A. - shares held by Grupa Azoty ZAK S.A. (91,67%) and Grupa Azoty KOLTAR Sp. z o.o. (0,783%) i Grupa Azoty „KOLTAR” Sp. z o.o. (0,783%)

<sup>4</sup> On May 12th 2017, the General Meeting of Grupa Azoty Africa S.A. passed a resolution on early dissolution of the company.

<sup>5</sup> The company shareholders are: Grupa Azoty S.A. and Grupa Azoty Zakłady Chemiczne Police S.A.

<sup>6</sup> Grupa Azoty KOLTAR Sp. z o.o. - shares held by Grupa Azoty Puławy S.A. (14,72%) and Grupa Azoty ZAK S.A. (9,37%)

<sup>7</sup> COMPO EXPERT Benelux N.V. - COMPO EXPERT GmbH holds 0,0103% of the shares.

<sup>8</sup> COMPO EXPERT Turkey Tarim San ve Tic. Ltd. Şirketi - COMPO EXPERT GmbH holds 3,83% of the shares.

<sup>9</sup> COMPO EXPERT Mexico S.A. de C.V. - COMPO EXPERT GmbH holds 0,000311% of the shares.

<sup>10</sup> COMPO EXPERT Chile Fertilizantes Ltda. - COMPO EXPERT GmbH holds 0,01% of the shares.

<sup>11</sup> COMPO EXPERT Brazil Fertilizantes Ltda. - COMPO EXPERT GmbH holds 0,000004% of the shares.

<sup>12</sup> COMPO EXPERT Argentina SRL - COMPO EXPERT GmbH holds 10,000024% of the shares.

[102-10]

## Key changes in the size, structure and ownership

### Merger of Grupa Azoty KOLTAR Sp. z o.o., CTL CHEMKOL Sp. z o.o., and CTL KOLZAP Sp. z o.o.

Grupa Azoty signed an agreement with CTL Logistics to take over certain special purpose vehicles, and thus consolidate railway siding services in Kędzierzyn and Puławy. As a result, since January 1st 2018, all Grupa Azoty companies managing railway sidings have operated within the Group's structure. The railway siding services were consolidated in Grupa Azoty KOLTAR, while CTL Logistics will remain Grupa Azoty's strategic partner in transport activities.



Following the changes, Grupa Azoty KOLTAR Sp. z o.o.'s share capital was increased, and its operations were expanded to include a new location in Police, where the company provides forwarding, shunting, and repair services.

## Merger of Grupa Azoty Puławy and Elektrownia Puławy Sp. z o.o.

In August 2018, a decision was made to start preparations to merge Grupa Azoty PUŁAWY with its subsidiary Elektrownia Puławy Sp. z o.o. On November 6th 2018, the Extraordinary General Meetings of Grupa Azoty PUŁAWY and Elektrownia Puławy Sp. z o.o. passed resolutions to merge the two companies and to approve their Merger Plan. Grupa Azoty Puławy was the sole owner of Elektrownia Puławy Sp. z o.o.

## Merger of AGROCHEM companies

On February 28th 2018, the Extraordinary General Meetings of AGROCHEM Sp. z o.o. of Dolne Miasto and AGROCHEM PUŁAWY Sp. z o.o. of Puławy resolved to approve a merger of the two companies.

## Agreement for acquisition of shares in Goat TopCo GmbH

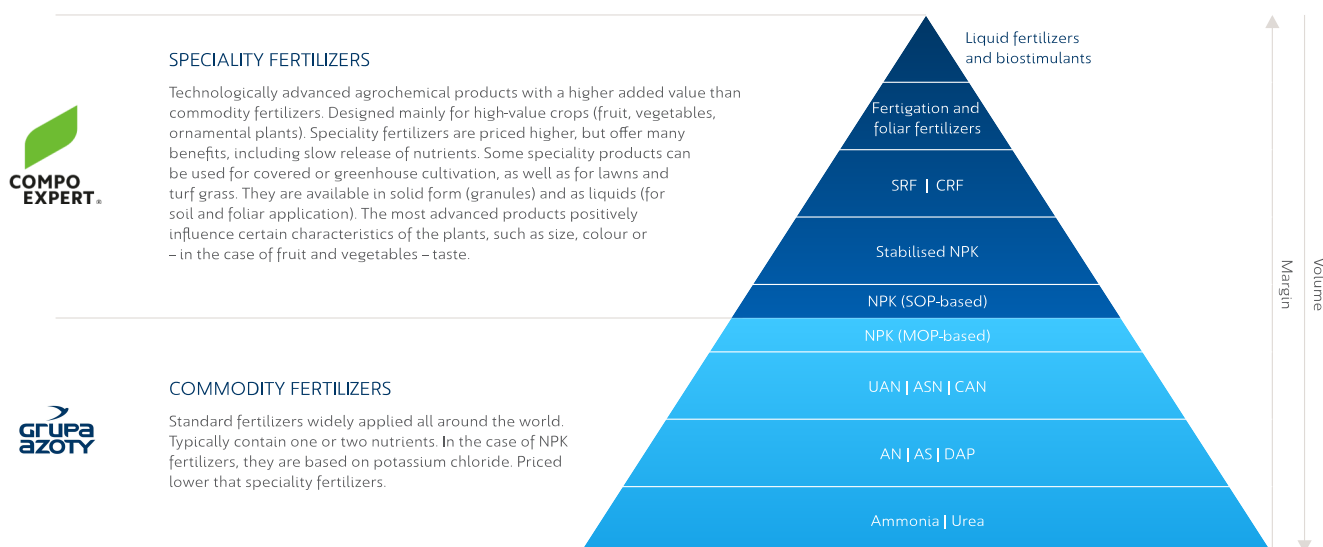
On September 6th, Grupa Azoty entered into a conditional agreement with Goat Netherlands B.V. of Amsterdam, a member of the XIO Group, to purchase 25,000 shares representing 100% of the share capital of Goat TopCo GmbH ("Goat TopCo") of Münster, Germany, for consideration of no more than EUR 235m.

On October 12th, the parent's Extraordinary General Meeting passed a resolution to grant consent to Grupa Azoty's acquisition of shares representing 100% of the share capital of Goat TopCo GmbH under the conditional share purchase agreement, subject to clearance by the relevant antitrust authorities, on the financial terms stipulated in the conditional agreement, for a price not higher than EUR 235m. The resolution took effect as of its date.

The transaction is consistent with the parent's strategy to reinforce the Grupa Azoty Group's position among the leading providers of agricultural solutions as well as to expand and enhance its fertilizer product portfolio. It opened new opportunities for the Grupa Azoty Group to diversify its business while acquiring highly innovative technologies, know-how, and a well-developed distribution network. Products offered by the COMPO EXPERT Group complemented the portfolio of Grupa Azoty with specialty fertilizers – NPK (based on SOP and stabilized), SRF and CFR, fertigation and foliar feed fertilizers, liquid fertilizers and bio-stimulators. The final price for COMPO EXPERT was EUR 226,637 thousand.

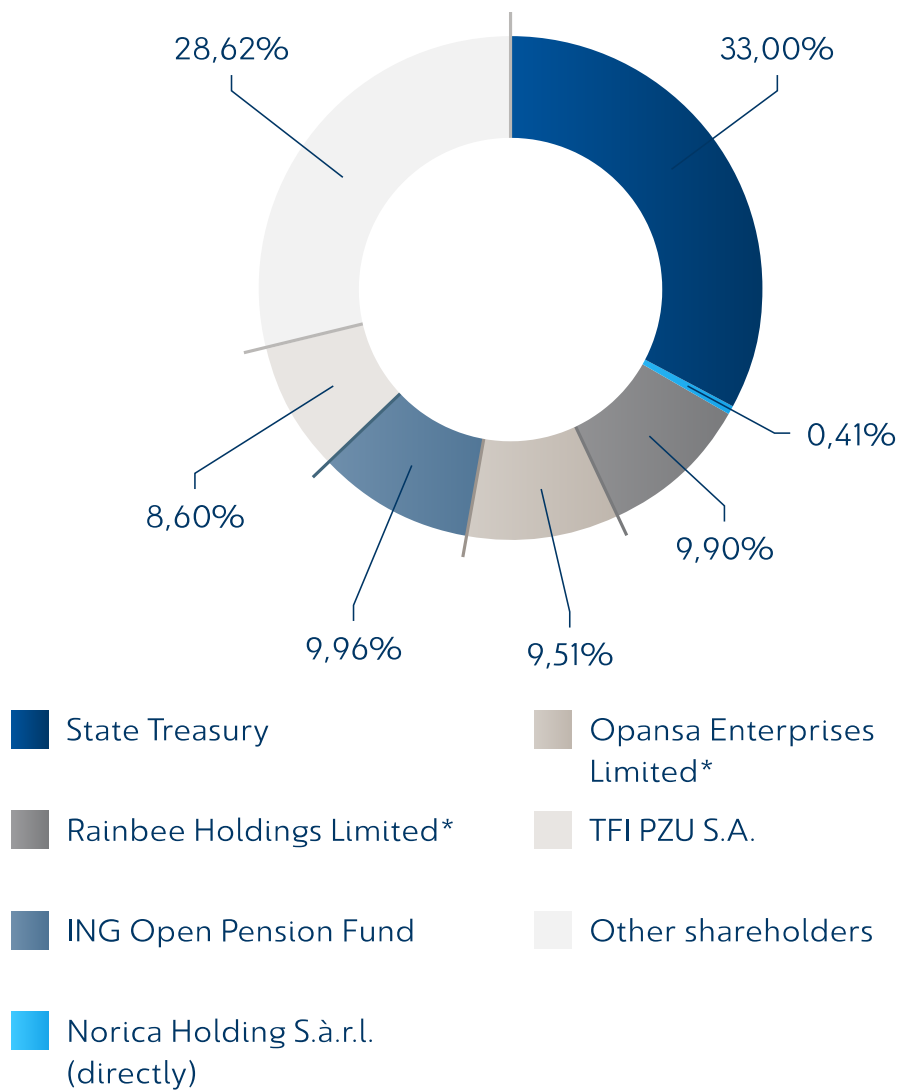
## Expansion of the fertilizer portfolio following the acquisition of shares in Goat TopCo GmbH

### Fertilizer value pyramid



Other changes included registration of the share capital increase at the following companies: ZA Chorzów S.A., Grupa Azoty Compounding Sp. z o.o., Grupa Azoty Siarkopol S.A., and PDH Polska S.A., and discontinuation of the operations of the subsidiary Infrapark Police S.A. w likwidacji (in liquidation).

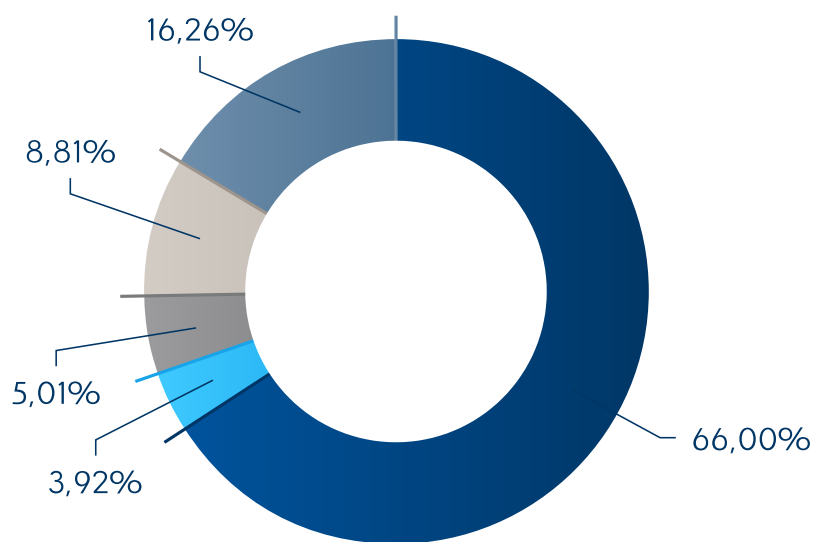
## Shareholding structure of Grupa Azoty



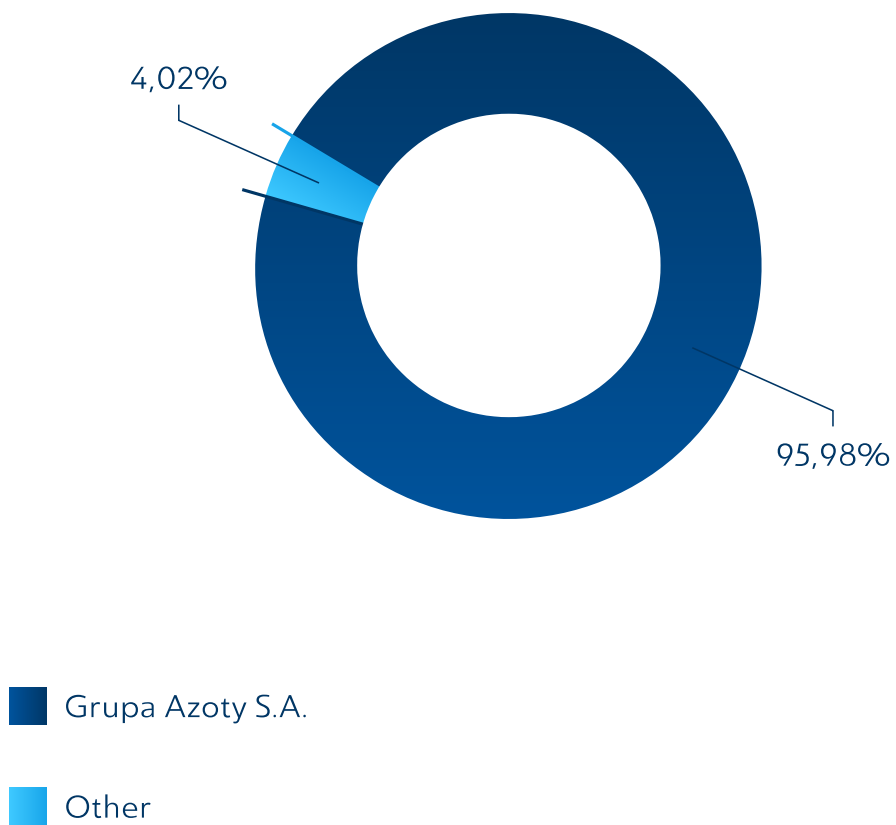
\* Direct subsidiary of Norica Holding S.à.r.l.

\* Indirectly: 19.82%.

## Shareholding structure of Grupa Azoty Police

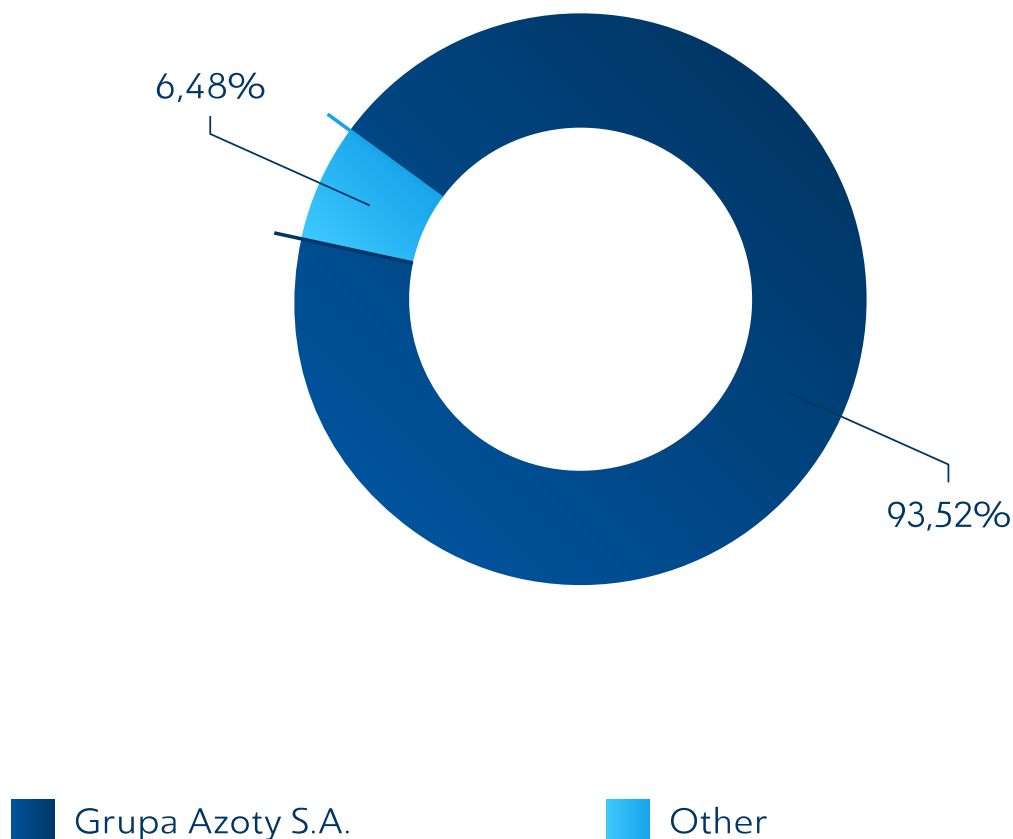


Shareholding structure of Grupa Azoty Puławy



Shareholding structure of Grupa Azoty Kędzierzyn





[See our governance structure](#)

[102-18]

[102-18]

The Management Board of Grupa Azoty operates as the Management Board of the Grupa Azoty Group. President of the Management Board exercises overall supervision of the Group. Key areas of activity:

- finance
- investments
- production
- integration
- plastics and organic synthesis
- supply chain management
- social dialogue
- technical safety and environmental protection

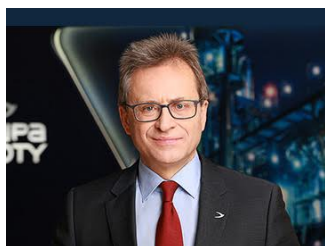
In 2018, the Management Board and the Supervisory Board of Grupa Azoty consisted of persons holding university degrees in law, economics, chemical engineering and technology, as well as environmental engineering. Most of their members also

completed post-graduate programmes in corporate management, polymer chemistry and technology, management control, MBA programmes, as well as specialist courses or trainings, including in:

- power engineering
- transport of hazardous materials
- project management
- disclosure requirements applicable to WSE-listed companies
- asset management
- strategy risk management



## Management Board of Grupa Azoty as at December 31st 2018:



Wojciech Wardacki,  
President of the  
Management Board

- management and HR policy
- audit and risk
- CSR
- communication



Mariusz Grab,  
Vice President of the  
Management Board

- procurement strategy
- raw materials and products integration
- logistics



Artur Kopeć,  
member of the  
Management Board

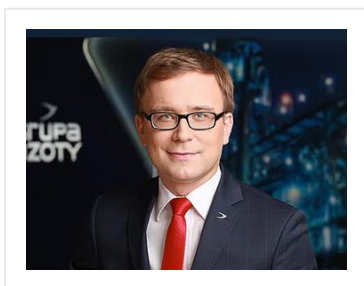
- production assets
- technical safety and infrastructure
- environmental protection
- social dialogue



Witold Szczypiński,  
member of the  
Management Board

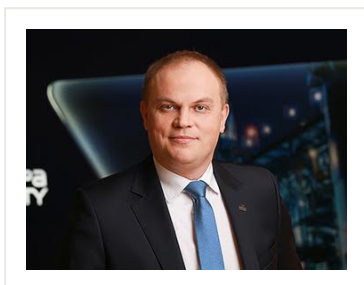
## Vice President of the Management Board, Director General

- Director General of Grupa Azoty
- Agro segment
- Plastics segment
- Organic Synthesis segment
- production integration



## dr Grzegorz Kądziałowski, Vice President of the Management Board

- infrastructure
- research and development



## Paweł Łapiński, Vice President of the Management Board

- finance
- planning and management
- control development strategy
- investments
- investor relations
- mergers and acquisitions

On May 17th 2018, the Supervisory Board adopted resolutions to appoint the Management Board of the parent for a new, 11th term of office. On June 28th 2018, i.e. the date of the Annual General Meeting, the mandate of Józef Rojek as Vice President of the Management Board of the 10th term of office expired.

[The current composition of the Management Board and the biographical notes and information on the professional experience of its members are available on the Grupa Azoty Group's corporate website.](#)

## Grupa Azoty Council

The Management Board is advised by the Grupa Azoty Council, a permanent body whose main tasks include advising, issuing opinions and initiating management improvement measures and changes in the functional and business areas (in particular in the strategic development and marketing plans). The Council issues opinions on proposed planning assumptions for the Group companies' budgets and assumptions for long-term plans. It also serves as a platform enhancing communication, cooperation and information sharing at the Group.

The Grupa Azoty Council consists of the Presidents and members of the Management Boards of all of the Group consolidated companies and the Managing Director of the parent.

## Supervisory Board

The Supervisory Board is responsible for ongoing supervision of the Grupa Azoty's operations.

As at December 31st 2018, the Supervisory Board consisted of:

- Tomasz Karusewicz – Chairman of the Supervisory Board
- Michał Gabryel – Deputy Chairman of the Supervisory Board
- Zbigniew Paprocki – Secretary of the Supervisory Board
- Piotr Czajkowski – member of the Supervisory Board
- Monika Fill – member of the Supervisory Board
- Robert Kapka – member of the Supervisory Board
- Bartłomiej Litwińczuk – member of the Supervisory Board
- Ireneusz Purgacz – member of the Supervisory Board
- Roman Romaniszyn – member of the Supervisory Board.

[The composition of the Supervisory Board and the biographical notes and information on the professional experience of its members are available on the Grupa Azoty's website.](#)

The Supervisory Board is advised by the Strategy and Development Committee, the Nomination and Remuneration Committee, and the Audit Committee. The responsibilities of the Audit Committee include:

- monitoring of the financial reporting process,
- monitoring of the effectiveness of internal controls,
- monitoring of financial audit,
- monitoring of the independence of the auditors and the audit firm responsible for auditing the company's financial statements.

[102-9] [103-2]

# Take a look at our logistics chain



At our Group, procurement of raw materials and distribution of products in Poland and abroad is the responsibility of the Corporate Procurement Department working closely with the Corporate Logistics Department, which also together oversee the processes related to warehouse management, packaging and coordination of transport. They also set strategic objectives for logistics and manage the related risks.

Managing a chain of supply of raw materials and products to and from companies located throughout Poland is for us a tremendous logistic challenge. Every year, we transport millions of tonnes of fertilizers, chemical products and raw materials. With advanced logistics solutions, we are able to optimise shipments, which translates into financial and environmental savings. Rail is the most cost-effective transport, partly provided by our own company Grupa Azoty Kolarz. Sea transport is particularly profitable at Grupa Azoty Police, given its location in the vicinity of Szczecin.

Grupa Azoty is the first Polish chemical company to have deployed the modern TMS SOOT system improving its transport processes. The standard SOOT solutions have been extended to include other functionalities: communication with carriers, reporting of transport-related incidents, notification of shipments with the use of a 'notification link', and notification of the recipients of a shipment dispatch. Further solutions and upgrades are also in the pipeline.



## BEST PRACTICE

*At the Grupa Azoty Group, we believe that a premium quality product deserves high quality delivery. Accordingly, in 2018 we held a training session for 18 drivers of Grupa Azoty Police who deliver our RedNOx products. RedNOx is used in diesel engine-powered trucks, cars, heavy construction and agricultural equipment, and marine vessels. The training involved thorough instruction on procedures to keep the products clean and sterile, and protect them against contamination with gasoline, crude oil, oil, water, dust, dirt, metals and detergents. Clear guidelines were given on the rules for unloading, sampling and transferring samples to customers. The drivers were even provided with customer conversation scenarios.*

## Maritime logistics

As the Group exports and imports massive amounts of goods, sea ports are a vital element of its logistics structure. We own port assets in Gdynia, Gdańsk and Police, which are tailored to the Group's storage and handling needs. Every year, the Group's sea terminals handle over three million tonnes of cargo, with an additional 500,000 tonnes of cargo handled for customers from outside the Group.

Sea transport of the Group's products involves mainly full-cargo shipments carried by bulk carriers and chemical tankers, but also large volumes of goods transported in intermodal containers. Our cargo is handled by the container terminals in Gdynia and

Gdańsk and by most shipowners operating on the market. The transported product groups are fertilizers and chemicals that are subject to further conversion by the recipient.



## BEST PRACTICE

*Grupa Azoty Police is the only chemical company in Poland to own port facilities located in close proximity to its premises. The Police Sea Port comprises four terminals: a sea terminal, a barge terminal, Jasienica, and Mijanka. The port handles outbound and inbound flows of bulk goods for the Grupa Azoty Group. We talked about the development of the Police Sea Port to Infrastructure Minister Andrzej Adamczyk during a meeting held in 2018. The port in Police is Poland's fourth largest sea port, serving approximately 300 vessels and handling approximately 2 million tonnes of cargo every year. It plays a vital role in the Grupa Azoty Group's logistics, therefore we seek to ensure it is optimally linked with road and rail infrastructure.*

*The port is to undergo modernisation in connection with a project to build a polypropylene plant in Police. Work is also under way to deepen the fairway between Szczecin and Świnoujście.*

Having our own storage facilities throughout Poland, we have also signed agreements with more than 80 distributors who operate warehouses all over the country. We comply with all storage safety standards for our products in accordance with the relevant product data sheets.

Since the procurement area was consolidated at the Group level, all key suppliers have been vetted against CSR criteria.

## Rail assets

In 2017, we resolved to consolidate our rail assets. The task of consolidating the rail transport services of the four main plants was undertaken by Grupa Azoty Koltar, the operator of the railway siding in Tarnów. The process was completed in 2018.

In addition to its extensive experience in rail transport, Koltar also owns a modern locomotive repair and inspection shop. The shop is equipped with an inspection pit, lifts and a 20-tonne gantry crane used to inspect and repair the locomotives owned by the Group.

## Guben Logistics Centre

We opened a Logistics Centre in Guben, Germany, in 2018 as a distribution centre for the polyamide produced by our subsidiary ATT Polymers. The new Logistics Centre comprises a warehouse, silos and the necessary infrastructure. Its storage capacity is 3,500 tonnes and it has an area of 5,500 m<sup>2</sup> in total.





OUR BUSINESS – WHO WE ARE AND HOW WE OPERATE

## Value creation model

### Our vision:

Deploy state-of-the-art, comprehensive chemical industry solutions that meet stakeholder expectations

### Our mission:

Create value for Grupa Azoty and the national economy by delivering safe, useful and innovation-driven chemical products

### We are building our brand based on:

- innovation
- knowledge
- responsibility
- professionalism
- harmony







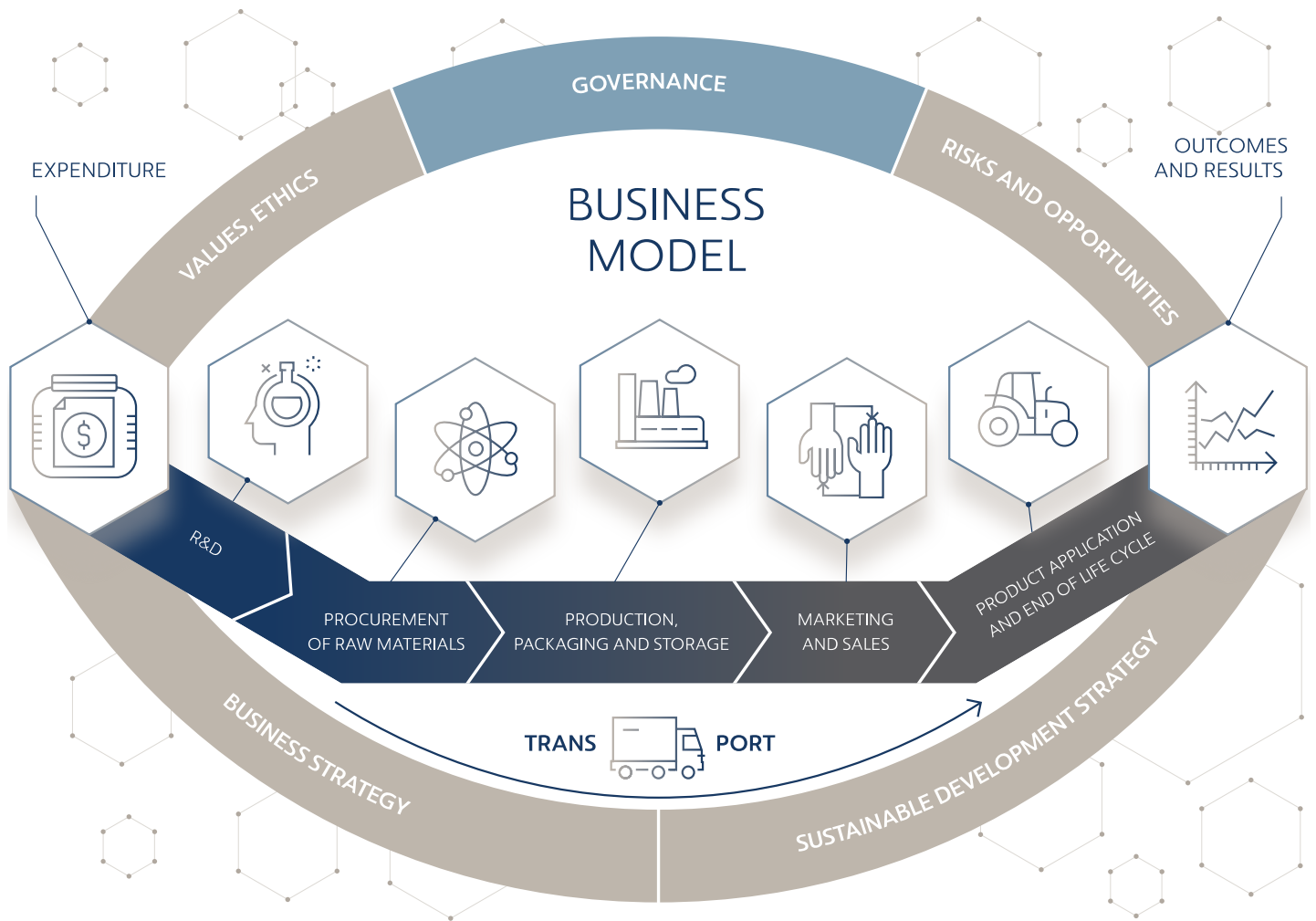
## BEST PRACTICE

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*Our mission and strategic goals are described in the Enterprise Management Policy, which was updated in September 2018. It lists environmental protection, environmental impact mitigation and energy efficiency improvement as some of the effectively supervised and managed business priorities.*

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[IR-Business model]



See where our products are used

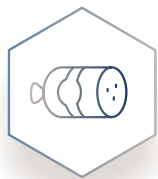
Agriculture, automotive, textile, electrical engineering and electronics industries, medical and construction, household appliances and food industry, angling – we influence, directly and indirectly – through our products, the lives of millions of people. For us, the size of this impact is a commitment to striving for excellence in managing ESG risks.



## Agriculture

Application of fertilizers manufactured by the Group affects the way plants use mineral resources and water, leading to improved environmental and economic efficiency of fertilization. We are also developing a segment of services for businesses, including the SatAgro programme.

■ [SEE HOW WE SUPPORT FARMERS](#)



## Food industry

The polyamide granules produced by the Grupa Azoty Group are applied in the manufacture of polyamide casings used to package cold meats. Other important components supplied by the Group are bio-based non-phthalate plasticizers, which are also used as products suitable for direct contact with food.

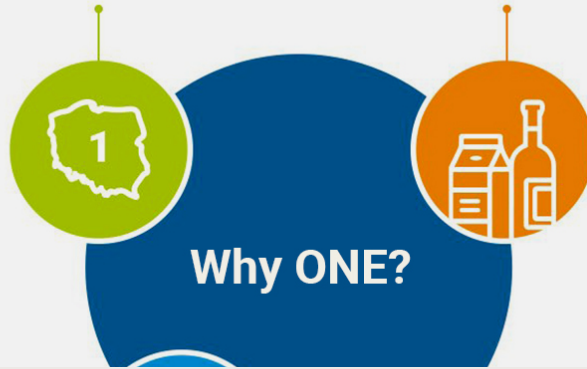
Our CO<sub>2</sub> is now: **ONECON**





We are Poland's **only**  
producer of CO<sub>2</sub>

CO<sub>2</sub> is our **only** food  
additive product



## BEST PRACTICE

*We are Poland's only producer of carbon dioxide for use in the food industry. In 2018, our plant in Puławy produced 220 tonnes of food grade carbon dioxide a day. Made at the plant without interruption since 1970, in 2018 the product started to be marketed under a new brand name ONECON.*

*The excellent quality of our carbon dioxide is recognised by the largest food industry players in Poland and around the world, including the Żywiec Group, Coca-Cola and PepsiCo.*



## Automotive industry

Our polyamide 6 and POM have a variety of applications in the automotive industry. Thanks to their exceptional properties, including high durability and ability to absorb vibrations, as well as thermal resistance, chemical resistance and resistance to impact, they are suitable for the manufacturing of automotive parts located near motors, electrical systems and internal and external equipment for motor vehicles.

The OXO alcohols produced by our plants are used as additives to plastics. Sulfur is used in the tyre industry.



## Electrical engineering

Electrical insulation and self-extinguishing properties make our polyamide 6 an ideal material for electrical engineering applications. It is used to manufacture switchgear cabinets, plugs, connectors, connector pins, circuit-breakers and sockets.



## Furniture industry

Parts for the production of furniture, boards, screws, studs, chair parts, rolls, knobs and handles – all those elements used by furniture producers include technical-grade urea, melamine and/or polyamide 6 produced by the Grupa Azoty Group.



## Household appliances

Plastics manufactured by the Grupa Azoty Group are used to produce components for fridges, freezers, centrifuges, washing machines and kitchen appliances.



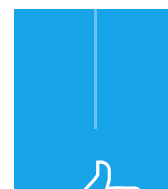
## Sports

Angling equipment, components for skis, snowboards, skateboards, roller skates, helmets and bicycles – all those things are produced using our polyamide 6.



## Paints and varnishes

Manufacturers of paints and varnishes need solvents. Our OXO alcohols are an ideal product for this application.





## BEST PRACTICE

*Grupa Azoty has signed the declaration of partnership for the United Nations' Sustainable Development Goals. The following goals are key for the Group's business model:*

- *#9 Industry, innovation and infrastructure – we develop research and drive technological advancement of the industrial sector.*
- *#2 Zero hunger – we increase agricultural productivity with our products by gradual improvement of soil and land quality.*
- *#12 Responsible consumption and production – balanced consumption and production require a systematic approach and cooperation between various actors along the supply chain, from manufacturers to consumers. Therefore, we run a number of training events at Grupa Azoty, e.g. for farmers.*
- *#4 Quality education – we aim to increase the number of young people and adults who have relevant skills (including technical and vocational skills) for employment and entrepreneurship.*
- *#13 Climate action – we want to take joint action to combat the adverse changes, reducing our environmental footprint.*
- *#6 Clean water and sanitation – in our operations we seek to significantly increase water-use efficiency to help solve the problem of insufficient water supply.*

*The sustainable development strategy for 2018–2022 implemented by the Group takes into account the Sustainable Development Goals of the highest relevance to the fertilizer and chemical industry.*

[See our strategic priorities in business responsibility](#)



Learn about our business/value creation model

[201-4] [203-1] [203-2]

People are our most valuable asset. We employ our resources to build competence and create a work environment conducive to process innovation and new product development. Our products contribute to the quality of human life, food security and sustainable agriculture.

We focus on delivering stable and predictable financial performance and managing risks, including non-financial aspects (ESG). Our business scale allows us to make a positive contribution to the economic and social environment.

We manage our Group conscientiously – our investments and expenditure translate into tangible benefits:

- growth of financial capital

- growth of financial capital



- growth of manufacturing capital



in the form of products, services and high-quality delivery processes

- growth of human capital quality



- growth of the organisation's intellectual capital











- growth of natural capital



- growth of social and relationship capital



## Safe chemicals




Our efforts and expenditure:	Our performance and benefits to the environment:
<ul style="list-style-type: none"> <li>■  We ensure safe and high-quality products – <b>100%</b> of our material product categories are assessed in terms of their impact on health and safety of consumers and the natural environment</li> <li>■  We manage quality, environmental impacts and OHS based on commonly accepted standards and ISO systems, including ISO 900, ISO 14001, PN-N-18001</li> <li>■  Our processes are compliant with the Product Stewardship programme (Fertilizers Europe)</li> <li>■  We embark on projects reducing negative environmental impacts, including through flue gas desulfurisation and industrial wastewater treatment przemysłowych</li> </ul>	<ul style="list-style-type: none"> <li>■  <b>No cases of non-compliance with applicable regulations and voluntarily adopted codes relating to product labelling and information</b></li> <li>■  <b>No fatalities</b></li> <li>■  Reduction of N<sub>2</sub>O emissions in the manufacture of nitric acid following upgrade of the catalytic and catchment gauzes: in 2018, the ratio was 0.75 kg N<sub>2</sub>O/t HNO<sub>3</sub> at Grupa Azoty Puławy and Grupa Azoty Kędzierzyn, and 1.47 kg N<sub>2</sub>O/t at Grupa Azoty.</li> <li>■  Less energy consumption relative to 2017: by ca. <b>5%</b> at Grupa Azoty Police, ca. <b>1% at Grupa Azoty Puławy</b>, and ca. <b>4%</b><sup>1</sup> at Grupa Azoty</li> </ul>

\*Data for Grupa Azoty Puławy.







## Useful chemicals

Our efforts and expenditure:	Our performance and benefits to the environment:

## Useful chemicals

<ul style="list-style-type: none"> <li>  <p>Revenue in the Plastics segment grew by <b>10%</b> and in the Chemicals segment improved by <b>11%</b> on 2017</p> </li> </ul>	<ul style="list-style-type: none"> <li>  <p>We run a unique <b>Grounded in Knowledge</b> programme – as part of its fourth edition held in 2018 we gathered <b>11,000</b> soil samples from almost <b>1,000 farms, so that farmers can find out the nutrient requirements of their soil and plan appropriate fertilizer application strategies</b></p> </li> <li>  <p><b>The SatAgro technology</b> enables farmers to use satellite tools to remotely monitor their crops</p> </li> </ul>
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## Innovation-based growth

Our efforts and expenditure:	Our performance and benefits to the environment:
<ul style="list-style-type: none"> <li>  <p>Partnering with science institutes in research on the development of 'smart fertilizers' designed for particular plants and soil conditions (high-margin, low-tonnage specialty products customised for specific crops and customers) – cooperation with the Agricultural Market Agency and New Chemical Syntheses Institute</p> </li> <li>  <p>Since its establishment, the Grupa Azoty Group has spent over PLN <b>80m</b> on projects commissioned from the New Chemical Syntheses Institute</p> </li> <li>  <p>By 2020, R&amp;D&amp;I spending will reach <b>1% of Grupa Azoty's revenue</b></p> </li> <li>  <p>Projects and research conducted by two own Research and Development Centres</p> </li> </ul>	<ul style="list-style-type: none"> <li>   <p>We develop and market innovative products, including materials used in 3D printing and graphene, which is likely to cause a revolution in the electronic industry</p> </li> <li> <p><b>We run an innovative acceleration programme Idea4Az</b></p> </li> </ul>

SCROLL TABLE

## Value of the Grupa Azoty Group and its influence on growth of Poland's economy

Our efforts and expenditure:	Our performance and benefits to the environment:															
<div><div><div><div></div><div></div><div></div></div><div></div></div><div>We are among the largest consumers of raw materials in Central and Eastern Europe; in 2018, we spent over PLN 6bn to purchase raw materials needed to support Group-wide production</div></div> <div><div><div><div></div><div></div><div></div></div><div></div></div><div>We are one of the largest employers – we have created more than 15,000 jobs</div></div> <div><div><div><div></div><div></div><div></div></div><div></div></div><div>We build relationships with our neighbours, for instance by holding open-door days and dialogue sessions, running an employee volunteering programme, and providing grants for students</div></div> <div><div><div><div></div><div></div><div></div></div><div></div></div><div><div>[201-4]</div><div>Significant financial assistance received from the government: grants to finance property, plant and equipment<sup>2</sup> – 2017: <b>PLN 6,604,913</b>, 2018: <b>PLN 48,222,436</b>; state aid related to operation within a special economic zone – 2017: <b>PLN 9,292,000</b>; 2018: <b>PLN 16,130,972</b>; other government grants – 2017: <b>PLN 36,278,589</b>; 2018: <b>PLN 92,658,561</b>; tax credits for research and development projects – 2017: <b>PLN 327,488</b>, 2018: <b>PLN 1,483,168</b></div></div></div>	<div><div><div><div></div><div></div><div></div></div><div></div></div><div>Improved operating performance of the Grupa Azoty Group:<ul style="list-style-type: none"><li>Consolidated revenue was <b>PLN 9,998,967m (up 4.0% year on year)</b>;</li><li>EBITDA totalled <b>PLN 764,442m (down -35.6% year on year)</b>;</li><li>Consolidated net profit came in at <b>PLN 7,650m (down -98.4% year on year)</b></li><li>Good debt ratio level, with net debt/EBITDA at <b>0.3</b></li></ul></div></div> <div><div><div><div></div><div></div><div></div></div><div></div></div><div><div>[203-2]</div><div>Amounts paid to the state budget, injected into the economy thanks to the operations of the Grupa Azoty Group's key companies:</div></div><table><tr><th></th><th>2017 (PLN)</th><th>2018 (PLN)</th></tr><tr><td>Property tax</td><td><b>110 080 281</b></td><td><b>112 017 307</b></td></tr><tr><td>Forestry tax</td><td><b>3 270</b></td><td><b>3 366</b></td></tr><tr><td>Tax on means of transport</td><td><b>29 291</b></td><td><b>32 665</b></td></tr><tr><td>Agricultural tax</td><td><b>4 318</b></td><td><b>3 636</b></td></tr></table></div> <div><div><div><div></div><div></div><div></div></div><div></div></div><div><div><div><div></div><div></div><div></div></div><div></div></div><div>21 - number of the dialogue session participants</div></div></div>		2017 (PLN)	2018 (PLN)	Property tax	<b>110 080 281</b>	<b>112 017 307</b>	Forestry tax	<b>3 270</b>	<b>3 366</b>	Tax on means of transport	<b>29 291</b>	<b>32 665</b>	Agricultural tax	<b>4 318</b>	<b>3 636</b>
	2017 (PLN)	2018 (PLN)														
Property tax	<b>110 080 281</b>	<b>112 017 307</b>														
Forestry tax	<b>3 270</b>	<b>3 366</b>														
Tax on means of transport	<b>29 291</b>	<b>32 665</b>														
Agricultural tax	<b>4 318</b>	<b>3 636</b>														

<sup>1</sup> (Only at Grupa Azoty Kędzierzyn energy consumption increased, by approximately 3%).

<sup>2</sup> Grants to finance property, plant and equipment in 2018 were received for the construction of Grupa Azoty's R&D Centre in Tarnów, work on new fertilizer formulas, and development of an innovative high-nitrogen ammonium nitrate fertilizer by Grupa Azoty Kędzierzyn.







OUR BUSINESS – WHO WE ARE AND HOW WE OPERATE

# Our relations

[102-42]

We are committed to dialogue with our stakeholders. We are aware that in a highly volatile environment, regular and fair exchange of information is a foundation of mutual understanding, which in turn translates into better business performance.

We adapt the form and frequency of stakeholder dialogue to the characteristics of a given stakeholder group as well as the expectations and problems relevant to both parties. Responsibility for maintaining the dialogue lies with the heads of individual functional areas of the Group companies, who are most familiar with the expectations of individual stakeholder groups.

[102-40] [102-43]

## Stakeholder map

Stakeholder group	Disclosure expectations	Stakeholder group engagement	Frequency of stakeholder engagement by ty
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Stakeholder group	Disclosure expectations	Stakeholder group engagement	Frequency of stakeholder engagement by type
shareholders, investors, brokerage houses, analysts, rating agencies	<ul style="list-style-type: none"> <li>■ dividend, share price,</li> <li>■ the Group's growth strategy, investment and acquisition plans</li> <li>■ market challenges and opportunities, with regard to digitisation and innovation, etc.</li> <li>■ risk management methods, with particular focus on ESG performance and climate risks</li> <li>■ environmental management performance and plans</li> </ul>	<ul style="list-style-type: none"> <li>■ general meetings</li> <li>■ earnings conferences</li> <li>■ one-on-one meetings</li> <li>■ newsletter</li> <li>■ investor conferences</li> <li>■ regular site visits</li> <li>■ special-event meetings</li> <li>■ WallStreet conference organised by the Polish Association of Retail Investors</li> <li>■ investor chats</li> <li>■ participation in the '10 out of 10' programme, designed to foster high standards of listed companies' market communication with retail investors and to promote companies that apply those standards</li> </ul>	<p>in accordance with requirements resulting from being listed on the WSE:</p> <ul style="list-style-type: none"> <li>■ quarterly financial reporting</li> <li>■ ongoing communication</li> <li>■ General Meeting of Shareholders at least once a year</li> <li>■ dialogue and meetings on an as-needed basis</li> </ul>
capital market institutions and associations	<ul style="list-style-type: none"> <li>■ approach to implementing the upcoming regulatory requirements related to the TCFD package</li> <li>■ risk management methods, with particular focus on ESG performance and climate risks</li> <li>■ questions asked for the purpose of complying with disclosure requirements</li> <li>■ opinion polling questions asked when regulatory changes are planned</li> </ul>	<ul style="list-style-type: none"> <li>■ contact links on the website</li> </ul>	<ul style="list-style-type: none"> <li>■ ongoing communication in line with disclosure requirements</li> <li>■ quarterly earnings conferences</li> </ul>
capital market media	<ul style="list-style-type: none"> <li>■ requests for the Grupa Azoty Group's comments on current events or its position on specific media or economic news</li> <li>■ the Grupa Azoty Group's impact on economic and social development</li> </ul>	<ul style="list-style-type: none"> <li>■ cooperation with investor websites press conferences</li> </ul>	<ul style="list-style-type: none"> <li>■ quarterly earnings conferences</li> <li>■ ongoing communication</li> <li>■ occasional press breakfasts</li> </ul>

SCROLL TABLE

Stakeholder group	Disclosure expectations	Stakeholder group engagement	Frequency of stakeholder engagement by type
local communities	<ul style="list-style-type: none"> <li>■ expectations regarding the continuation and development of social engagement activities</li> <li>■ questions about engaging in new activities as part of partnerships targeted at farmers/rural areas</li> <li>■ questions about participation in conferences and events</li> <li>■ consultations in the event of regulatory changes</li> </ul>	<ul style="list-style-type: none"> <li>■ meetings with local community representatives (artists, teachers, athletes, businessmen and others)</li> <li>■ direct meetings, involvement in local events</li> <li>■ integrated report</li> <li>■ participation of the Grupa Azoty Group employees in projects for the benefit of local communities as part of the employee volunteering programme</li> </ul>	<ul style="list-style-type: none"> <li>■ dialogue sessions</li> <li>■ direct meetings: an as-needed basis</li> <li>■ outdoor events</li> </ul>
suppliers	<ul style="list-style-type: none"> <li>■ consolidation changes at the company and their consequences for the company's trading partners</li> </ul>	<ul style="list-style-type: none"> <li>■ direct communication with contact persons designated by the Group companies</li> <li>■ website</li> <li>■ industry meetings, fairs</li> <li>■ integrated report</li> </ul>	<ul style="list-style-type: none"> <li>■ as needed – on ongoing basis and periodically</li> </ul>
customers	<ul style="list-style-type: none"> <li>■ loyalty schemes and adaptation of the range of offered products and services to the expectations of a broad group of customers</li> <li>■ new channels and methods of communication about the Group's products</li> <li>■ implementation of new innovative products and technologies</li> </ul>	<ul style="list-style-type: none"> <li>■ website and social media Grupa Azoty Group</li> <li>■ image surveys</li> <li>■ integrated report</li> </ul>	<ul style="list-style-type: none"> <li>■ ongoing activities, opinion/satisfaction surveys once a year</li> </ul>



## OUR BUSINESS – WHO WE ARE AND HOW WE OPERATE

# Risk management

Since 2015, the Grupa Azoty Group has applied an integrated approach to enterprise risk management. Risk management at our organisation supports solutions making up our corporate governance by providing the management and supervisory bodies and shareholders with up-to-date, reliable and well-structured information on risks related to the Group's business.

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At the Grupa Azoty Group, we define risk as a probable future event and any uncertainty that may affect the achievement of our objectives. Enterprise risk management is facilitated by:

- Risk identification and assessment,
- Definition and implementation of risk response measures and incident response plans,
- Monitoring and reporting of risk levels,
- Use of information on risks in decision-making processes,
- Reporting and communication,
- Monitoring and evaluation of the risk management system.

Risk management-related processes are carried out at:

- Grupa Azoty SA,
- Grupa Azoty Kędzierzyn,
- Grupa Azoty Police



- Grupa Azoty Puławy
- Grupa Azoty Kopalnie and Zakłady Chemiczne Siarki „Siarkopol”
- Gdańskie Zakłady Nawozów Fosforowych „Fosfory
- Zakłady Azotowe „Chorzów”.

Risks at our Group are managed by individual Group companies and are assigned to the key participants in the process, who are responsible for managing their respective risks. Risks assessed by each Group company form the risk ranking (Risk map). The management of key risks (the most important ones according to the ranking or assessment by the Management Board) is closely monitored by the respective companies' Management Boards.

Information on the risks of individual companies is also aggregated at the Grupa Azoty Group and, as in the case of the companies, a similar risk ranking is prepared for the Group. The same rules apply to risk management at the Group level and at the Group companies. The integrated risk management model provides the process participants with reliable information on risk levels.

## Modification of risk analysis and assessment (four steps)



[102-11] [102-15] [103-2] [IR - Risks and our corporate governance]

## Risk map

### Risk associated with new legal requirements related to production processes, including environmental regulations



#### Risk associated with implementation of the Industrial Emissions Directive (IED)

- The Group will have to bring its production facilities into compliance with the new regulations. The Group companies will be required to undertake specific adaptation work, and bear its costs.

#### Mitigation measures:

- ✓ Grupa Azoty keeps monitoring all proposed and actually enacted changes in the legal environment which could affect its operations. Investments necessary in the light of new regulations are included in the Group's investment plans.



#### Risk associated with greenhouse gas emissions

- Every year, the allocation of GHG emission allowances decreases by several per cent. If the Group's actual CO<sub>2</sub> emissions are not fully covered by the free allowances, the Group may need to incur additional capital expenditure on projects designed to reduce its emissions of nitrous oxide and carbon dioxide.

#### Mitigation measures:

- ✓ In order to mitigate that risk, the Group companies have been taking steps to reduce the energy intensity of their processes,

- bringing down greenhouse gas emissions. Implementation of the adopted energy policy has been confirmed by a certificate of the Energy Management System's compliance with ISO 50001. When increasing production volumes or launching new installations covered by the EU ETS, the companies apply to the Ministry of the Environment for allocation of additional greenhouse gas emission allowances from the MSR on an as-needed basis.



#### Risk related to BAT conclusions

- Following a scheduled review of the regulations regarding the Best Available Techniques for the Manufacture of Large Volume Inorganic Chemicals: ammonia, acids & fertilizers, there is a risk that stricter and more extensive requirements could be implemented in relation to pollutant emissions into the environment.
- There is a risk that new BATs could be defined for installations for which so far no BATs have been specified. The deadline for adapting production facilities to the emission requirements contained in BAT conclusions is four years.

#### Mitigation measures:

- ✓ Reviewing the effectiveness of technologies used in the context of development trends prevailing in the competitive environment.
- ✓ Planning and implementing projects designed to bring the production facilities in line with BAT/BREF standards.
- ✓ Searching for new process solutions, particularly to improve efficiency and reduce energy intensity in the context of regulations currently in place and state-of-the-art technologies.
- ✓ Developing and extending the product range by adding new fertilizers based on components produced by existing facilities.

## Risk of failure to meet emission reduction requirements



#### Risk of failure to meet deadlines for reduction of NO<sub>2</sub>, SO<sub>x</sub> and particulate matter emissions

- The Group is taking steps to ensure compliance with the requirements of the IED Directive (on industrial emissions), which entered into force as of January 1st 2016 defining new emission standards for fuel combustion installations, including permissible levels of sulfur dioxide, NO<sub>x</sub> and particulate matter emissions.

#### Mitigation measures:

- ✓ Grupa Azoty Kędzierzyn – construction of a new coal-fired power generating unit.
- ✓ Grupa Azoty – construction of a flue gas desulfurisation system based on the wet magnesium oxide process.
- ✓ Grupa Azoty Police – construction of a flue gas desulfurisation system based on the wet ammonia process.

## Risk of instability of the legal environment



#### Risk of implementation/tightening of EU or local regulations that would restrict the use or application of the Group's products

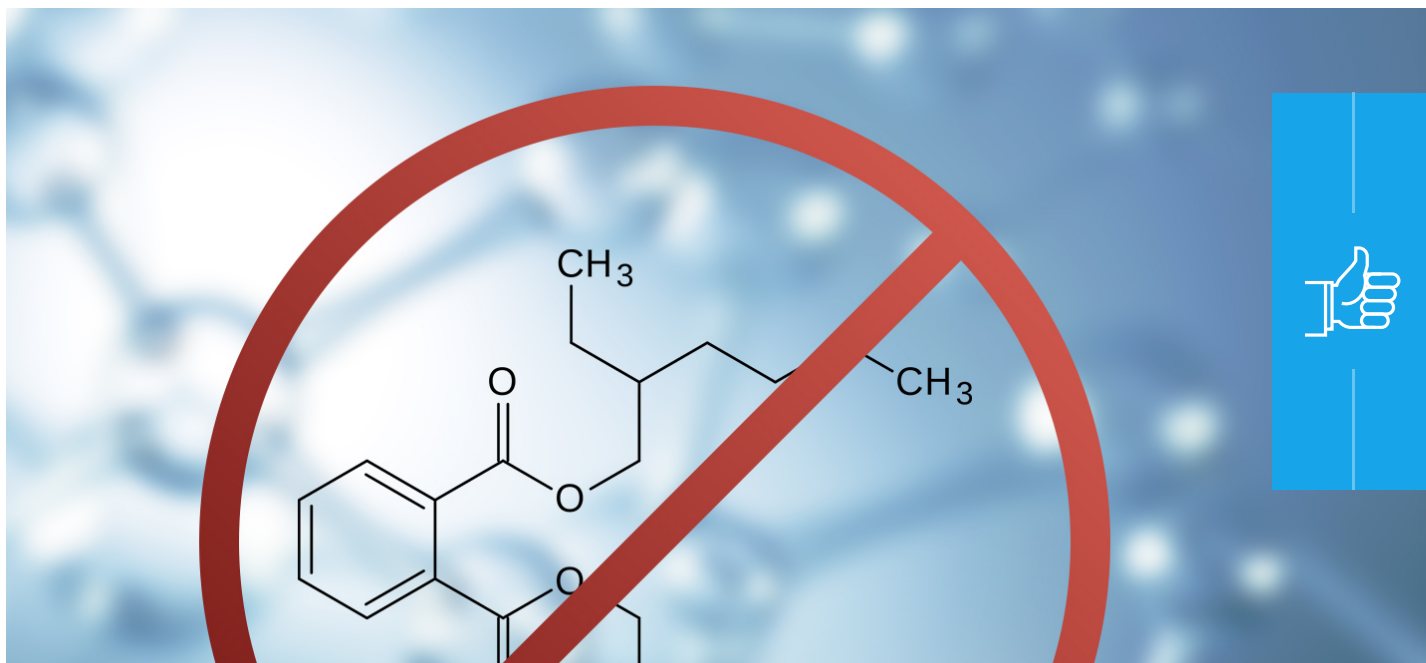
- Amendments to EU directives and regulations applicable to the Group's key manufacturing and trading activities give rise to a potential risk that the use of the Group's products by customers in the EU countries may be restricted.

#### Mitigation measures:

- ✓ The Group monitors and implements new requirements on an ongoing basis. It is actively involved in the work of registration consortia and European associations to be informed in advance of any upcoming changes in legislation.
- ✓ The Group reviews the impact of new regulations on its products.
- ✓ The Group is now in the process of identifying threats associated with the draft new fertilizer regulation of the European Parliament and of the Council designed to implement the principles of the Circular Economy package.
- ✓ Additionally, the Group monitors other aspects of EU regulations, such as free trade agreements (DCFTA Ukraine, TTIP). It also takes steps to ensure that its entire manufacturing and distribution processes meet the safety requirements applicable to trading in its products.



#### Risk of deteriorated supply-demand balance



#### BEST PRACTICE

*Our Group no longer manufactures DEHP plasticizer. Over the last decade, this substance was gradually losing its share in the European market. The decision to discontinue DEHP production was prompted first by expert opinions on its potentially harmful effects and subsequently by restrictions imposed on its manufacturers. The turning point was the entry into force of REACH, imposing the obligation of registration, evaluation and authorisation of chemicals. We have replaced DEHP with non-phthalic plasticizers.*

In the Fertilizers segment, risks related to:

- Increased imports of nitrogen and compound fertilizers, produced based on cheaper raw materials, to Poland and the EU, and consequently persisting oversupply and aggressive pricing policies pursued by importers struggling to maintain their shares in the fertilizers market.
- Competition growing stronger as new products are marketed and more effective technologies are applied.

In the Plastics segment, risks related to:

- Global oversupply of caprolactam and polyamide. Excess volumes from the Far East are shipped to Europe, as a result of which traditional export markets of EU manufacturers begin to shrink and prices decline to unsatisfactory levels.



In the Chemicals segment, risks related to:

- Weaker demand for titanium white from paint and varnish manufacturers, higher quality requirements in the plastics and paper industries, significant increase in the production capacities of Chinese manufacturers, and plans to classify titanium white as a carcinogen.
- Higher supply of OXO alcohols on balanced European markets, driven by heavy inflows of cheaper alcohols, especially from the Russian market.

**Mitigation measures:**

- ✓ Adapting the product mix to market needs and requirements, e.g. by beginning to offer a non-phthalic plasticizer, ensuring high purity of OXO alcohols, exploring market niches (for instance by improving the DEHP plasticizer for medical applications), and arranging deliveries tailored to the needs of end users (flexitanks for deep-sea freight of small product volumes).
- ✓ Efforts to minimise the manufacturing costs of individual products.
- ✓ Active participation in public affairs marketing and trade associations.

## Risk related to occupational health & safety



### **Risk related to failure of the safety system**

- The Group has reliable safety systems and preventive measures in place across all organisational and technological levels, including occupational health and safety as well as protection against industrial accidents, but there can be no assurance that they will completely eliminate the risk of such accidents.

**Mitigation measures:**

- ✓ Identification of hazards inherent in the technological processes, storage and transport, and implementation of technical solutions and organisational measures to minimise the risk of an accident.
- ✓ Ongoing monitoring of the operation of machinery and equipment and evaluation of their technical condition.
- ✓ Fitting of plants and units with safety and protection systems to minimise the risk of major accidents and environmental contamination, as well as risks to human life and health.
- ✓ Continuous improvement of staff qualifications through training courses, etc.

## Risk related to selection of personnel



### **Risk related to recruiting employees without appropriate qualifications**

- As an employer we face the challenge of finding the right candidates with extensive knowledge of the chemical industry and specialist skills. On the one hand, the market is not able to provide specialists who can quickly understand our organisation and processes, and – on the other hand – potential employees have high pay expectations.

**Mitigation measures:**

- ✓ In the pursuance of the Grupa Azoty Group strategy for 2013–2020, Grupa Azoty has implemented a scholarship policy across the Group, covering junior and senior high school students as well as university undergraduates (doing master's or engineer's programmes) to build lasting competitive advantage based on employees' knowledge and high individual competences.



OUR BUSINESS – WHO WE ARE AND HOW WE OPERATE

## Ethics at the Grupa Azoty Group

[102-16] [103-2]

The Group's principles of ethics and respect for human rights, as well as the desirable attitudes and standards of conduct, are defined in the Grupa Azoty Group's Code of Ethical Conduct, describing measures taken to foster responsible employee behaviour and build relations with the Group's external environment. The values prescribed in the Code are applicable to all Group companies.

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### Grupa Azoty Group's values:

[102-16] [406-1]

The Code applies to all employees of the Group's largest companies and is also addressed to customers, trading partners, shareholders and other stakeholder groups.

The Codes of Ethical Conduct of Grupa Azoty Puławy and Grupa Azoty Police sets out the core values and principles of business ethics in relations with stakeholders, suppliers and the local community, as well as ensures equal employment, promotion and in-service training opportunities for our employees. The Code also defines the procedure for reporting unethical behaviour through a line manager or the Ethics Officer.

Additionally, the Code of Ethical Conduct implemented by Grupa Azoty Puławy and Grupa Azoty Police addresses issues related to the management of conflicts of interest and corruption risk, setting forth the basic rules of conduct in day-to-day work. According to their provisions, all employees are required to:

- avoid situations which may give rise to a conflict of interest or put them in a conflict of interest situation,
- carefully consider all situations in terms of potential impact on the impartiality of work-related actions or decisions,
- promptly notify their line managers and the Ethics Officer of any situations that give rise or may lead to a conflict of interest.



## Due diligence procedures and performance indicators

An Ethics Officer has been appointed both at Grupa Azoty Police and Grupa Azoty Puławy.

In 2018, neither Grupa Azoty Kędzierzyn nor Grupa Azoty Police reported any breaches of the Code of Ethical Conduct or human rights, or any cases of discrimination at the workplace. In 2018, one breach of ethical standards was reported at Grupa Azoty Puławy. Seven breaches of ethical standards were reported at Grupa Azoty S.A., of which one involved mobbing and triggered an anti-mobbing procedure in accordance with Order No. 09/2014 of March 3rd 2014 on the Policy of Workplace Bullying Prevention at Grupa Azoty.

[206-1] [417-3]

In 2018, there were no pending lawsuits regarding breaches of fair competition rules against Grupa Azoty, Grupa Azoty Puławy, Grupa Azoty Kędzierzyn, Grupa Azoty Police or their parent. No instances of non-compliance related to marketing communications were reported.

[205-3]

In 2018, there were no confirmed cases of corruption or fraud at Grupa Azoty Group companies. One incident involving an attempt to hand an item of value to an employee was identified.

## The Senegalese investment

In the second half of 2017, tax proceedings were pending with respect to the operations of Grupa Azoty Police's subsidiary African Investment Group S.A. in 2013–2015.

The rationale behind the investment in the open-pit phosphate rock mine in Senegal was to make the Grupa Azoty Group resilient to fluctuations in phosphate prices, while expanding its own reserves of phosphate rock, a basic input in the manufacture of compound fertilizers. However, the actual reserves of rock extractable from the mine turned out to be significantly lower than initially estimated. In 2016, the Management Board of Grupa Azoty Police announced that the value of AIG assets had been overestimated and, consequently, a relevant adjustment would be made to its financial results.

Grupa Azoty Police also filed claims for a refund of the undue portion of the purchase price it had paid for 55% of AIG shares, but later, on December 20th 2017, it concluded a conditional agreement with DGG ECO Sp. z o.o. settling the claims (confirmed by an in-court settlement). The conditional agreement was to result in the parties' confirming termination of the 2013 agreement under which Grupa Azoty Police had acquired the majority interest in AIG. Reversal of the effects of the latter agreement was to entail, among other things, a refund of USD 28,850 thousand as the amount already paid for AIG shares. The conditional agreement was to have been consummated by February 28th 2018 provided that the requisite corporate approvals were granted by that date, and that Grupa Azoty Police received the first tranche of the price refund along with a bank guarantee securing receipt of the balance. However, the consummation did not take place by the agreed date.

Having regard to all circumstances of the phosphate rock project in Senegal and the non-consummation of the conditional settlement with DGG ECO sp. o.o., on March 7th 2018 the Management Board of Grupa Azoty Police passed a resolution to recognise, as at December 31st 2017, an impairment loss for the entire amount of the intangible exploration and evaluation assets.

On March 29th 2018, African Investment Group S.A. (AFRIG S.A.) filed for bankruptcy. The Management Board of AFRIG S.A. provided explanations to the Senegalese tax authorities (with the participation of the entity managing its accounting and tax matters). The Management Board denied most of the authorities' allegations as groundless. However, the Senegalese tax authorities dismissed its explanations and, on March 13th 2018, AFRIG S.A. received a payment demand notice with an enforceability order issued by the Director for Large Enterprises, for an amount of XOF 10,435,788 thousand (equivalent to PLN 66,268 thousand as at December 31st 2017, translated at the exchange rate quoted for the reporting date).

Therefore, on May 24th 2018 Grupa Azoty Police signed an annex to the termination agreement, whereby:

- DGG Eco Sp. z o.o. agreed to refund the purchase price for AFRIG S.A. shares in the amount of USD 28,850 thousand, in instalments payable over five years, from December 31st 2018 to December 31st 2023;
- It was confirmed that AFRIG S.A. shares would be transferred back to DGG Eco sp. z o.o. after the latter submitted a representation on submission to enforcement;
- Grupa Azoty Police's trade receivables from AFRIG S.A. were cancelled;
- DGG Eco sp. z o.o.'s obligation to provide a bank guarantee securing that company's liabilities was waived, while the transfer of title to the documentation of appraisal of phosphate rock deposits and claims against AVES FZE onto Grupa Azoty Police remained in force.

On August 7th 2018, the Group's Management Board announced that the effect of deconsolidation of African Investment Group S.A. on the consolidated financial result was estimated at PLN -55m. The expected adverse effect of the bankruptcy proceedings mainly relates to the fact that the Group is still obliged to repay a credit facility that had been used by AFRIG S.A. The Management Board announced that this risk was accordingly accounted for in the separate financial statements.





FUTURE

## Business strategy

[IR - Strategy and resource allocation]

With the Group's stable financial position, we can afford a realistic approach to strategic matters, while constantly working to improve our competitiveness in the coming years. We consistently pursued the Grupa Azoty Group's Growth Strategy for 2014–2020.

Our goal is to build the fully-integrated Grupa Azoty Group, improving the attractiveness of its product portfolio, relying on optimised processes, and implementing innovative solutions.

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### Strategic financial targets of the Grupa Azoty Group

**8%**EBIT margin

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**14%**EBITDA margin

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**up to:  
60%**Dividend payout ratio

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**10%**ROCE margin

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**10%**ROE margin

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## Four strategic areas:



Complete the Group consolidation process

At the Grupa Azoty Group, we perceive cooperation as a source of benefits. Effective operation on the competitive global chemical market requires joint effort of our key companies. Because we want to strengthen these working ties, in 2018 Grupa Azoty of Tarnów, Grupa Azoty Police, Grupa Azoty Puławy and Grupa Azoty Kędzierzyn signed a cooperation agreement, which allows the Group to leverage synergies and further build its position through integrated sales management. The agreement enables the companies to trade as a single business entity, with key divisions managed by managers from across Poland, regardless of their company's headquarters. With regard to strategic feedstock procurement, there is a centralised supplier selection and price negotiation process in most cases, with economies of scale leveraged to secure competitive prices and multi-million savings.

## How we consolidate our plants



One benefit of a single procurement platform is lower prices of raw materials; the consolidation of purchasing activities generated approximately PLN 465m in savings\*



Production and maintenance synergies led to PLN 170m in savings.



The optimisation of logistics (including the railway car fleet) produced savings of PLN 69m across the Group.

#### \* Data for the period from 2011 to Q3 2017.

We believe that the consolidation of the Grupa Azoty Group, launched in 2013, offers a potential for further efficiencies. In order to manage the Group more effectively, we intend to implement a system of management by business segments. Until 2020, the Grupa Azoty Group will continue to integrate its processes and to further consolidate:

- Fertilizer sales,
- Procurement,
- Logistics,
- Finance,
- IT,
- The energy segment, and more.

We are optimising non-current asset management, seeking to harmonise our planning and production processes, and aligning our operational performance and cost efficiency reporting process across the Group. We are launching a platform to exchange information on R&D projects, which is expected to eliminate overlapping activities carried out by different companies and to support sharing of outcomes of individual initiatives, thus maximising synergies.



**Reinforce leadership in agricultural solutions in Europe**



We want to further reinforce our already strong position on the domestic and regional fertilizer market. We are aware that this requires us to adjust fertilizer formulations as much as possible to the needs of the contemporary agriculture. The efforts will mainly focus on tailoring our product portfolio to the needs of large-scale farms, while maintaining a strong position among small farmers.

We aim to develop specialty products: granulated and liquid fertilizers dedicated to specific crops and specific customers. We plan to add customised fertilizer lines to our fertilizer portfolio in order to respond to the needs of a specific customer or even a specific crop.

Additionally, we place a strong emphasis on innovative IT systems for farmers, rapid agricultural analysis, and technologies that promote precise fertilization. We are developing services in the field of specialised agriculture based on satellite maps, drones and state-of-the-art technologies. We look for solutions in start-up communities or in sectoral programmes, such as BIOSTRATEG and its continuation INNOBIO. One of our key services is SatAgro.

■ [LEARN MORE ABOUT THE SATAGRO PROGRAMME AND HOW WE SUPPORT SPACE TECHNOLOGIES](#) —————

In order to secure the distribution of our fertilizers, we intend to gain more control over the domestic and international sales channels for agro-products. Fertilizer sale processes will be consolidated in order to simplify and streamline the relationships between the Grupa Azoty Group and its key customers. We are also improving the effectiveness of our production activities and the energy efficiency of our technologies.

■ [SEE SECTION 'GROWTH THROUGH SMART AGRICULTURE'](#) —————

■ [SEE SECTION 'MISSION AND BUSINESS MODEL'](#) —————



**Strengthen the second operating pillar by expanding non-fertilizer business**

We seek to diversify our revenues and become less dependent on business cycles in agriculture. To this end, we are increasing our exposure to areas unrelated to fertilizer production. Petrochemicals and plastics are our key directions. We focus on the production of higher-margin products.

We are integrating and extending the plastics product chain. The new unit in Tarnów will allow us to produce polyamides and their derivatives which offer a higher market potential, instead of restricting ourselves to caprolactam - a direct, unprocessed intermediate. We are also developing our product portfolio relying on advanced PA 6-based polymers.

Our flagship diversification project is Polimery Police. The new plant being built in Police will produce propylene and polypropylene – plastics used in a wide range of industries. The project will allow us to increase our production capacities for the most promising substances in the plastics segment. The construction site is located in a special economic zone, next to Zakłady Chemiczne Police.

■ [MORE ABOUT POLIMERY POLICE](#) —————

In the OXO segment, we are adding non-phthalate, organic and specialty plasticisers to our product portfolio.

# Oxoviflex®

Oxoviflex – production of the first Polish non-phthalate plasticiser

■ [READ MORE ABOUT OUR PLASTICIZERS](#) —————

**We are among Europe's three largest manufacturers of non-phthalate plasticisers.** Oxoviflex, our flagship product, is the first Polish non-phthalate plasticiser, which – in the vast majority of cases – can successfully replace its phthalate counterparts that are far more hazardous for people and the environment.

Plasticisers are used to make PVC and PVC-based products elastic and flexible. Further processing of the plastic would be virtually impossible without them. Oxoviflex is one of the most advanced plasticisers. It is not subject to any legal or application restrictions and is safe.

Oxoviflex, manufactured at our Kędzierzyn plant, can be easily used to make a complete range of PVC products, including carpets, vinyl wallpaper, flexible pipes, cable insulation and sheathing, artificial leather, film and packaging. In contrast to phthalate plasticisers, it can also be used in the manufacture of food contact products and toys.

Oxoviflex is an oily, colourless or straw-coloured liquid, free from any mechanical impurities. **Annual output: approximately 65,000 tonnes.**

We are building a coal gasification plant which will allow us to use domestic hard coal resources for the production of ammonia and methanol while reducing additional consumption of natural gas. The project will support the diversification of ammonia sources and development of our product offering based on methanol.

- [SEE SECTION 'DEVELOPMENT AND INNOVATION IN NON-FERTILIZER BUSINESS', SEE SECTION 'MISSION AND BUSINESS MODEL'](#)



**Develop and implement innovations to drive growth of the chemical industry**

With our unique proprietary expertise in agro-products, the Grupa Azoty Group will become an active participant in research, development and innovation projects in Poland. We have established two R&D and innovation centres, in Tarnów and Kędzierzyn. We cooperate with start-ups and support their acceleration, with Idea4Azoty being our key project in this area. We develop cooperation with business and science communities. We want to actively participate in open innovation initiatives.

- [DISCOVER OUR INITIATIVE](#)

Our ideas and products will be in line with key economic trends based on sustainable development, including the circular economy. We are preparing to implement a project involving commercial production of graphene and to engage in 3D printing.

- [SEE SECTION 'DEVELOPMENT AND INNOVATION IN NON-FERTILIZER BUSINESS' SEE SECTION 'MISSION AND BUSINESS MODEL'](#)

## Six specific strategies

Product strategy, innovation strategy, operational excellence strategy, financial strategy, and corporate management strategy.

We aim for specific outcomes:

- Improvement of organisational and production efficiency and ensuring business agility,
- Security in terms of supply of strategic raw materials and finance,
- Increased share of higher-margin products, achieved by extending our product chains in the chemicals and plastics segments,
- Adaptation of our fertilizer range to the needs of innovative agriculture by providing all-in-all solutions – services based on state-of-the-art technologies and fertilizer products dedicated to specific crops and customers,

- Entry into new business areas.

Our operating priorities: high quality, care for technical safety and the environment, process safety and energy efficiency improvement are all efficiently monitored and facilitate effective management of the companies. The Integrated Management System is structured around the following principles: giving priority to customers, reducing environmental losses and mitigating the risk of hazards, and working on continuous improvement.



[See our investment programme](#)

## Long-term investment programme

We are pursuing an investment programme that will help us consolidate our position as the leader of Poland's chemicals market. It provides for diversifying and upgrading our operations, focusing on the most profitable activities, and enhancing our resilience to business cycles.

Under the programme, the Grupa Azoty Group plans to carry out investment projects at all its key companies. Importantly, the scale of our ventures often makes them the largest projects implemented in a given city, town, county or province.

We believe that in order to grow we need to invest in the future of our Group, and innovation is the best option we can choose. For many years now, we have been working with start-ups, including by implementing smart applications for agriculture or 3D printing solutions.

## Grupa Azoty Group's investment projects:

### Tarnów:

- Mechanical granulation unit
- Polyamide plant II
- Research and Development Centre

The projects implemented in Tarnów are expected to increase our processing capacities where the strongest growth in demand is anticipated, e.g. in the sector of packaging, plastic film and modified plastics, such as plastics with fibreglass, dyes and quality-improving additives.

### Police:

- Polimery Police – a polymer production plant valued at PLN 5bn, a project of strategic importance not only for the Group, but also for the entire national economy.

### Puławy:

- Production line of the nitrate fertilizer mechanical granulation unit
- Planned construction of a new nitric acid production unit and upgrade of the four existing units

By 2021, Grupa Azoty Puławy plans to invest more than PLN 1bn in the nitrate fertilizers area.

### Kędzierzyn-Koźle

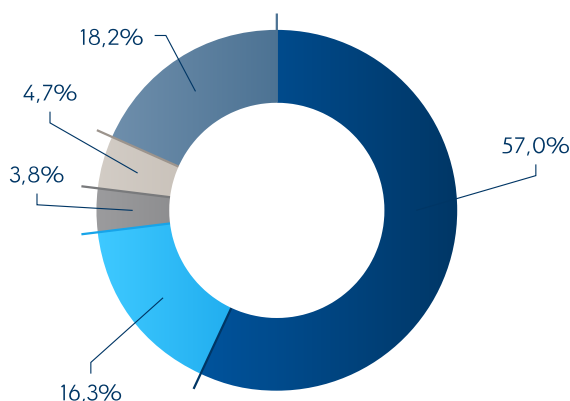
- Unit for the production of specialty esters used in the manufacturing of plasticisers
- Research and Development Centre

## Structure of the Grupa Azoty Group's capital expenditure in 2018

In 2018, there was a slight change in the capex structure. The following expenditure was incurred:

- Growth capex: PLN 630.591m (up by approx. 17% y/y)

- Maintenance capex: PLN 180.931m **(down by approx. 6% y/y)**
- Mandatory capex: PLN 42.095m **(down by over 50% y/y)**
- Purchase of finished goods: PLN 52.108m **(up by approx. 11% y/y)**
- Other (components, major repairs, other): PLN 201.140m **(up by over 28% y/y)**



## The Corporate Investment Project Supervision Department is a new unit at Grupa Azoty.

In 2018, we established a new unit at our organisation – the Corporate Investment Project Supervision Department. It was created to better supervise investment projects across the Grupa Azoty Group, and its main responsibility is practical implementation of projects approved by the Management Board or Supervisory Board. The principal duty of the Corporate Investment Project Supervision Department employees is to ensure that each project implemented by the Grupa Azoty Group is completed in time and on budget. In 2018, the key projects included upgrade of the dual-pressure acid unit and construction of the Research and Development Centre. The Department has several dozen staff, mainly project managers and inspection officers.



**Learn about projects implemented by our companies**

Innovation is now one of the main growth drivers for our organisation at the level of the Group as a whole as well as at individual companies. We want to be not only a beneficiary but also an active participant of the initiatives being implemented in Poland. Our ultimate goal is to lead the way and break new ground in innovation.

To maximise the potential benefits, the R&D&I activities of the Grupa Azoty Group will be operationalised in order to establish appropriate structures, procedures, principles and best practices, which will be coordinated at the Group level.

This initiative will be supported through further development of the existing research and development centres, establishment of new units, and building product specialisations. Our strategy will focus on driving innovation to extend the value chain with high-margin, low-tonnage specialty products, adapting new technologies to our needs, and refining existing processes.

We want to actively participate in open innovation initiatives, also by working with promising start-ups (through commercial contracts and/or equity participation), implementing corporate social responsibility projects, and engaging with local communities.

- [SEE SECTION 'GROWTH THROUGH SMART AGRICULTURE'](#)
- [SEE SECTION 'DEVELOPMENT AND INNOVATION IN NON-FERTILIZER BUSINESS'](#)

# Learn about projects implemented by our companies

## Grupa Azoty

With its own research facilities, Grupa Azoty can easily improve its technologies, thereby upgrading the quality of its products. Recognising the need for constant search for the most advanced technological solutions, the company has become a valued and sought-after initiator and active participant of innovative research programmes conducted by leading Polish scientific institutions.

Grupa Azoty cooperates with such institutions as:
Akademia Górniczo-Hutnicza (AGH University of Science and Technology)
Centrum Badań Molekularnych i Makromolekularnych PAN w Łodzi (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences in Łódź)
Instytut Chemii Organicznej PAN w Warszawie (Institute of Organic Chemistry, Polish Academy of Sciences in Warsaw)
Instytut Chemii Przemysłowej w Warszawie (Industrial Chemistry Research Institute in Warsaw)
Instytut Nawozów Sztucznych w Puławach (Fertilizer Research Institute of Puławy)
Naczelna Organizacja Techniczna NOT (Polish Federation of Engineering Associations NOT)
Politechnika Krakowska (Cracow University of Technology)
Politechnika Warszawska (Warsaw University of Technology)
Politechnika Wrocławska (Wrocław University of Technology)
Stowarzyszenie Elektryków Polskich (Association of Polish Electrical Engineers)
Stowarzyszenie Inżynierów i Techników Przemysłu Chemicznego (Polish Association of Chemical Engineers)
Uniwersytet Rolniczy w Krakowie (University of Agriculture in Krakow) and ICSO Blachownia in Kędzierzyn-Koźle
Wyższa Szkoła Biznesu – National-Louis University

Grupa Azoty is perceived as a trusted and experienced partner for technology projects carried out globally, and a reliable European provider of established patents and licences that set new industry standards thanks to the company's top-qualified technical staff.

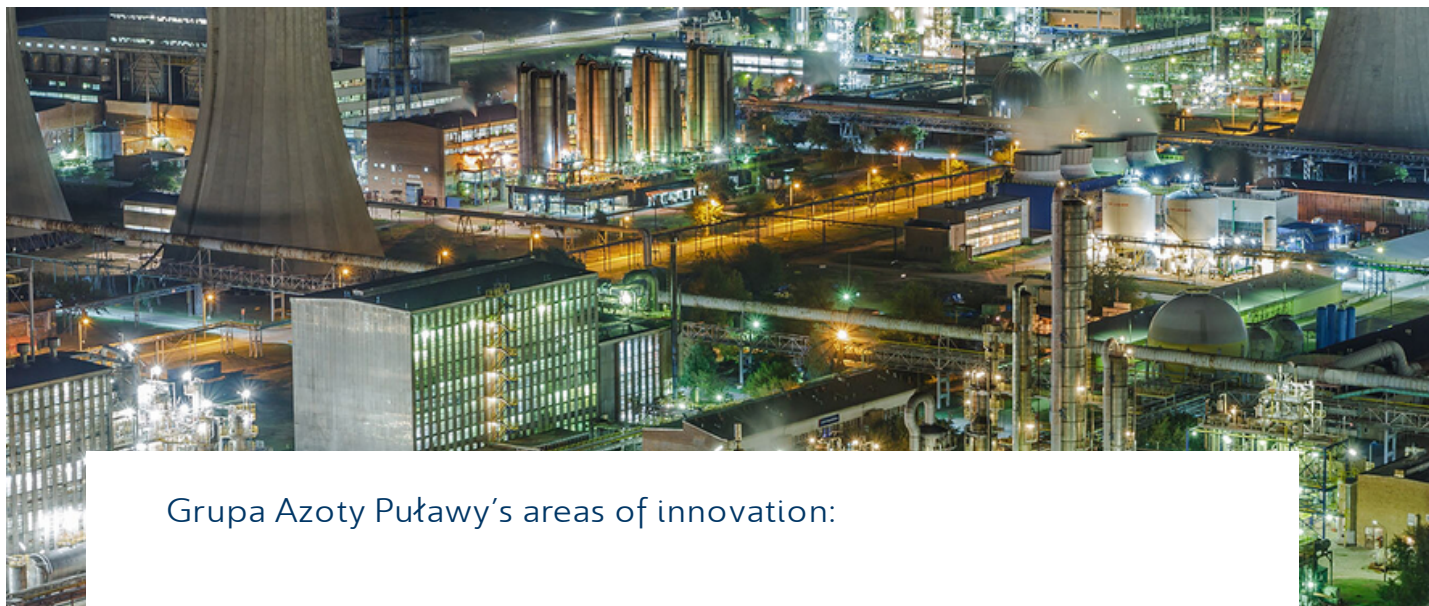
[MORE ABOUT THE R&D CENTRE PROJECT IN TARNÓW](#)

## Grupa Azoty Puławy

In January 2018, we announced a tender for the construction of a new coal-fired power generation unit, breaking ground for the Grupa Azoty Group's largest energy project and also the largest project in the Lublin Province. The 100 MW project, valued at approximately PLN 890m, will be built on the premises of Grupa Azoty Puławy's CHP plant and is scheduled to be placed in regular operation by the end of 2021.

The new coal-fired unit will be built on the premises of the company's CHP plant, with which it will be closely integrated. The project will meet all EU environmental standards in line with the BAT Conclusions. It will have an integrated SCR system for nitrogen oxide reduction and is also to be equipped with an FGD system.

11 contractors from Poland, other European and non-European countries submitted their bids. A consortium of Polish companies comprising Polimex Mostostal S.A., Polimex – Energetyka Sp. z o.o. and SBB Energy S.A. was selected in the tender procedure as the general contractor for the project.



### Grupa Azoty Puławy's areas of innovation:

- Developing the fertilizer portfolio by adding advanced products and application methods,
- Biotechnology projects implemented with the support of the New Chemical Syntheses Institute in Puławy – use of plant material and development of sustainable products,
- Advanced products for the chemical industry obtained from existing products and intermediates (melamine, caprolactam),
- Optimising the production process efficiency by means of systemic and technological solutions.



### BEST PRACTICE

*First production line of the nitrate mechanical granulation unit*



*Construction of a production line of the nitrate mechanical granulation unit with a daily capacity of 1,200 tonnes of ammonium nitrate or 1,400 tonnes of calcium ammonium nitrate, together with logistics facilities: a seasoning hall with a storage capacity of 10,000 tonnes, a packing facility and a logistics hall. The project is complete with transport galleries, flyovers, electrical switchgears and road infrastructure.*

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## Grupa Azoty Police

Fertilizers manufactured by Grupa Azoty Police include Polifoska Krzem with assimilable silicon, a large part of which is exported.

The fertilizer not only increases plants' resistance to diseases and pests, but also to shortage of water or light, salt stress and phytotoxicity of heavy metals. As the list of permitted plant protection products becomes shorter year by year, the only way to protect crops from infections is often by stimulating their natural immunity. Silicon is responsible for developing plants' defence mechanisms against adverse environmental factors. Fertilization is critical in agriculture intensive areas, where the content of silicon in soil is usually insufficient.



### BEST PRACTICE

*Overhaul of “the large unit” at the phosphoric acid department, which has increased its annual production capacity by about 5%, ensured more effective supervision of the production process, and brought annual savings of approximately 25,000 tonnes of phosphate rock. In addition, the upgrade of the gas pre-treatment system at the Nitro Business Unit reduced energy consumption and increased the possible ammonia output. Ammonia is manufactured at the Police plant mainly for the company's own needs, and any excess volumes are exported. The upgrade will enhance the unit's operational efficiency and will lower energy consumption by 20%.*

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■ [SEE HOW OUR FERTILIZERS ARE DEVELOPED](#)

## Grupa Azoty Kędzierzyn

In 2016, Grupa Azoty Kędzierzyn obtained funding for two projects in the first INNOCHEM competition for innovative chemical industry ventures, run by the National Centre for Research and Development.



The purpose of the first project is to develop new physical forms of fertilizers or additives and slow-release fertilizer formulations containing micronutrients such as zinc, copper, manganese, boron, molybdenum and iron. According to the plan, the new generation of fertilizers will be launched in 2022.

The goal of the second project is to obtain an innovative fertilizer through a new biodegradable agent technology and a micronutrient combination method. The new product will address the agricultural producers' needs related to the necessity to reduce nitrogen use, improvement of fertilizer performance through enhanced nutrient absorption, and reduction of the cost and time of fertilizer applications.

In 2018, Grupa Azoty Kędzierzyn completed modernisation of the biological part of its wastewater treatment plant. At present, the company has a state-of-the-art facility that meets the most stringent environmental protection standards. According to experts, the water discharged by ZAK to the Oder river is cleaner than the water abstracted from it for manufacturing purposes.

The key part of the modernisation project involved the installation of four giant blowers for wastewater aeration and the deployment of a technologically advanced system for wastewater heating. The modernisation cost more than ten million złoty.



FUTURE

## Strategic priorities for corporate social responsibility

[103-2]

We are perfectly aware of the enormous responsibility involved in the chemical business. Sustainability and corporate business responsibility are of strategic importance to us. Oversight of the process of sustainable development management rests with the President of the Management Board and with individual Management Board members within their respective areas of responsibility. As the pursuit of sustainable development spans all areas of the Group's activities, representatives from various departments and levels of the organisation are also involved in the process.

We treat our strategic approach to sustainability as a reflection of the integrated approach to the measures we take in the area of economic efficiency, responsibility towards employees and the environment, as well as community relationships. In 2017, we updated our strategic priorities for sustainable development and social responsibility.

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*State Treasury companies are viewed differently from private businesses. They have to duly represent the national interests and demonstrate responsibility, as signature Polish brands.*

”

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A quote from a dialogue session



## PILLAR 1: Product and production

Our ambition: We guarantee efficient, innovative and environmentally friendly production by:

- Ensuring high product quality
- Investing in research and looking for innovative technological solutions, extending the product value chain (chemicals and plastics)
- Enhancing the environmental efficiency and cost efficiency of the processes (reduction of energy consumption, emissions, water consumption)
- Ensuring safety of production, transport and storage
- Ensuring staff safety
- Developing circular economy

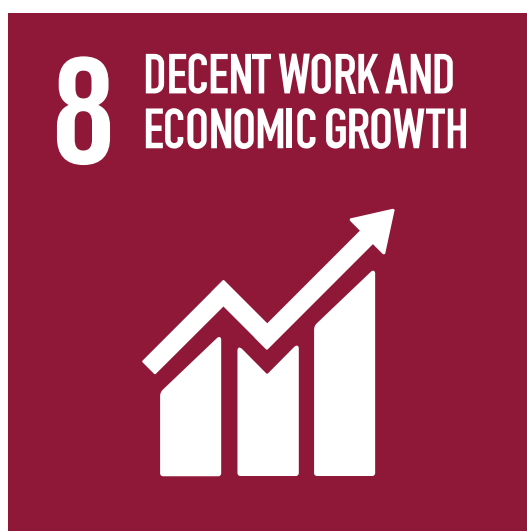


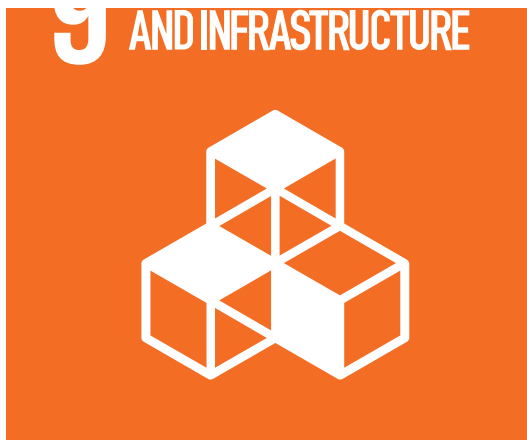


## PILLAR 2: People and relationships

Our ambition: We enhance our positive impact on the social and economic environment by:

- Supporting the development of sustainable agriculture and precision farming, educating farmers
- Improving customer relations
- Supporting social and economic development of the cities and regions where our main plants are located
- Engaging in sponsorship, community matters and social dialogue
- Developing the intellectual capital of our current and future employees, who represent our immediate social environment in the locations of our main plants





### PILLAR 3: Good governance

Our ambition: We strive for operational excellence and manage our risks by:

- Ensuring corporate governance and compliance
- Building a coherent organisational culture based on values and ethics
- Enhancing employee engagement and innovativeness
- Managing supply chain responsibility
- Ensuring cyber-security
- Participating in ESG (Environmental, Social and Governance) criteria reviews and ESG initiatives
- Monitoring key indicators and integrated reporting in accordance with the globally recognised standards and guidelines





See selected sustainability management systems of our companies

## Grupa Azoty Police

Grupa Azoty Police pursues a management policy which guarantees that strategic goals are achieved in reliance on an integrated management system. The system conforms to international standards and is structured around the principles of: giving priority to customers, reducing environmental losses and the risk of hazards, and working on continuous improvement. The Management Policy implemented by Grupa Azoty Police sets out plans and principles for its operations at large, providing a framework for setting and reviewing strategic goals in quality, environmental protection, workplace safety, and food safety. A policy for the management of the sustainable development strategy will also be implemented by other Grupa Azoty Police Group companies.

## Grupa Azoty Puławy

Striving to meet the growing requirements and expectations of its customers and other stakeholders, in 2004 Grupa Azoty Puławy put in place and obtained certification for its integrated quality, environment and safety management system. The key document of the system is the 'Quality, Environmental and Safety Policy', defining the company's goals and ways to achieve them. The main goals set forth in the policy for the implementation of the integrated system include addressing customer requirements and expectations as to the adaptation to changing market needs by ensuring compliance with legal provisions governing environmental protection, safety of employees and visitors, and reducing the environmental footprint.

## Grupa Azoty

Safety, product liability and environmental impacts are areas of particular focus for Grupa Azoty. The company seeks to minimise its negative impact on the environment and improve its management systems, promotes an open information policy and dialogue with local communities, and cares for the safety of its personnel and immediate surroundings. It has an AEO (Authorised Economic Operator) certificate and participates in the SPOT and REACH systems.

## Grupa Azoty Kędzierzyn

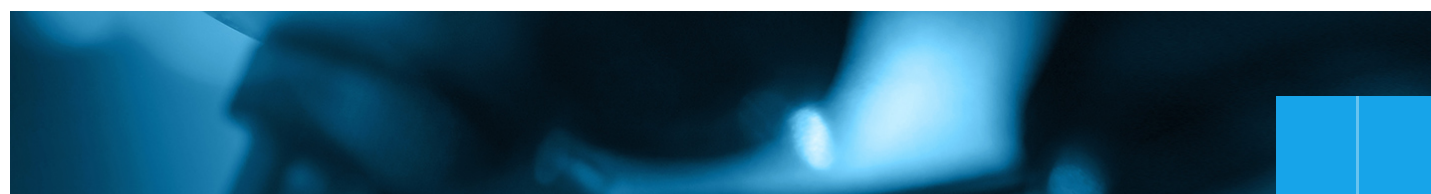
Grupa Azoty Kędzierzyn is committed to addressing the challenges posed by new developments in its environment by improving its operating methods and the integrated management system.

In 1997, the company obtained a certificate of conformity of its quality management system to the PN-EN ISO 9002 standard, and in 2003 it was awarded a similar certificate for its integrated management system in the areas of quality and safety (conforming to PN-EN ISO 9001 and PN-N-18001). In 2005, it had its integrated management system *Quality\*, Health, Safety\* & Environment* certified for conformity to PN-EN ISO 9001, PN-N-18001 and PN-EN ISO 14001.

In 2006, the Laboratory Services Unit (currently operating as the Research and Innovation Department) successfully completed an accreditation process and obtained the Test Laboratory Accreditation Certificate of conformity to PN-EN ISO/IEC 17025.

In 2014, Grupa Azoty Kędzierzyn was certified for compliance with the requirements of the Product Stewardship standard developed by Fertilizers Europe, and obtained the Product Stewardship Certificate.

Since 2016, the company has had a maintenance process management system in place based on Total Productive Maintenance (TPM) and Preventive Maintenance (PM) programmes.







## BEST PRACTICE

*An Application and Development Research Laboratory was established at Grupa Azoty Kędzierzyn.*

*In 2018, an Application and Development Research Laboratory was established at Grupa Azoty Kędzierzyn. Modern laboratories prepare blends of plastics and plasticizers and make specialist tests of the created samples. Thanks to the Laboratory, it is possible to recreate the manufacturing process on a laboratory scale, create test samples, and perform advanced tests. As a result, customers can be offered tailor-made products meeting all their expectations. The Laboratory is mainly involved in the development of OXO products. The amount spent on the project was close to PLN 13m. Specially furnished rooms, new laboratory equipment and a team ready to embark on ambitious research projects – these are the results of establishing the Application and Development Research Laboratory within Grupa Azoty Kędzierzyn's Research and Innovation Department.*

### Management systems at the Grupa Azoty Group

	Grupa Azoty	Grupa Azoty Puławy	Grupa Azoty Police	Grupa Azoty Kędzierzyn
Quality management system conforming to the ISO 9001 standard	✓	✓	✓	✓
Environmental management system conforming to the ISO 14001 standard	✓	✓	✓	✓
Occupational health and safety management system conforming to the PN-N-18001 standard	✓	✓	✓	✓
Occupational health and safety management system conforming to the BS OHSAS 18001 standard	✓		✓	
Food safety management system conforming to the ISO 22000 standard	✓		✓	
PN-EN ISO/IEC 17025:2005 management system (general requirements for the competence of testing and calibration laboratories)	✓		✓	
Management standard meeting the requirements of the Fertilizers Europe Product Stewardship Standard	✓			✓

	Grupa Azoty	Grupa Azoty Puławy	Grupa Azoty Police	Grupa Azoty Kędzierzyn
Enterprise risk management system based on ISO 31000:2012 Risk management and COSO II Risk management standards	<input checked="" type="checkbox"/>			
Energy management system conforming to the ISO 50001 standard	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Energy management system		<input checked="" type="checkbox"/>		
Food safety management system		<input checked="" type="checkbox"/>		
Responsible Care framework management system				<input checked="" type="checkbox"/>
Maintenance process management system based on Total Productive Maintenance (TPM) and Preventive Maintenance (PM) programmes				<input checked="" type="checkbox"/>



## FUTURE

# Future challenges and scenarios

### [IR - Future orientation]

We constantly monitor the environment and trends to keep our strategic focus up-to-date. The chemical industry's market environment is in the transition phase towards Chemistry 4.0. Factors that have so far been its main growth drivers, such as globalisation, specialisation and focus on core business, have already seen their peak.

With Chemistry 4.0, it is digitalisation and circular economy that will play a key role in the industry's transformation. Future opportunities will stem from the uptake of electric mobility, drive towards material-efficient construction, growing expectations for the properties of plastics, as well as development of bioplastics and greener polysaccharide-based polymers to replace traditional plastics and other environmentally harmful materials.

The technological advances and digitalisation are accompanied by the growing importance of cybersecurity and the need to explore new sales and customer interaction channels. The market is becoming more demanding with respect to customer service methods. Growing in prominence are precision agriculture and smart specialty fertilizers. The progress in agro-sector technologies is changing farmers' preferences, entailing the need to tailor products to specific crops. Demand for resource efficiency and environmental protection is on the rise.



**Responding to diverse customer needs**

*Crop-specific fertilizers could be introduced, e.g. for maize or wheat.*

*Some farmers fertilize their crops by heart. Soil samples could be tested to apply best suited fertilizers.*

*The company could survey farmers to determine their fertilizer needs, and then market products satisfying those needs and provide relevant advice.*

Dialogue session

## Tailor-made products

In each area of our business, we intend to produce more specialty substances, customised for specific groups of users. With our expertise and experience in the agricultural sector, we can consider offering crop-specific fertilizers, and even ones formulated specifically for individual farm fields.

We will be developing our specialisation in plastics as well. We have been ramping up production of high-margin specialty plastics used in the manufacture of food packaging. Polish engineers are at the forefront of Europe's innovation in such technologies.

At the same time, we do not forget about the traditional production profiles of our chemical plants, seeking to accommodate the country's continued strong demand for such products as nitrogen and compound fertilizers. It is our responsibility to ensure the uninterrupted availability of commodity chemicals to agriculture and other industries.

## Developing cooperation and innovation potential

We aim to forge and develop lasting, regular cooperative links between the chemical industry and scientific or academic institutions specialising in related fields. We believe such links would allow the entire chemical industry in Poland to quickly and effectively respond to the needs of customers. We support areas where such cooperation is already a fact, the plastics segment being a case in point.

What innovation means to us, how to raise funds for innovation and what our priorities are – these were the topics discussed by Lech Schimmelpfennig, Chief Technology and Product Development Specialist, during the presentation entitled 'Financing programmes for science and business on the example of projects run by the National Centre for Research and Development', delivered at the 'Innovation Days' event organised in the Puławy Science and Technology Park.

## Developing business potential

In order to diversify its revenue sources and become less dependent on business cycles in agriculture, the Grupa Azoty Group will step up its efforts to expand non-fertilizer business lines.

The key directions of business expansion will be in petrochemicals and plastics.

In Police, we have launched one of contemporary Poland's largest chemical projects to produce polypropylene, which is perceived by many experts as the most forward-looking chemical. Apart from the production unit itself, the 'Polimery Police' project will involve the development of a port with a base of feedstock tanks, as well as auxiliary and logistic infrastructure. More information on the project can be accessed [here](#).

- 'DEVELOPMENT AND INNOVATION IN NON-FERTILIZER BUSINESS'
- 'GROWTH THROUGH SMART AGRICULTURE'



Rapid, politically induced changes in foreign exchange rates cause increased uncertainty. Fluctuating costs of raw materials (such as crude oil and natural gas) have an impact on derivative products used by the Group as production inputs (propylene, benzene, phenol), as do changes in coal and electricity prices.



Secure access to raw materials



A HANDFUL OF NOTEWORTHY FACTS:

*We are among the largest consumers of raw materials in Central and Eastern Europe. Natural gas, used to produce nitrogen fertilizers and ammonia, accounts for about 30% of our costs of all raw materials.*

We strive to ensure security of supplies of our strategic raw materials. We want to be certain that the continuity of our manufacturing processes is maintained, and that our capacities are fully utilised. We diversify our sources of raw materials, looking for new and alternative suppliers. Forming equity links with some of them is also an option.

By integrating our procurement function, we have minimised the cost of procuring supplies.



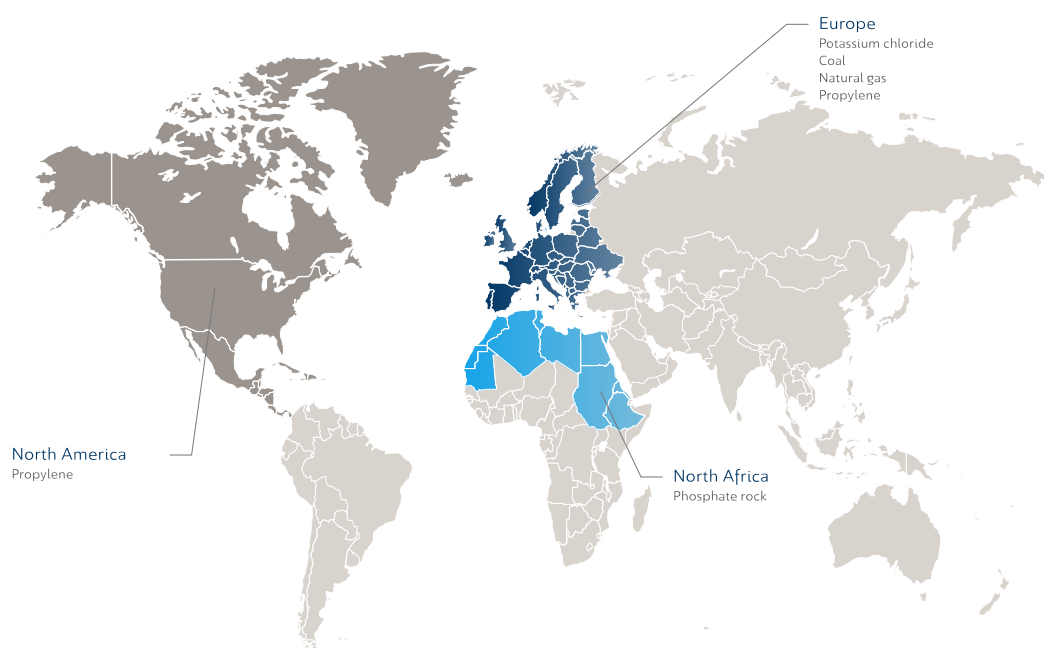
## BEST PRACTICE

*In 2018, we signed an agreement for phosphate rock imports from Morocco. The raw material, bought from Office Chérifien des Phosphates (OCP) for approximately PLN 350m, will be supplied to the Police plants over three years, which will cover the company's needs until the end of 2020.*

*African phosphate rock from OCP is of high quality, ensuring maintenance of proper technological regime during fertilizer production at the Police plants. Grupa Azoty Police will also purchase phosphate rock from Algeria and low-cadmium phosphate rock from Senegal. The latter will be used in the manufacture of fertilizers for customers who require low cadmium content. Thus, the company's requirement for phosphate rock (ca. one million tonnes per year) was secured.*

*OCP is a global leader in phosphate rock sales, exporting about 8 million tonnes of phosphate rock a year (approximately 30% of global trade) and its revenue in 2017 was close to USD 5bn.*

## Where our raw materials are sourced:



Changes in the regulatory framework require that we bring our production in line with international regulations, especially those enacted at the EU level, including environmental standards, REACH, standards for the permissible contents of heavy metals in fertilizers (notably the content of cadmium in phosphates), as well as production and usage of glyphosate.





With climate change recognised as a global phenomenon, Grupa Azoty needs to keep in compliance with changing regulations, related mainly to CO<sub>2</sub> emission allowances.

In order to reduce the impact of greenhouse gas emissions at Grupa Azoty, the energy intensity of processes has been consistently reduced for a number of years, resulting in lower atmospheric emissions of greenhouse gases. In addition, the company has deployed a system for monitoring and reporting CO<sub>2</sub> emissions.

At Grupa Azoty Kędzierzyn, the baskets in oxidisers at nitric acid units were modernised to bring down greenhouse gas emissions. In addition, fresh catalyst was added, which increased contact surface and effectiveness of nitrogen oxide reduction.

In 2018, Grupa Azoty Kędzierzyn's requirement for emission allowances exceeded the free allocation. However, given the company's environmental protection projects (construction of a new CHP plant), it additionally received another tranche of free allowances. 4.5% of its actual verified emissions for 2018 were settled with cheaper CER units. The balance of allowances were purchased on the market in spot and forward transactions in accordance with the Group's common CO<sub>2</sub> Emission Allowance Trading Policy followed by its main companies. The main objective of the policy is to spread the price risk over time, with plans to purchase emission allowances made yearly for the next three years.

Grupa Azoty Puławy reduced its GHG emissions thanks to completion of the following projects in 2018:

- Installation of the expansion turbine unit and an electricity generator on the natural gas stream for ammonia unit II,
- Upgrade of the circulation water network in the ammonia department,
- Replacement of transformers, upgrade of emergency lighting and switchgear.

Another practice designed to cut greenhouse gas emissions, carried out on a continuous basis, involves the use of high-efficiency catalysts to reduce NO<sub>x</sub> emissions (N<sub>2</sub>O) from the nitric acid unit and to increase energy efficiency. The company is working on reducing its consumption of natural gas (production and energy efficiency improvements) and energy carriers (energy efficiency improvements), especially of high-pressure heating steam and process steam.

Grupa Azoty Police's situation with regard to greenhouse gas emissions has largely stabilised. In the second trading period (2013–2020), the European Emissions Trading Scheme covers five of the company's installations. Every year, the balance of the required allowances are purchased by the company on the secondary market.

The ongoing transformation of the global plastics market has sparked mounting price pressures. A competitive advantage is increasingly a matter of possessing capacities to manufacture specialty plastic and chemical products. Producers in developing and resource-rich countries are expanding their product ranges to include specialty categories. The world's fertilizer production capacities are growing, as is a global overhang in the supply of caprolactam and polyamide. The competitive struggle between PA6 manufacturers is intensifying.

In Poland, challenges are posed by the grey market – illegal imports and sales of counterfeit products – coupled with a growing pressure from imported fertilizers.

Against this background, both investors and analysts are paying increasingly more attention to environmental, social and governance (ESG) aspects.



STRENGTHENING THE MARKET POSITION

## Growth through smart agriculture

[IR – Presentation of results]

Without agriculture, there would be no need for our fertilizers. On the other hand, without them, modern agriculture would not exist as it is. At the Grupa Azoty Group, we are well aware of this interdependence. We do not perceive farmers and agricultural businesses as customers only – we see them as partners in a joint effort to ensure the highest possible crop yields, healthy food, and clean environment. We supply artificial fertilizers, supporting efficient and environmentally-friendly crop production to make agriculture profitable and guarantee the supply of affordable food. Particular emphasis in our research and development projects is placed on the development of new specialty fertilizers, including products that offer increased nutrient use efficiency, which is achieved by slowing down their undesirable transformation in soil.

*We appreciate the innovative nature of the Grupa Azoty Group's products.*

A quote from a dialogue session

We believe in smart agriculture of the 21st century and we want to be part of the developments that are taking place. We carefully monitor market needs, and our experts also follow trends in foreign markets. We take into account the requirements of new plant varieties, changes in soil wealth, the amount and quality of the crops, and their intended use. In our laboratories and R&D facilities, we are constantly working on cutting-edge solutions that help farmers achieve high yields.



## A NEW R&D CENTRE

*In October 2018, in the presence of Prime Minister Mateusz Morawiecki and Minister of Entrepreneurship and Technology Jadwiga Emilewicz, we opened a new Research and Development Centre in Tarnów. A unique feature of the R&D Centre is its pilot-plant hall, where technologies developed in laboratories may be tested in almost real-life conditions. The technologies and processes which will be implemented by the Grupa Azoty Group will allow it to diversify its business and focus more on high-margin products.*



[See what fertilizers we offer](#)



## Nitrogen-sulfur fertilizers

In the nitrogen-sulfur fertilizers segment, the Group offers products in the form of large, durable and similarly shaped granules – Saletrosan®, Polifoska® 21 and Salmag z siarką®, as well as Tarnów-produced ammonium sulfate AS 21, present on the market for many years, and Pulsar® manufactured at Puławy.

The chemical structure of the nitrogen-sulfur and nitrogen fertilizer granules prevents too quick release of nitrogen, and thus its losses in soil, while their uniquely similar shape, mechanical resistance and hardness protect them against caking, crumbling, and abrasion during transport and storage. When granulated mechanically, they can be evenly spread over considerable distances (of up to 42 metres).



## Nitrogen fertilizers

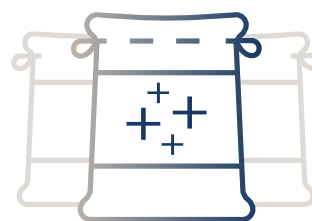
In the nitrogen fertilizer group, nitrogen comes in three forms: the quick-release nitrite form, and the ammoniacal and amide forms, less readily available to the plants. The Grupa Azoty Group offers all-purpose ammonium nitrate fertilizers suitable for a wide range of applications: quick-release

ZAKsan® (ammonum nitrate produced in Kędzierzyn Koźle) and Pulan®, as well as the slightly slower acting Saletrzak 27 Standard and Salmag®, additionally enriched with other necessary nutrients.



## Nitrogen-phosphorous fertilizers

Nitrogen-phosphorous fertilizers include Polidap® and Polidap® Light, which can be used for all cultivated crops: winter and spring grains, industrial and root plants, on grassland, as well as in the cultivation of vegetables and fruit. Polidap® and Polidap® Light are primarily recommended for phosphorus deficient soil. This group of fertilizers also includes the all-purpose concentrated phosphate fertilizer Super FOS DAR 40™, designed for plants that require good supply of phosphorus, calcium and sulfur.



## Compound fertilizers

The compound fertilizers group includes the POLIFOSKA®, POLIMAG® and Amofoska® brands. The Police-produced fertilizers stand for homogeneous composition and high concentration of pure ingredients, while their wide range of applications is owed to exceptionally good assimilability. These fertilizers are very effective when applied in spring and autumn, as well as for pre-sowing and top-dressing applications. Gdańsk-produced Amofoska fertilizers are more effective when mixed with soil. To facilitate balanced applications, the Group offers various fertilizer



formulations, with potassium content ranging from 1 to 3 kg per 1 kg of phosphorus.



## Football pitch fertilizers

Grupa Azoty Police offers football clubs from the West Pomeranian region fertilizers for football pitch applications. Its range of services includes free testing of the substratum and selecting the most efficient fertilizers, along with detailed instructions on how often they should be applied. The annual cost of using fertilizers manufactured by the Police-based plant is, according to the company's calculations, approximately 50% lower than the cost of using fertilizers made by renowned producers from Western Europe.

Back in 2017, Grupa Azoty Police signed an agreement with the local branch of the Polish Football Association (PZPN). The effectiveness of the fertilizers was tested on football grounds of the Pogoń and Chemik Police teams. The results proved very good, and since 2018 all local clubs have been able to use the company's products.

(For more information on our fertilizers, visit the customer zone at: <https://nawozy.eu/> and <http://nawozy.grupaazoty.com/pl/main.html> )



## BEST PRACTICE

*Grupa Azoty Puławy and Gdańskie Zakłady Nawozów Fosforowych Fosfory joined forces in a project to develop a technology for the production of potassium thiosulfate using exhaust gases from the sulfuric acid plant and production of potassium thiosulfate-based compound liquid fertilizers. The expected final outcome of the initiative is an innovative technology for manufacturing liquid fertilizers using exhaust gases under optimum operating conditions. Its implementation will make it possible to manufacture liquid fertilizers on the basis of potassium thiosulfate solution as new products on the Polish market. In addition, it will reduce atmospheric emissions of sulfur and nitrogen compounds.*



See how our new fertilizers are developed

1



### Market needs

We source information on what fertilizers are needed directly from farmers, distributors, and field sales representatives as well as by tracking foreign trends in agriculture.

3



### Test production of a fertilizer

All test batches are carefully checked at our laboratories for quality of the granules.

5



### Launch of production

After successful completion of all the tests and analyses, the fertilizer is introduced into the Grupa Azoty Group's offering.





## Development of concepts for new fertilizer formulas

Our scientists develop the optimum composition of a new fertilizer taking into account gathered information on farmers' expectations.



## Field tests

We distribute the new fertilizer over fields and analyse the effects. Agrotechnological tests take at least three years.



### BEST PRACTICE

*An example of our philosophy for modern fertilizers is Polifoska Krzem. The product supplies plants with nutrients, reduces their susceptibility to diseases and pests, and makes them more resistant to drought. It contains silicon, which has a positive impact on plants, and thus – through the crops – on human body.*



See how we support farmers

## We provide training

Together with our trading partners, we organise free training courses for farmers. Our experts share their knowledge of crop plants and the use and application of fertilizers. We explain specific soil and crop requirements. We always remain open to questions and we are happy to see the high attendance at our meetings.

Our training projects are supplemented with the Fertilizer Encyclopaedia, providing a wealth of knowledge, including understandably presented practical information not only about fertilizer characteristics but also about nutrients and soil. The website also contains current information on agricultural product prices and farm work schedules prepared by the Grupa Azoty Group's experts.

## We engage in research

Since 2015, we have been running a unique 'Grounded in Knowledge' programme. (<https://nawozy.eu/grunt-to-wiedza.html>). Its objective is to develop fertilization technologies and fertilizer products adapted to the needs of the Polish agriculture. Benefits available to each farmer that qualifies for the programme include free examination of 15 soil samples (sufficient for about 50 ha of land) in terms of the content of nutrients. In the 6th edition of the campaign, we reached nearly 3,000 farms across Poland and collected almost 40,000 samples. Thanks to our recommendations, the farm owners can, or will be able to, learn the actual nutrient requirements of their soil and plan the right fertilization strategy.

## Business and operational participants of the project



'Grounded in Knowledge' is very popular among farmers, but it is also appreciated by independent industry experts.



We embrace space technologies

Although our products are active in the ground, we are reaching for space technologies, hoping to make advances in developing the so-called smart farming in Poland, which is a technological response to the expectations of increased productivity of agriculture as a whole. To further improve our offering in the area of precision agriculture, we extended our agreement with the Polish start-up company SatAgro. SatAgro is a web application that enables automatic processing of satellite data for the monitoring of individual farm fields, and generation of electronic fertilizer dosage directions (mainly for nitrogen fertilizers), compatible with precision fertilizer spreaders and sprayers of most manufacturers. With correct use of information on the growth phase of the crops and the suggested fertilizer doses, it is possible to save from a few to more than 10% of the fertilizer per hectare. This translates into measurable economic and environmental effects. The interest enjoyed by the SatAgro service among the Grupa Azoty's customers shows the great potential of Polish farms for embracing innovative technologies for effective fertilization.

The technology allows direct access to satellite observations made by NASA, the European Space Agency, the European Commission (Copernicus programme), and private operators. As a result, farmers gain crop data processing tools which can be used for individual farm fields to aid in effective farm management. With the application offered by Grupa Azoty, users can remotely monitor crop growth, assess the impact of weather conditions and agronomic treatments, and analyse historical data.

A pilot project carried out in 2017 covered eight large-sized farms. Based on the information collected, the SatAgro application was adapted to the farmers' preferences: the improvements included simplified map edition and change of the interface. In 2018, our offering of precision fertilization services was extended to include individual customers and smaller farms.

We continue on a path of development. In 2016, we started construction of a facility for the production of granulated fertilizers based on ammonium nitrate on our site in Puławy. The project is worth PLN 385m and is due for completion in 2020. The plant, with a planned headcount of 130, will enable the production, packaging and shipments of CAN and granulated ammonium nitrate. The project will also include storage facilities and a logistics centre. According to the assumptions, the plant's daily production capacity will be 1,400 tonnes of CAN or 1,200 tonnes of mechanically granulated nitrate.





STRENGTHENING THE MARKET POSITION

## Development and innovation in non-fertilizer business

Since 2018, investment projects, research and pro-environmental upgrades of the Grupa Azoty Group's plants have been financed from a EUR 145m loan provided by the European Investment Bank. The loan agreement supports the Group in funding innovation, energy efficiency improvements and development of environmentally-friendly processes. The projects financed with the loan will include the upgrade of the nitric acid plant in Puławy and the plastics compounding plant in Tarnów. The Group has also secured EIB funding for its R&D projects in 2018–2021.

It is the second loan from the EIB obtained by the Group over a period of a few years – two large-scale investment projects co-financed by the EIB under a 2015 credit facility agreement commenced in Tarnów in 2017: polyamide plant II and fertilizer granulation unit II. The Group is pursuing three other projects co-financed by the bank under the same agreement, including the construction of a fertilizer mechanical granulation unit in Puławy.





# Poland Prize

## BEST PRACTICE

*In 2018, Grupa Azoty signed a cooperation agreement with an accelerator as part of the programme 'Poland Prize by AdVentures – Looking for Business Opportunities in Southern and Central and Eastern Europe'. Poland Prize is an initiative of the Ministry of Entrepreneurship and Technology and the Polish Agency for Enterprise Development (PARP) seeking to attract foreign startups to Poland. Teams of AdVentures experts and Grupa Azoty Group specialists will visit Belarus, Ukraine, Romania, Bulgaria, Hungary, the Czech Republic, Slovakia and other countries. In each country, the teams will meet with startup communities, accelerators, VC funds and scientists. Twenty outstanding startups will be invited to Poland.*

*Under the cooperation agreement, our experts will assist AdVentures in selecting the most interesting startups, will aid the startups during the acceleration process in Poland, and will support them in planning the implementation and in effectively implementing their innovations within the Grupa Azoty Group.*

For more than 20 years, we have been extending the product chain of polyamide 6 (PA6), a structural plastic with a wide range of applications. The Grupa Azoty Group is consistently reinforcing its position, and following the launch of our new PA6 plant we have become the third largest polyamide producer in the EU. Our new product mix guarantees strong diversification of sales to different market segments:

- Engineering applications: automotive sector, household appliances, construction sector, etc.,
- Film applications: packaging materials for the food industry, pharmaceuticals,
- Textile applications: BCF carpet fibres, monofilaments, technical fibres.

However, the 21st century poses new challenges to the chemical industry. At the Grupa Azoty Group, we acknowledge our responsibility for developing innovations and investing resources in the most promising substances. That is why we have embarked on the largest investment project in the contemporary Polish chemical sector: a new propylene and polypropylene plant in Police.







## POLYPROPYLENE FROM POLICE – A STRATEGIC INVESTMENT FOR THE POLISH ECONOMY

*‘Polimery Police’ is the Polish chemical sector’s largest investment project in this century. It will be a complex comprising propylene and polypropylene units, a port with raw material storage facilities, auxiliary facilities and logistics infrastructure. It is seen as a strategic venture not just for Grupa Azoty Police, but for the Polish economy as a whole. Poland is one of the largest consumers of polypropylene in the region and its imports are constantly growing. Polypropylene is a basic plastic for immediate use in the manufacture of end products in a number of industries.*

*The project will enable production of 440,000 tonnes of polypropylene annually, considerably reducing Poland’s raw material dependence in this area. The estimated capital expenditure is EUR 1.27bn.*

*The decision to give green light to ‘Polimery Police’ was made in reliance on positive opinions from reputable business, technical and market advisors. Polypropylene production is of strategic importance from the perspective of the Grupa Azoty Group. The project will make it possible to:*

- *Grow and diversify revenue across the Group,*
- *Broaden the Group’s product portfolio and flatten the business cycles,*
- *extend the product chain in line with the Grupa Azoty Group’s strategy,*
- *Generate strong margins on a promising market of products for a broad range of applications,*
- *Leverage synergies between the ‘Polimery Police’ project and other Group plants.*

*The complex will include a propane dehydrogenation unit (PDH) and a polypropylene unit (PP), infrastructure comprising port facilities to unload and store propane and ethylene carried by ships, as well as auxiliary facilities, inter-unit connections and logistics infrastructure for polypropylene.*

*The construction works are scheduled to begin in late 2019. According to the project schedule, the works and commissioning are to be completed by the end of 2022.*

*The project is being implemented by PDH Polska, a special purpose vehicle of Grupa Azoty. The licence selection process, a key element of the pre-construction phase, was completed in 2018, with GRACE, a US-based company, selected after long negotiations as the licence provider.*

*The project is being implemented by PDH Polska, a special purpose vehicle of Grupa Azoty. For more information about ‘Polimery Police’, visit the [PDH website](#).*

In the chemical industry, innovation and looking for ways to meet customer expectations are inextricably linked to scientific efforts. We believe that the competitive edge of the Grupa Azoty Group can be successfully built on knowledge, and therefore we are expanding our research facilities with a new Research and Development Centre at Grupa Azoty Kędzierzyn, a project valued at approximately PLN 13m. The Centre is expected to focus on developing new solutions involving OXO alcohols, work on polymer modifiers to obtain innovative plasticizers, and perform related application testing. Plans also include development of plastics mixtures with those additives and tests of their properties.



**Read an interview about the R&D sector**

## Interview with Grzegorz Kądziałowski, Vice President of the Grupa Azoty Group

**There are many companies in Poland that are only seemingly engaged in R&D activities, pretending to be active in that area. And what about Grupa Azoty?**

Vice President Grzegorz Kądziałowski: The R&D&I area (Research + Development + Innovation) is one of our strategic pillars. We are aware that growth through innovation is essential to the development of the chemical industry. Also, we operate on increasingly demanding markets, especially in the fertilizer segment. To keep pace with global trends, we need to work hard to diversify our product portfolio, in particular to meet the requirements of precision agriculture. This, in turn, encourages even more activity on our part in R&D&I and looking for new products and technologies that offer development potential to the Group.

**Can we say then that the intensification of R&D efforts is a response to the challenges faced by the market? If so, which areas are of particular interest to you? For instance, can you imagine having a role in the development of electromobility?**

At Grupa Azoty we are well aware that “if you don't move forward, you move backward.” Therefore, we look for ways not only to strengthen our existing product portfolio, but also to gain a foothold in areas in which we have not been present to date, such as electromobility. We could position ourselves as a future supplier of specialty chemicals for cell manufacturers, such as cathode and anode materials, catalysts, or membranes. We expect to have 3-4 technologies developed in this field within two years. We are also working on 3D-printing technology as well as the application of hydrogen in the transport sector. Of course, there is also the entire system of precision agriculture, which we are developing in cooperation with a few start-up companies.

**How much are you spending on R&D today, and how much do you plan to allocate to that area within, let's say, 5 to 10 years?**

In accordance with the Group's updated strategy until 2020, we intend to allocate 1% of our revenues to research and development activities. We understand the need to increase R&D&I spending and to grow the scale of proprietary projects, hence, for example, the construction of the Research and Development Centre in Tarnów. Last year, we also signed an agreement with the National Contact Point for Horizon 2020, which I hope will help us obtain funds from the EU Framework Programme Horizon 2020 for interesting research and development projects.

**What precisely is the Grupa Azoty Group going to achieve through the new Chemical Technology and Development Centre?**

The Group's ambition is to not only benefit from national development and education efforts, but to actively participate in, or even lead such initiatives. Our new Research and Development Centre will mainly focus on state-of-the-art materials, modern fertilizer products and technologies, as well as pro-environmental solutions. The main outcomes of the efforts to develop the R&D infrastructure in Tarnów will be expansion of the Group's own research activities and a new environment to verify research results on a pilot-plant scale. A part of the activities that are now outsourced can be carried out in-house. We will be more self-sufficient. The Centre will include a pilot-plant hall to test solutions on a bench - or pilot-plant scale before we think about going full scale. Our humic acid pilot plant is a good example. More than 70% of Polish soils are deprived of the humus layer. We have taken up the challenge to address this issue. Until now, we have imported humus from abroad. Today we are about to launch a pilot plant for its production. We have high hopes – it is going to be one of the first plants to be launched within the R&D centre. And there are more in the pipeline. Other expected benefits of the project will include establishing and expanding cooperation with start-ups, research institutions and non-governmental organisations.

**Do your R&D activities fit into any broader institutional context? Like, for example, cooperation with state institutions.**

Both the R&D centre in Tarnów and other activities undertaken by the Group in the area of innovation are perfectly aligned with the national programme for sustainable development and the Strategy for Responsible Development prepared by Prime Minister Mateusz Morawiecki. Obviously, we would not be able to carry out such far-reaching projects without the support of state institutions and a number of legislative measures taken, for instance, by the Ministry of Science and Higher Education, which provide for stepping up activities aimed at the commercialisation of research and partnerships between science and business.

**Let's talk about Idea4Azoty. In what way is it different from other acceleration programmes?**

What makes it unique is that it is the only programme of this type on the market that goes beyond financial support. We offer a mix of support options for potential beneficiaries. These might include legal assistance, mentoring, commercialisation support, or the possibility of testing a product or solution using our facilities or laboratories before we even talk about industrial implementation. In other words, the Idea4Azoty programme comprehensively bridges the gap that exists on the Polish market between ideas and industry.

## How popular is the programme?

It attracts a lot of interest. We have already completed the first evaluation of applications and we are receiving new ones because, as you might remember, applications are accepted on an ongoing basis. Once a month, our team reviews the projects and decides which should be proceeded with at the Grupa Azoty Group.

## Can Idea4Azoty serve as a driving force in the development of new areas of activity for the Group?

It can and I hope it will. I also count on good projects for new chemical technologies emerging as part of the programme, because chemistry is the core industry of our Group. Personally, I feel we could do more as regards good new chemical projects.

With financial support from the National Centre for Research and Development, in the coming years our experts from the Kędzierzyn-based facilities will be able to engage in creating technologies for the production of specialty esters. The project involves development work on a pilot line, where a new technology will be applied on a pilot-plant scale to obtain batches of product prototypes. Following that, industrial-scale production will be launched. One advantage of the new plasticizers is their good performance characteristics, such as improved durability. Moreover, the planned production will have a reduced environmental footprint.



We are also interested in cooperation with promising start-ups. Grupa Azoty is running a modern accelerator programme Idea4Azoty, which provides a platform for sharing highly innovative ideas and combines crowdsourcing, networking and the start-up community. The project brings together the potentials of academic and research institutions and business. Idea4Azoty is the first initiative of this type on the Polish market. Its beneficiaries will include not only the chemical industry, but also providers of new technologies and services in such areas as environmental protection, agriculture, engineering, power generation, materials science, and biotechnology. Applications may be sent via the website [www.idea4azoty.pl](http://www.idea4azoty.pl).

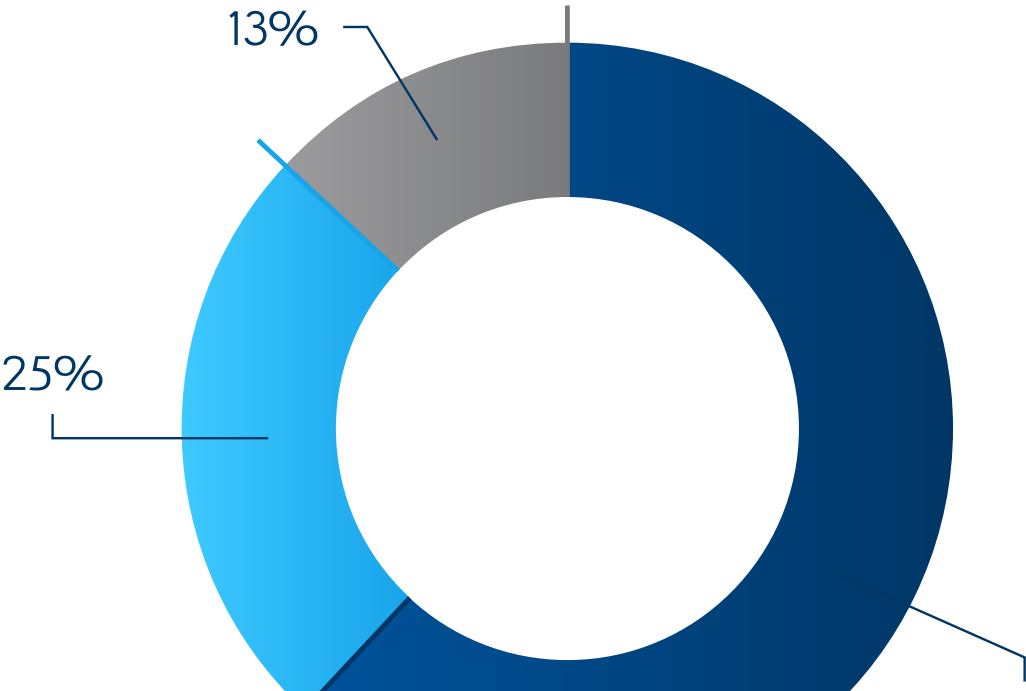
## About the programme

In the first half of 2018, we signed a letter of intent with one of the programme's originators ScienceBioTech of Wrocław to develop and implement a technology for the production of modular osteotomy plates. The new solution is expected to replace the currently used techniques for stabilising fractured bones, and for the Group it creates an opportunity for expanding into new areas.

Other projects submitted under the programme offered ideas for the Grupa Azoty Group's principal business in such areas as advanced materials, modern fertilizer products, and environmental technologies and solutions.

The launch of the accelerator programme helped to step up the consolidation of our Group's research and development activities. Representatives of our key companies exchange information on planned research and joint ventures on an ongoing basis.

Types of beneficiaries





## BEST PRACTICE

*3D printing is one of the fastest-growing new technology industries. This is largely due to the availability of more and more durable but less expensive materials. With 3D printers, plastics can be used to make components not only for toys, but also for articles with much more serious applications. 3D-printed components are now used in the automotive, aerospace and clothing industries, and many more. In 2017, Grupa Azoty commenced work to expand its product range with polyamide 6-based materials for 3D printing.*





STRENGTHENING THE MARKET POSITION

## Financial performance

[IR - Results presentation]

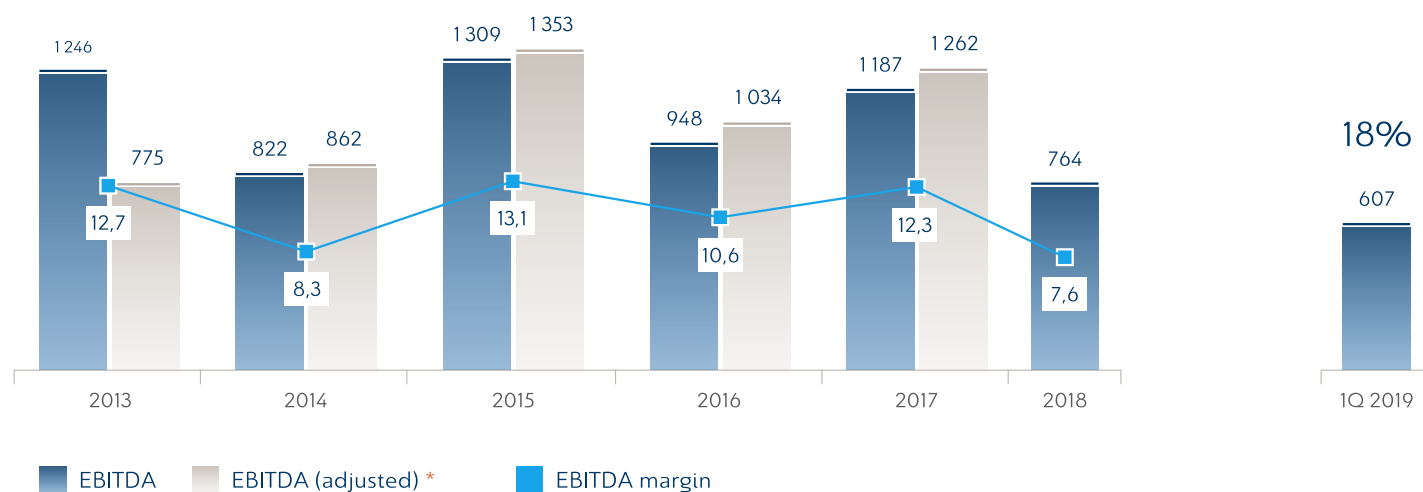
The Group's financing structure is adjusted to its needs and enables it to implement key investment projects. The main objective is to ensure long-term financial security and full internal compatibility of all financing sources used by the Group.

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- Consolidated revenue was PLN 9,998.967m (up **4% year on year**)
- EBITDA totalled PLN 764,442m (down **35.6% year on year**)
- Consolidated net profit came in at PLN 7,650m (**down 98.4% year on year**)
- The Group also reported a good debt ratio level, with net debt/EBITDA at 0.3

(PLNm)



\* 2013: adjusted for a gain on the acquisition of Grupa Azoty Puławy, Grupa Azoty Siarkopol and AIG, and for an impairment loss on the POM unit.

2014: adjusted for an impairment loss on the phthalic anhydride unit.

2015: adjusted for an impairment loss on the benzene-derived C-none, fats processing and carbon disulfide units.

2016: adjusted for impairment losses on AIG receivables and deposits and on the fats processing unit.

2017: the fats processing unit. In 2017, EBITDA and net profit were adjusted for impairment losses on the fats processing unit, AIG, Elektrownia Puławy power plant and sulfur deposits.

In 2018, the results were adjusted for impairment losses on the fat processing unit, and net profit was additionally adjusted for the effect of loss of control over AFRIG S.A.

## Grupa Azoty Group's strategic financial targets and actual performance:

	Strategic target	2018 actual	2017 actual
EBIT margin	8%	0.8%	6.2%
EBITDA margin	14%	7.6%	12.3%
ROCE	10%	0.7%	6.1%
ROE	10%	0.1%	6.6%



See expert comment on the Grupa Azoty Group's financial position in 2018

With revenue up 4.0% year on year and cost of sales up 12.7%, the Group reported a gross profit. Year on year, gross profit dropped by PLN 567,218 thousand in 2018. Gross profit net of selling expenses and administrative expenses was PLN 121,573 thousand, that is PLN 606,866 thousand less than in 2017. In 2018, the balance of other income and other expenses was negative, at PLN (40,582) thousand, which had an adverse effect on EBIT. The latter amounted to PLN 80,991 thousand.

## Revenue

EBIT by segment	Agro Fertilizers	Plastics	Chemicals	Energy	Other
External revenue	4 904 051	1 561 648	3 113 955	252 977	166 000
Profit/(loss) on sales	(121 750)	133 825	182 644	(21 874)	(51 200)

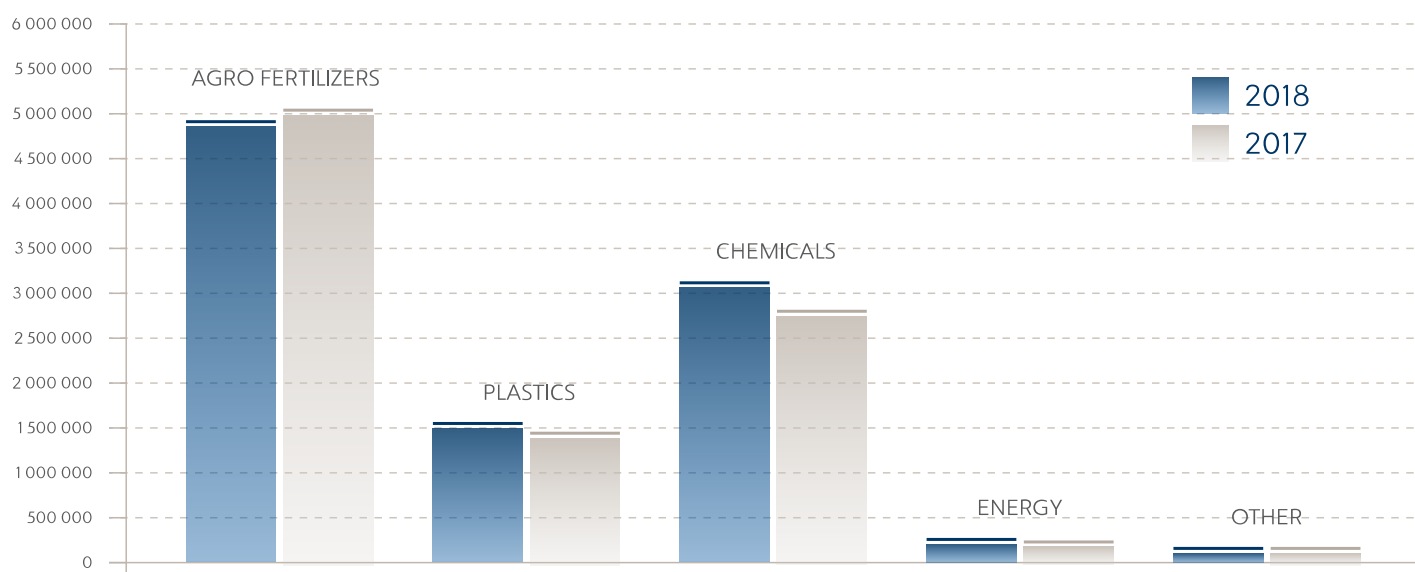
SCROLL TABLE

EBIT by segment	Agro Fertilizers	Plastics	Chemicals	Energy	Other
EBIT	(133 790)	133 892	168 462	(18 912)	(68 600)

Source: Company data.

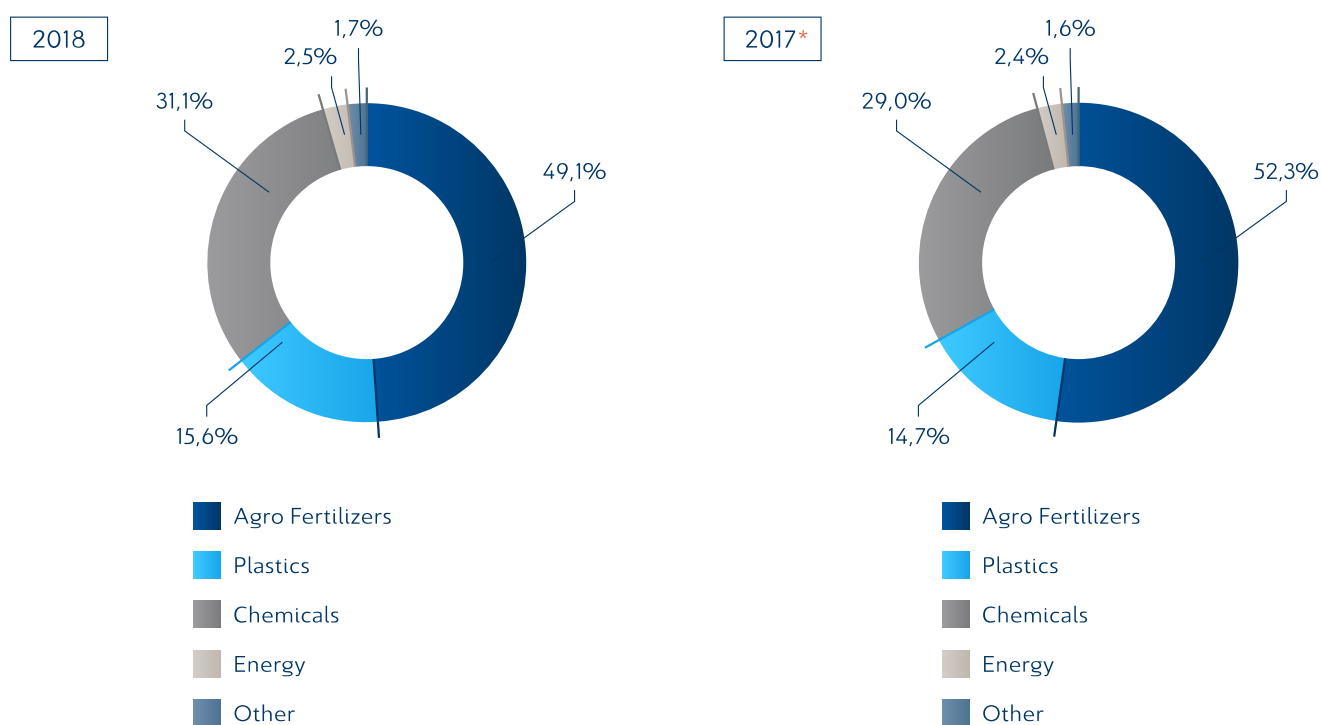
The Group's profit on sales of products in 2018 was driven primarily by the market situation in Agro Fertilizers, Plastics and Chemicals. Revenue in the Agro Fertilizers segment was down 2.5% year on year. An increase in revenue was reported in Plastics – up 10.0%, Chemicals – up 11.7%, Energy – up 9.9%, and Other Activities – up 9.7%.

## Revenue reported by each segment



Source: Company data.

## Revenue structure by segment



Source: Company data.

The shares of individual segments in total revenue changed slightly compared with 2017, with increased contributions from Plastics (up 0.9pp), Chemicals (up 2.1pp), Energy (up 0.1pp) and Other Activities (up 0.1pp), and a lower contribution from Agro Fertilizers (down 3.2pp).

## EBIT

The Group's EBIT in 2018 came in at PLN 80,991 thousand. The balance of other income and other expenses was negative, at PLN 40,582m, which had an adverse effect on EBIT. EBIT margin in 2018 was 0.8%, compared with 6.2% in the previous reporting period.

## EBITDA

The Group earned EBITDA of PLN 159,971 thousand and a net profit of PLN 171,064 thousand in 2018. Year on year, EBITDA fell by PLN 85,038 thousand and net profit dropped by PLN 183,729 thousand. In line with the Grupa Azoty Group's strategy for 2013–2020 revised in May 2017, the Group's strategic target is to achieve EBITDA margin of 14%.

## Consolidated data

Item	2018	2017*	Change	Change %
Revenue	9 998 967	9 617 495	381 472	4,0
Cost of sales	(8 406 424)	(7 457 734)	(948 690)	12,7
<b>Gross profit</b>	<b>1 592 543</b>	<b>2 159 761</b>	<b>(567 218)</b>	<b>(26,3)</b>
Selling and distribution expenses	(658 602)	(673 555)	14 953	(2,2)
Administrative expenses	(812 368)	(757 767)	(54 601)	7,2
<b>Profit on sales</b>	<b>121 573</b>	<b>728 439</b>	<b>(606 866)</b>	<b>(83,3)</b>
Net other income/(expenses)	(40 582)	(131 225)	90 643	(69,1)
<b>Operating profit</b>	<b>80 991</b>	<b>597 214</b>	<b>(516 223)</b>	<b>(86,4)</b>
Net finance income/(costs)	(53 683)	(36 824)	(16 859)	45,8
Share of profit of equity-accounted investees	13 092	16 015	(2 923)	(18,3)
<b>Profit before tax</b>	<b>40 400</b>	<b>576 405</b>	<b>(536 005)</b>	<b>(93,0)</b>
Income tax	(32 750)	(87 579)	54 829	(62,6)
<b>Net profit</b>	<b>7 650</b>	<b>488 826</b>	<b>(481 176)</b>	<b>(98,4)</b>
<b>EBIT</b>	<b>80 991</b>	<b>597 214</b>	<b>(516 223)</b>	<b>(86,4)</b>
Depreciation and amortisation	683 451	589 627	93 779	15,9
<b>EBITDA</b>	<b>764 442</b>	<b>1 186 886</b>	<b>(422 444)</b>	<b>(35,6)</b>

\*Source: Company data.

## Structure of assets

In 2018, the Group's assets rose to PLN 14,160,469m, that is by PLN 2,422,425m relative to the end of 2017. Year on year, the most significant changes in assets included:

- PLN 885,891 thousand increase in property, plant and equipment,
- PLN 367,309 thousand increase in intangible assets,
- PLN 500,683 thousand increase in inventories,
- PLN 465,485 thousand increase in trade and other receivables.

Item	2018	2017	Change	Change %
<b>Non-current assets, including:</b>	<b>9 886 441</b>	<b>8 069 981</b>	<b>1 816 460</b>	<b>22,5</b>
Property, plant and equipment	7 665 639	6 799 748	885 891	13,1
Intangible assets	763 064	395 755	367 309	92,8
Goodwill	581 436	32 468	548 968	1 690,8
Perpetual usufruct of land	470 178	476 616	(6 438)	(1,4)
Other receivables	185 397	137 850	47 547	34,5
Equity-accounted investees	89 496	111 059	(21 563)	(19,4)
Deferred tax assets	75 579	69 583	5996	8,6
<b>Current assets, including:</b>	<b>4 274 028</b>	<b>3 668 063</b>	<b>605 965</b>	<b>16,5</b>
Trade and other receivables	1 553 909	1 088 424	465 485	42,8
Inventories	1 503 897	1 003 214	500 683	49,9
Cash and cash equivalents	846 532	1 085 885	(239 353)	(22,0)
Property rights	261 767	188 887	72 880	38,6
Current tax assets	67 217	24 248	42 969	177,2
<b>Total assets</b>	<b>14 160 469</b>	<b>11 738 044</b>	<b>2 422 425</b>	<b>20,6</b>

\*Source: Company data.

## Structure of equity and liabilities

Year on year, the most significant changes in equity and liabilities in the reporting period included:

- PLN 120,821 thousand decrease in equity,
- PLN 1,215,885 thousand increase in non-current and current liabilities under borrowings,
- and PLN 829,090 thousand increase in trade and other payables.

Item	2018	2017	Change	Change %
<b>Equity</b>	<b>7 328 226</b>	<b>7 443 407</b>	<b>(115 181)</b>	<b>(1,5)</b>
<b>Non-current liabilities, including:</b>	<b>3 556 776</b>	<b>2 336 621</b>	<b>1 220 155</b>	<b>52,2</b>
Borrowings	2 488 353	1 564 879	923 474	59,0
Employee benefit obligations	394 677	336 781	57 896	17,2
Deferred tax liabilities	342 790	177 588	165 202	93,0
Provisions	143 772	122 740	21 032	17,1
Government grants received	136 002	90 585	45 417	50,1
<b>Current liabilities, including:</b>	<b>3 275 467</b>	<b>1 958 016</b>	<b>1 317 451</b>	<b>67,3</b>



Item	2018	2017	Change	Change %
Trade and other payables	2 598 289	1 769 199	829 090	46,9
Borrowings	362 620	70 209	292 411	416,5
Other financial liabilities	198 138	31 484	166 654	529,3
Employee benefit obligations	45 630	42 316	3 314	7,8
Provisions	44 425	29 805	14 620	49,1
Current tax liabilities	18 178	8 916	9 262	103,9
Government grants received	7 999	6 087	1 912	31,4
<b>Total equity and liabilities</b>	<b>14 160 469</b>	<b>11 738 044</b>	<b>2 422 425</b>	<b>20,6</b>

\*Source: Company data.

## Consolidated statement of changes in equity

### Operating cash flow

In 2018, the Group generated positive net cash from operating activities of PLN 1,082,530 thousand. The amount mainly included net profit before depreciation and amortisation, impairment losses, an increase in trade and other payables, as well as a decrease in inventories and trade and other receivables.


	Note	Jan 1–Dec 31 2018	Jan 1–Dec 31 2017
<b>Cash flows from operating activities</b>			
<b>Profit/(loss) before tax</b>		40 400	<b>576 405</b>
<b>Adjustments for:</b>		764 441	<b>703 765</b>
Depreciation and amortisation		683 451	589 672
(Reversal of)/impairment losses on assets	4, 10	(30)	77 981
Loss on investing activities		73 412	10 860
Gain on disposal of financial assets		(9 486)	-
Share of profit of equity-accounted investees		(13 092)	(16 015)
Interest, foreign exchange gains or losses		29 977	41 802
Dividends		(291)	(677)
Fair value loss on financial assets at fair value		500	142
		<b>804 841</b>	<b>1 280 170</b>
Increase in trade and other receivables	32	(163 292)	(80 423)
Increase in inventories	32	(237 232)	(121 063)
Increase in trade and other payables	32	405 637	172 253
Increase in provisions, accruals and government grants	32	150 247	41 808
Other adjustments		158 977	(7 119)
		<b>1 119 178</b>	<b>1 285 626</b>
<b>Cash generated from operating activities</b>			

	Note	Jan 1–Dec 31 2018	Jan 1–Dec 31 2017
Income tax paid		(36 648)	(171 401)
<b>Net cash from operating activities</b>		<b>1 082 530</b>	<b>1 114 225</b>
<b>Cash flows from investing activities</b>			
Proceeds from sale of property, plant and equipment, intangible assets and investment property		6 430	6 624
Acquisition of property, plant and equipment, intangible assets and investment property		(1 097 209)	(1 069 140)
Dividend received		13 108	13 270
Acquisition of subsidiary, net of cash acquired		(951 064)	(689 496)
Proceeds from sale of other financial assets		249 789	1 002 100
Interest received		19 643	22 218
Government grants received		4 901	1 120
Loans advanced		(3 252)	(1 225)
Repayments of loans advanced		112	1 446
Other proceeds		709	9 000
Other disbursements		(4 627)	(5 589)
<b>Net cash from investing activities</b>		<b>(1 761 460)</b>	<b>(709 222)</b>
<b>Cash flows from financing activities</b>			
Dividends paid		(144 345)	(100 313)
Proceeds from borrowings		973 489	332 634
Payment of borrowings		(341 894)	(90 133)
Interest paid		(76 094)	(52 369)
Payment of finance lease liabilities		(10 087)	(13 238)
Other cash used in financing activities		59 260	-
Other cash provided by financing activities		(26 879)	(22 091)
<b>Net cash from financing activities</b>		<b>433 450</b>	<b>54 490</b>
<b>Total net cash flows</b>		<b>(245 480)</b>	<b>459 493</b>
<b>Cash and cash equivalents at beginning of period</b>		<b>1 085 885</b>	<b>641 895</b>
Effect of exchange rate fluctuations on cash held		8 127	(15 503)
<b>Cash and cash equivalents at end of period</b>		<b>846 532</b>	<b>1 085 885</b>

## Download data to xls


Condensed consolidated statement of profit and loss and other comprehensive income

DOWNLOAD



Consolidated statement of financial position

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Consolidated statement  
of cash flows

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Consolidated statement  
of changes in equity

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See how we delivered on our dividend policy objectives

[201-1]

In accordance with the Grupa Azoty's dividend policy resulting from the updated strategy for 2013–2020, the company decided not to set the lower limit for the dividend payout ratio and to maintain the upper limit at 60%.

In 2018, Grupa Azoty distributed profit earned in 2017. The amount of profit allocated for distribution was PLN 123,994.355 thousand (PLN 1.25 per share). The dividend record date and the dividend payment date were set for July 25th 2018 and August 8th 2018, respectively.

## Dividend paid out in 2008–2018

Year for which dividend was paid	Dividend record date	Dividend payment date	Profit earned	Total dividend	Dividend per share
2008	Jun 26 2009	Part 1: Aug 31 2009	PLN 61,935,000	PLN 39,898,749.42	PLN 1.02
		Part 2: Nov 6 2009			
2012	Apr 22 2013	May 24 2013	PLN 250,692,000	PLN 148,793,226.00	PLN 1.50
2013	Jun 18 2014	Jul 9 2014	PLN 44,117,000	PLN 198,839,096.80	PLN 0.20
2015	Jun 20 2016	Jul 11 2016	PLN 209,055,000	PLN 83,324,206.56	PLN 0.84
2016	Aug 4 2017	Aug 23 2017	PLN 224,775,000	PLN 78,364,432.36	PLN 0.79
2017	Jul 25 2018	Aug 8 2018	PLN 354,793,000	PLN 123,994,355.00	PLN 1.25

Source: Company data



See how our shares performed on the stock exchange

At the close of the last trading session in 2017, Grupa Azoty shares traded at PLN 69.60. Until mid-January 2018, the price went up sharply to PLN 76 and subsequently went down to around PLN 65 in the first ten days of February, marking a clear downward trend. The declines not only persisted but also dramatically accelerated in the following months of 2018, with only few tentative trend reversals. At the beginning of the second half of 2018, the stock price stabilised in the range PLN 42 – PLN 44, to go down to PLN 36 – PLN 38 in August and September 2018. The beginning of the fourth quarter of 2018 saw the price plummet to PLN 22 per share, the level last seen in 2011. The decrease was largely attributable to higher prices of energy carriers (gas and electricity), and CO<sub>2</sub> emission allowances, as well as to fertilizers oversupply. Another important factor was the sell-out of the shares by emerging market funds as part of their portfolio restructuring following FTSE's reclassification of Poland to developed markets. The relatively low free float added to the adverse price fluctuations. After the local minimum, the rebound pushed the price back to around PLN 30, and temporarily to almost PLN 35. This short-lived peak was accompanied by record trading volumes following

the reclassification of Grupa Azoty to the MSCI GLOBAL SMALL CAP INDEXES – MSCI POLAND INDEX as of November 30th 2018. At the end of 2018, the stock price was PLN 31.18 and rose to PLN 35 at the beginning of 2019.

## Grupa Azoty share price in 2018



2014: adjusted for an impairment loss on the phthalic anhydride unit.

Grupa Azoty Police started 2017 on the stock exchange with a trading price of PLN 20.90, which was the year's high. The stock price remained stable within the PLN 19.25 – PLN 20.60 range throughout the first quarter of 2018, with the trend continuing into the first half of the second quarter. In the second half the price fell to PLN 17.25 and then to PLN 16.50 at the end of the first month of the third quarter of 2018. It edged up to PLN 19.00 in the second month of the third quarter, but receded again in the third month, to PLN 16.75. From the end of September to the beginning of November, the price dropped sharply, hitting the year's low of PLN 12.00 on November 2nd. It rebounded in the final month of the fourth quarter and reached PLN 13.50 at the end of year.

## Grupa Azoty Police share price in 2018



As at December 28th 2018 (Friday), Grupa Azoty Puławy's stock traded at PLN 67.60, down 59.88% on the closing price from January 2nd 2018, which was PLN 168.50. Over the same period, the WIG index declined 13.93%. The lowest price of Grupa Azoty Puławy's stock (PLN 67.00 per share) was recorded on December 27th 2018, while the highest price, of PLN 168.50 per share was seen on January 2nd 2018. As at the end of December 2018, the company's market capitalisation was PLN 1,292m.

## Grupa Azoty Puławy share price in 2018





The Grupa Azoty Group's consolidated financial results are available to the public. As required by the applicable regulations, we make our accounts available to all stakeholders. Our financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as endorsed by the European Union, which are consistent with the interpretations approved by the International Accounting Standards Board. The Group's full consolidated financial statements are available on [our website](#).



See the results of our companies

Grupa Azoty Puławy

ZOBACZ WYNIKI

Grupa Azoty Police

ZOBACZ WYNIKI

Grupa Azoty Kędzierzyn

ZOBACZ WYNIKI

Grupa Azoty S.A.

ZOBACZ WYNIKI



See notes to the financial statements

[Consolidated-financial-statements-2018.pdf](#)







ENSURING PRODUCTION SAFETY TO PEOPLE AND THE ENVIRONMENT

## Ensuring product quality and safety in the value chain

[103-2] [413-2]

The products and materials produced by the Grupa Azoty Group are sold, inter alia, to food producers and farmers. Ensuring their highest quality is therefore of utmost importance as it has a direct impact on the safety and health of the consumers of food products made of crops grown by our customers.

[416-2]

In 2018, there were no incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services on customers. At the Grupa Azoty Group, we are all committed to building the strength of our brand, realising that the quality of our product and service portfolio is the hallmark of the entire Group and each of its members. We believe that a way to ensure that production continuously satisfies the highest-quality standards is highly-qualified personnel, who can rely on well-proven management systems to discharge their responsibilities. The Group pursues a management policy which guarantees that strategic goals are achieved in reliance on an integrated management system conforming to international standards.

[416-1]

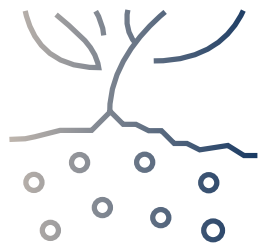
The operating priorities: high quality and care for technical safety and the environment, are effectively monitored. The integrated management system is structured around the principles of: giving priority to customers, reducing environmental losses and the

risk of hazards, and working on continuous improvement.

One of the basic principles underlying our operations is responsibility for all activities related to the manufacture of products across the entire supply chain. Therefore, as part of our membership in Fertilizers Europe, we run the Group-wide Product Stewardship programme, based on international regulations and quality standards. Under the programme, all the leading companies of the Grupa Azoty Group are obliged to ensure that their fertilizer products, as well as all raw materials and intermediates used in their production, are processed, transported, stored, distributed and used in a responsible manner, causing no harm to human health and safety or to the natural environment. In 2018, 100% of our key product categories were assessed for their potential impact on consumer health and safety and on the natural environment. The Product Stewardship certificate for the Grupa Azoty Group is valid until 2020.

**SEE SELECTED SUSTAINABILITY MANAGEMENT SYSTEMS OF OUR COMPANIES** —————

Food security at Grupa Azoty:



Offering fertilizers supporting efficient and environmentally-friendly crop production to make agriculture profitable and guarantee the supply of affordable food

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Contributing to the security of food supply, thereby supporting human development and reducing poverty

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Preventing degradation of soil and restoring soil to original condition with a view to achieving wider environmental goals, such as prevention of desertification

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Eliminating (wherever possible) or mitigating the negative environmental impacts of fertilizers and agricultural production

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The key document in that area is the Group-wide Grupa Azoty Food Safety Policy. Implementation of this policy is ensured through:

- Ongoing monitoring of the parameters affecting the quality and safety of products,
- Maintaining compliance with high standards of hygiene at the stages of production, storage and distribution,
- Consistently upgrading and improving the production infrastructure and technology,
- Building health and safety awareness among the staff,
- Managing internal and external communication so as to exchange information about hazards to product safety in the food chain.

[419-1]

In 2018, no penalties were imposed on any of the Grupa Azoty Group companies for non-compliance with the laws and regulations regarding the supply and use of products at any stage of their life cycle.

## Ensuring safety of our products

[413-2] [304-2]

Our mission is to “create value for Grupa Azoty and the national economy by delivering safe, useful and innovation-driven chemical products”. “Safe” is the very first adjective we use to describe our products, as safety does indeed come first in all aspects of our business.

The key document governing production safety across the Grupa Azoty Group is the EU REACH (Registration, Evaluation and Authorisation of Chemicals) Regulation. We fully comply with its requirement to register manufactured or imported chemical substances and assess their safety for humans and the environment. Under the Regulation the Group companies are required to provide information on the safe use of substances on their own or in mixtures (as part of other products); such information is communicated down the supply chain to downstream users by means of a mandatory document form (material safety data sheet).

All Grupa Azoty Group companies comply with the duty to register manufactured substances, and have prepared and published appropriate material safety data sheets (or equivalent documents) in accordance with the REACH Regulation for all products they place on the market.

We also pay particular attention to ensuring safe transport of manufactured intermediates and products. When transporting particularly hazardous materials, we apply the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR, L'Accord européen relatif au transport international des marchandises dangereuses par route). With the safety of local communities and the environment in mind, our companies provide support for their trading partners in the event of accidents in transport of hazardous materials. Grupa Azoty, Grupa Azoty Police and Grupa Azoty Puławy are part of the SPOT System of Assistance in Transport of Hazardous Materials, which was established to improve the safety of hazardous materials transport in Poland, and in case of any incidents – to facilitate effective elimination of accident consequences by joint efforts and measures of the national rescue and fire services and the SPOT members.

All companies of the Grupa Azoty Group have the necessary monitoring systems, safeguards and procedures in place to prevent accidents and to contain their consequences. These include preventive plans, production process controls, particularly hazardous work procedures, emergency/accident response plans, monitoring of health and safety at work, operational controls, assessment of compliance of the adopted safety objectives with applicable standards, and storage procedures.

[417-1]

We uniformly mark and provide complete descriptions of products made across all segments of our business. All our packagings bear information about the products they contain (product trade name), manufacturer (name and address) and product weight. In the case of fertilizers, in accordance with the EC Fertilizers Regulation the product information we provide includes designation of fertilizer type, the 'EC Fertilizer' marking (if applicable), content and form of nutrients, as well as directions for use and basic safety precautions. Packaging of hazardous products (substances and mixtures) bears precautionary labels in accordance with the requirements of EC CLP Regulation. If a fertilizer is sold in bulk, an accompanying document is made, containing all the required label elements.

The packaging of feed additives also bears a label compliant with the requirements applicable to feeds and feed additives, containing information on dosage and storage life.

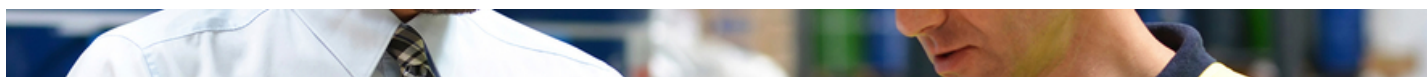
<sup>1</sup> Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers.

[413-2]

For chemical substances and mixtures classified as hazardous and falling within the scope of the Classification, Labelling and Packaging (CLP) Regulation, the disclosure requirements are broader. Their labels must include a product identifier, hazard pictograms and a signal word, as well as hazard and precautionary statements and storage and transport information.

[417-2]

In 2018, the Grupa Azoty Group reported no cases of non-compliance with the applicable regulations and voluntary codes concerning product information and labelling.







## The systems implemented by the Grupa Azoty Group companies include, inter alia:

- Industrial Accident Prevention Programme and High Risk Establishment Notification,
- PN-EN ISO/IEC 17025:2005 management system (general requirements for the competence of testing and calibration laboratories),
- Automotive industry quality management system implemented in accordance with the ISO/TS 16949:2009 standard,
- Management standard compliant with the Fertilizers Europe Product Stewardship programme.

In order to satisfy highest product safety standards and requirements, a system compliant with the requirements of the Codex Alimentarius standard, ISO 22000 and the applicable legal provisions has been implemented and is maintained at all Group companies whose products are sold to the food industry.

Grupa Azoty Puławy received another FSSC 22000 Food Safety System Certification, issued for 2018–2020. The auditors checked the entire food-grade carbon dioxide production process. Our production line was audited from the moment crude carbon dioxide is fed into the unit, through the entire purification process, until the tanker is filled and dispatched to the customer after the quality parameters have been confirmed. The carbon dioxide produced in Puławy proved once again to be of the highest quality.



ENSURING PRODUCTION SAFETY TO PEOPLE AND THE ENVIRONMENT

## Process efficiency and environmental impact

[103-2] [A300-1]

The chemical industry is one of the sectors with the strongest impact on the natural environment.

This area represents a particular challenge for the Grupa Azoty Group as a whole, and also imposes special responsibility on us. All our companies operate in compliance with the relevant environmental laws and regulations, and on the basis of appropriate permits. However, given the scale and scope of our activities as well as the potential we have, in our environmental protection efforts we want to go beyond what is strictly required by law. Every year, we spend millions on installations that reduce our negative impact on nature.



## BEST PRACTICE

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*Grupa Azoty collaborates with Reliability Solutions, a company established by graduates of the AGH University of Science and Technology. Our joint effort led to a test implementation of a modern PdM class RSIMS system at the V KGZ unit. Using modern artificial intelligence algorithms (e.g. Deep Learning), the system analyses vast amounts of data (e.g. sensor data, maintenance data, environmental data) to identify any indicators of deteriorating technical condition of the monitored machinery. The system monitors in real time about 300 process parameters of a unit and detects complex multi-level interdependencies which may indicate an imminent failure. The algorithms can also be used to identify probable causes of failures, allowing us to find the optimum way to operate the installations.*

*By applying PdM (Predictive Maintenance) techniques we can not only improve technical safety, but also reduce the number of unplanned stoppages, improve availability and, consequently, production efficiency, which is of paramount importance, especially in the case of critical equipment.*

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See what investments have been made by our Group companies to increase environmental efficiency

Grupa Azoty Police



## BEST PRACTICE

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*The premises of Grupa Azoty Police are home to approximately 180 bird species, including 90 breeding species. The sedimentation tanks, located in the area where the Oder river flows into the Oder Gulf of the Szczecin Lagoon and spanning as far as the network of channels that supply water from the Oder to the facilities located on the plant's premises, are the main habitat for the birds.*

*Many breeding sites of both large and small birds are located on the premises of production plants. Flat roofs of the buildings make nesting easier for common gulls or European herring gulls. Common house martins and Eurasian tree sparrows also build their nests there.*

*For several years, research was carried out on the company's premises, involving researchers, university students and high school seniors. The Ecoinspection Programme was set up at that time. As part of the Programme, birds inhabiting the company's premises were watched and counted. In total, 28 ecoinspections were completed over the five years.*

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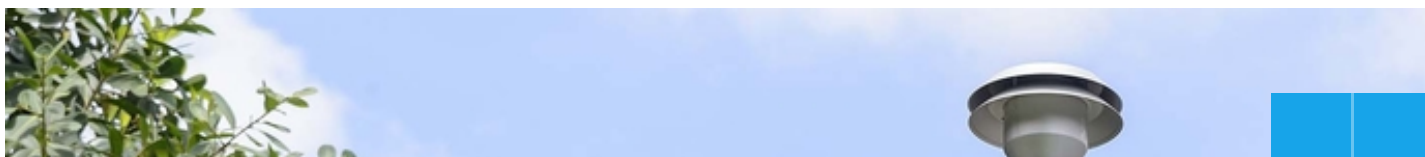
## BEST PRACTICE

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*The production and use of nitrogen fertilizers results in greenhouse gas emissions, but with technological advancements and rational management of energy and other resources their volumes, and thus the carbon footprint, can be reduced. Examples of efforts aimed at limiting the carbon footprint of our products include the project 'Support for Low-Carbon Agriculture Capable of Adapting to Climate Change Now and Within the 2030 and 2050 Timeframes (LCAgri)', co-financed by the National Centre for Research and Development. Its purpose is to improve efficiency of resource utilisation by implementing innovative low-carbon agricultural solutions and promoting sustainable application of mineral fertilizers by Polish farmers.*

*The project is carried out by a consortium of Grupa Azoty Puławy, the Institute of Soil Science and Plant Cultivation, the Institute of Agrophysics at the Polish Academy of Sciences, and the Environmental Protection Institute.*

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## BEST PRACTICE

*Grupa Azoty Puławy monitors the volumes of gaseous pollutants and particulate matter emissions. The emissions are monitored on a 24/7 basis at three measurement sites, whose location allows the company to assess the impact of pollutants generated during everyday operation of its units.*

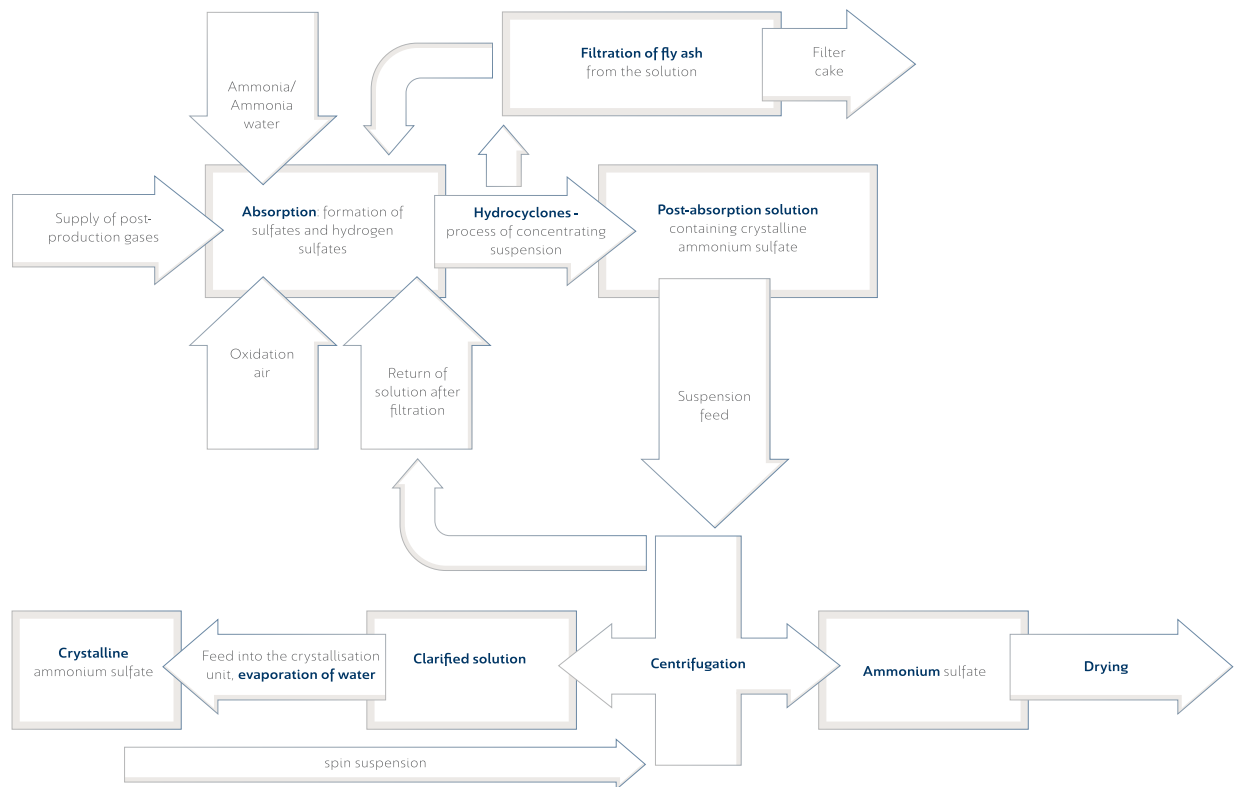


## Our investment projects in 2018:

- The 20F-125 absorption system was upgraded to reduce atmospheric ammonia emissions and cut down ammonia consumption in the urea production process. Before the project's implementation, ammonia emissions into the air amounted to 30.508 kg/h and after its completion their volume went down to 7.599 kg/h.
- More than PLN 250m was spent on the exhaust gas treatment unit at the EC II CHP plant. As part of the project, boilers were upgraded, a deNOx system was placed in operation, and a sulfur dioxide flue gas treatment unit was launched in May 2018. The new unit (ammonia-based method) enables achieving compliance with the current SO<sub>2</sub> emission parameters (<200 mg/m<sup>3</sup>) required by the IED Directive.
- The post-calcination gas distribution system was upgraded by building a post-calcination gas recirculation system. It returns hot post-calcination gases to the calcining furnace as secondary air, which reduces the amount of fuel consumed by the calcining furnace burner, as well as the amount of post-calcination gases leaving the calcination unit.



## Flue gas desulfurisation using the wet ammonia scrubbing method Process for producing crystalline ammonium sulfate



## Grupa Azoty Puławy



### BEST PRACTICE

*‘Tree for a Bottle’ is the company’s most popular project, initiated under the ‘Responsible Care’ programme and continued for 15 years now. The campaign combines environmental education with social activity and care for the natural environment and for people’s neighbourhoods. It is addressed to primary school and preschool children, who play in groups trying to collect as many empty plastic bottles as possible. The bottles are recycled, and trees received in return for the bottles are planted on the premises of the participating schools as reminders of the campaign. The best participating groups receive financial and non-financial prizes. The project partners include*

*The Municipal Services Company of Puławy and the Puławy County Governor Office. In 2018, 2,225 students from 31 educational institutions in the Puławy County took part in the action. 1,032,043 PET bottles were collected and 541 trees were planted.*

*Since the beginning of the campaign in 2003, children from the Puławy County have collected over 7.7m bottles (approximately 300 tonnes) and planted 4,420 trees.*



## Our investment projects and initiatives:

- Liquid fertilizers sold to customers are loaded to rail and road tankers. They do not require disposable packaging, which reduces the quantity of materials used (plastic film, bags, pallets) and the potential amount of waste.
- The wastewater collection and recirculation system at urea unit I helped reduce the amount of wastewater.
- The upgrade of the biological wastewater treatment and neutralisation plant has significantly improved the monitoring of parameters of biological wastewater treatment at the on-site treatment plant.
- The circulation water network in the ammonia department was upgraded.
- A new system for drainage of the decarbonisation sludge will enable recirculation of the drained water into the decarbonisation plant to reduce the consumption of water abstracted from the Kurówka river.

[307-1]





## MODERNISATION CHALLENGES – MAJOR ISSUES

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*In 2018, sanctions were imposed on Grupa Azoty Puławy for incidental exceedance of sulfur dioxide, nitrogen oxide and particulate matter emission limits. The limits were exceeded due to the stoppage of the flue gas desulfurisation unit caused by work on the first phase of its upgrade. By way of a decision dated March 28th 2019, a penalty of PLN 4,852,103 was imposed on the company. As the company is implementing projects that are to remove the cause of the penalty, at the company's request the penalty payment deadline was postponed until 2021 by decisions of June 11th 2019.*

*In 2018, no administrative financial penalties were imposed on Grupa Azoty Police, Grupa Azoty Kędzierzyn or Grupa Azoty for non-compliance with environmental protection laws.*

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In 2018, Grupa Azoty Puławy received a PLN 52.5m low-interest loan from the National Fund for Environmental Protection and Water Management for upgrading the steam generator at its CHP plant. The project will help reduce annual NOx emissions by 287 tonnes. Its total cost is PLN 84.1m.

### Grupa Azoty



## BEST PRACTICE

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*Grupa Azoty constantly monitors air quality at five sites in Tarnów. The locations of the measurement sites were selected to span the wide area that may be affected by particulate matter and gas emissions from the plant.*

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## Our investment projects:

- In 2018, work related to the launch of a new treatment plant for flue gas from the EC II CHP plant was nearing completion. The project, worth about PLN 90m, will have a positive effect on air quality in Tarnów and the Tarnów region. Concentrations of nitrogen dioxide and sulfur dioxide in exhaust gases will be reduced to less than 200 mg/Nm<sup>3</sup>, and particulate matter concentrations will drop to less than 20 mg/Nm<sup>3</sup>. Flue gas denitrification will be a two-stage process: the first stage will involve optimisation of the combustion process, and the second stage will consist in reducing nitric oxides content in flue gases using the NOx selective catalytic reduction (SCR) technology. The company has opted for the wet magnesium scrubbing method in the desulfurisation process because it produces magnesium sulfate, which is a valuable fertilizer. The project is co-financed under the Norwegian Financial Mechanism 2009–2014.
- In 2018, a project designed to enable collection of slag from the EC II CHP plant boilers was completed at Grupa Azoty. The slag may now be used to manufacture building materials, helping to reduce the amount of stored furnace waste.
- Projects were completed to reduce consumption of energy carriers in production processes and ensuring more efficient use of available resources, including 'Heat Recovery from the Beckmann Rearrangement Process – Phase 2' and 'Reduction of Steam Consumption in the Caprolactam Production Process'.
- A sanitary wastewater treatment system was constructed at the Dobrów chemical production plant.

## Grupa Azoty Kędzierzyn



## Our investment projects:

2018 saw the implementation of a number of environmentally friendly investment projects at Grupa Azoty Kędzierzyn. Key such projects included:

- Construction of a unit to produce esters for special applications,
- Reduction of excessive application of fertilizers through the Product Stewardship programme,
- Upgrade of the central mechanical and biological wastewater treatment plant at Grupa Azoty Kędzierzyn,
- Technical start-up of the new ester production unit. The project involved the construction of more than 100 equipment items, including a 16-tonne, 3.5 meter-wide R-222 reactor.



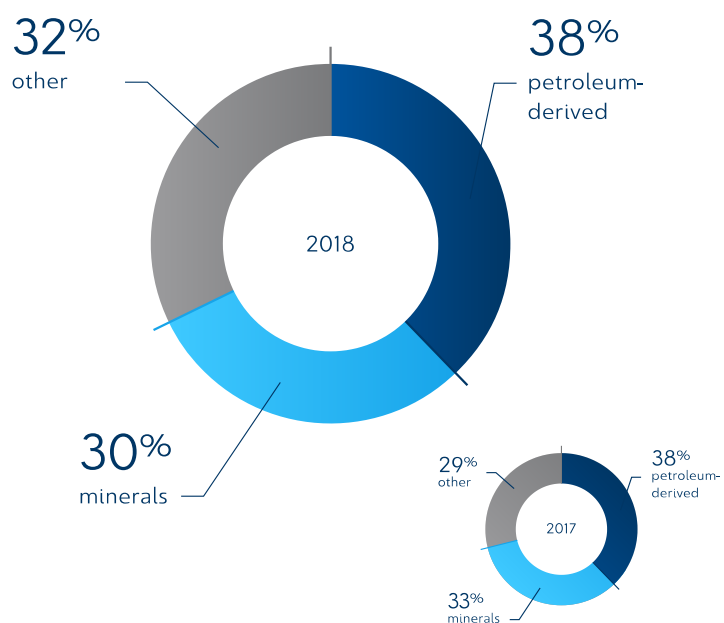
The activities conducted by the Grupa Azoty Group inherently involve consumption of natural resources, both for the purpose of generating energy for the organisation's internal needs and for the core business purposes, that is production of fertilizers and chemical products.

[301-1]

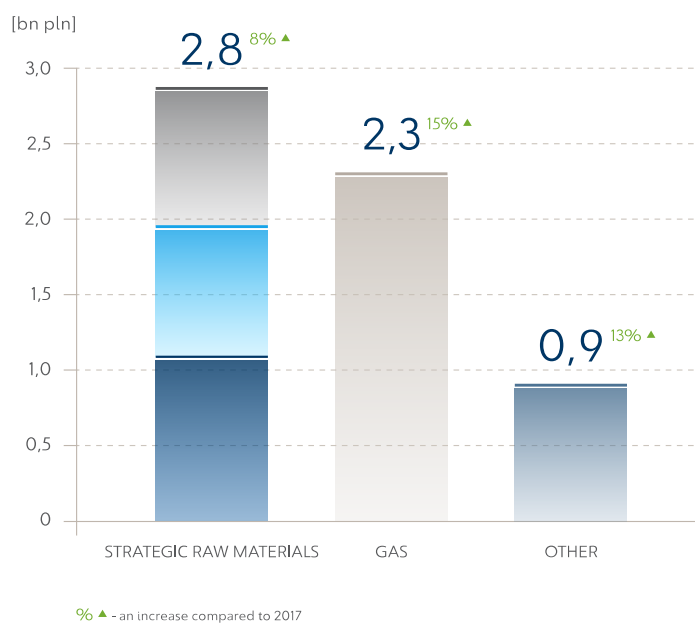
## Materials used by weight or volume



### Strategic raw materials



### Minerals and energy used



[103-2]

## Energy

At Grupa Azoty, the main source of heat and electricity for the production units is a coal-fired EC II CHP plant, which is planned to be gradually modernised. The scale and scope of any upgrade work will be adapted to the changing legal framework, including in particular regulations on environmental impacts, as well as changes in demand for energy carriers from the production units.



The plants of Grupa Azoty Kędzierzyn use energy carried by process steam with a pressure of 7 MPa, 1.5 MPa and 0.6 MPa, generated in six fine coal-fired boilers. Part of the energy is generated in four turbine generator sets, while the balance is purchased from external sources.

The energy requirements of Grupa Azoty Police are partly satisfied with internal production: electricity from power generators at two CHP plants, and steam generated at the EC II CHP plant and in sulfur boilers at the sulfuric acid division. Energy is also purchased from external sources. The company's fuel consumption reduction policy is based on an ISO 50001-compliant energy management system implemented in 2013.

Grupa Azoty Puławy consumes approximately 1.28 TWh of electricity and 14.1 PJ of heat per year. The company has its own CHP plant, which covers 100% of its heat needs and 46% of its electricity needs. The CHP plant is hard coal-fired. It generates the process utilities for the company's production units, including process steam, electricity, demineralised water, decarbonised water, process heat and heat for heating purposes, which is also supplied to the town of Puławy.



## BEST PRACTICE

*A new CHP plant is planned to be built at Puławy. It is expected to produce lower emissions of carbon dioxide, while NOx emissions will be reduced by the use of a flue gas desulfurisation system. The entire energy generation system is to be better aligned with the company's actual needs. It is anticipated that the project, with a budget of PLN 99m, will raise the efficiency of electricity and heat cogeneration through replacement of the 30 MWe TG-2 pass-out and condensing turbine with a new 37 MWe turbine as part of the power system upgrade. In addition, steam boiler no. 2 at the company's CHP plant is to be modernised in order to reduce NOx emissions. In 2018, Grupa Azoty Puławy received a PLN 52.5m low-interest loan from the National Fund for Environmental Protection and Water Management for its upgrade. The project's total cost is PLN 84.1m. Once modernised, this boiler and boilers no. 4 and no. 5 will be the principal generating units for the company's CHP plant.*

[302-1]

Energy consumption within the organisation, including information on the type of raw materials used

## Fuels used to generate electricity by category of energy carrier (GJ)

Category of energy carrier	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
	2017	2018	2017	2018	2017	2018	2017	2018
Steam heat*	1 322 900	0	443 996	0	0	0	0	0
Natural gas	0	0	0	0	1 700	3 567	0	19 200
MEAK	0	0	0	0	74 521	94 112	0	22 300
Mazut	0	1 836	0	3 758	0	0	0	22 300
Fine coal and thermal coal	1 321 524	1 343 509	1 470 495	1 675 403	2 041 315	2 794 558	4 101 007	5 926 000
Fuel oil	1 556	515	2 643	0	0	0	20 1510	0
<b>Total</b>	<b>2 645 980</b>	<b>1 345 860</b>	<b>1 917 134</b>	<b>1 679 161</b>	<b>2 117 536</b>	<b>2 892 237</b>	<b>4 121 158</b>	<b>5 973 000</b>

SCROLL TABLE

[302-1]

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
	2017	2018	2017	2018	2017	2018	2017	2018
Electricity, heat, cooling and steam purchased for consumption (GJ)	1 032 142	1 055 273	1 552 182	2 055 653	4 325 221	4 178 498	596 869 <sup>1</sup>	400 000
Electricity, heat, cooling and steam generated by the organisation (GJ)	6 892 410	7 038 550	9 483 949	8 858 582	17 120 249	17 111 710	3 030 675	3 064 000
Electricity, heat, cooling and steam sold by the organisation (GJ)	554 271	490 430	468 786	872 129	1 384 653	1 456 821	303 274	284 000
Total energy consumption within the organisation (GJ)	7 370 281	7 603 393	10 567 344	10 042 106	20 060 817	19 833 387	3 324 270	3 180 000
		up by approx. 3% on 2017		down by approx. 5% on 2017		down by approx. 1% on 2017		down by approx. 4% on 2017

SCROLL TABLE

<sup>1</sup> The volume of electricity purchases increased in 2017 as boiler no. 5 with the flue gas desulfurization unit was put in operation later than originally planned.

[302-4]

All Group companies take various measures to reduce their energy consumption.

## Total savings from reduced energy consumption and improved energy efficiency (GJ)

	Grupa Azoty Kędzierzyn	Grupa Azoty Police	Grupa Azoty Puławy	Grupa Azoty
Total savings from reduced energy consumption and improved energy efficiency (GJ)	0 <sup>2</sup>	143 665	280 000	123 100

<sup>2</sup> In 2018, projects contributing to significant energy savings were started but remained not completed. The energy savings were generated by projects completed in previous periods.

In 2018, we achieved savings through:

- Heat recovery from the Beckmann rearrangement process – Phase 2 – (Grupa Azoty – reduction of the costs of cooling circuits operation by using composite coatings in circulation pumps),
- Replacement of transformers in Młynownia and Pompownia T transformer stations (Grupa Azoty),
- Upgrade of the unit for CO<sub>2</sub> absorption in potassium carbonate solutions – line IV, V and I of the gas pre-treatment system at ammonia department I (Grupa Azoty Kędzierzyn) and combustion of gases from hydrogenation of benzene in cyclohexanol dehydrogenation furnaces (Grupa Azoty Kędzierzyn),
- Replacement of circulation water pumps (Grupa Azoty Kędzierzyn),
- Regular overhauls of coal mills (Grupa Azoty Police) and replacement of lighting columns, luminaires and clocks controlling their work (Grupa Azoty Police).

[302-3]

## Energy intensity ratio (EIR)

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
Year	2017	2018	2017	2018	2017	2018	2017	2018
Total	39.3	40.7	27.8	25.8	42.0	49.5	44.4	45.4
Relative to 2017	<b>up by 3.5%</b>		<b>down by 6.9%</b>		<b>up by 17.9%</b>		<b>up by 2.1%</b>	

[103-2]

## Water

Water is used by our plants primarily for production purposes. Throughout the Group, we seek to reduce its consumption as far as practicable, and where possible we implement water recycling solutions.

Grupa Azoty draws water from two sources: from the Dunajec river (surface water) and from Quaternary formations (underground water). Water is used primarily for cooling purposes and in technological processes, for drinking, as a raw material for production of special waters, and for fire protection purposes.

In recent years, Grupa Azoty has completed a number of investment projects supporting more efficient use of water and improving the safety of water and sewerage systems. We have closed down unprofitable units, modernised production and adapted it to the raised environmental standards and requirements. All these measures translated into a significant reduction in the amounts of wastewater produced.

Grupa Azoty recycles water so that it can be recovered and reused. The company supplies drinking water to third parties, both businesses and households. The drinking water treatment station has a HACCP system in place, under which the drinking water production process is monitored along the entire chain, from water intake, through treatment, to distribution.

Grupa Azoty Kędzierzyn draws water from groundwater sources. The company has in place a system for recirculation of treated wastewater and stormwater, which is then used to produce industrial water.

Grupa Azoty Puławy draws water from the Vistula and Kurówka rivers. Grupa Azoty Police uses sea water and surface water from the Oder and Gunica rivers. The water is used for industrial purposes, as a cooling agent, and for fire-fighting applications. In 2018, the amount of water abstracted from the Gunica was 729,000 m<sup>3</sup> higher than in 2017. The volume of inland water drawn depends on the salinity of water in the Oder river (internal sea waters). Water abstraction from the Oder fell by 18,663,200 m<sup>3</sup>.

[303-3]

## Water withdrawal by source (m<sup>3</sup>)

Water source	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		2019
	2017	2018	2017	2018	2017	2018	
Municipal water supplied by third parties	0.00	1 572 800.00	268 370,00	322 593.00	0.00	0.00	0.00
Groundwater	1 673 700.00	2 473 500.00	10.00	6.00	4 988 978.00	4 749 931.00	923 000.00
Other	1 839 600.00 <sup>3</sup>	0.00	0,00	148 664 295.00 <sup>4</sup>	0.00	0.00	0.00
Surface water	4 134 331.00	4 135 391,00	167 961 447,00	1 362 890.00	88 286 936,00	81 932 935,00	11 880 000.00
<b>Total</b>	<b>7 647 631.00</b>	<b>8 181 691.00</b>	<b>168 229 827.00</b>	<b>150 349 784.00</b>	<b>93 275 914.00</b>	<b>86 682 867.00</b>	<b>12 803 000.00</b>

SCROLL TABLE

<sup>3</sup> Water from Kopalnia Piasku Kotlarnia S.A.

<sup>4</sup> Internal sea waters



Our emissions

[103-2] [305-1] [305-4] [305-5] [305-7]

The activities of any chemical company in the world involve environmental emissions. At the Grupa Azoty Group, we follow the latest emission reduction technologies developed globally. We implement such solutions at our plants, consistently lowering our emission ratios.

At Grupa Azoty, in 2018 nitrous oxide emissions from the technical-grade nitric acid unit amounted to 401 Mg N<sub>2</sub>O, and the efficiency ratio was 1.47 (benchmark efficiency ratio: 1). In 2017, nitrous oxide emissions were 359 Mg N<sub>2</sub>O, and the efficiency ratio was 1.05 (benchmark efficiency ratio: 1).

In 2018, Grupa Azoty Puławy recorded an N<sub>2</sub>O emission ratio of 0.76 kg N<sub>2</sub>O/t HNO<sub>3</sub>, while in 2017 the ratio was 0.64 kg N<sub>2</sub>O/t HNO<sub>3</sub>. The ratios were significantly lower than the BAT recommendations for existing medium pressure units (1.85 kg N<sub>2</sub>O/t HNO<sub>3</sub>) and close to the benchmark ratio (about 1 kg N<sub>2</sub>O/t HNO<sub>3</sub>) used to calculate free allocation of emission allowances under the ETS.

Grupa Azoty Kędzierzyn operates modern nitric acid production units which meet BAT requirements and emit N<sub>2</sub>O volumes at benchmark level (2016). In 2018, the company emitted 392 Mg N<sub>2</sub>O and the emission ratio was 0.76 kg N<sub>2</sub>O/t HNO<sub>3</sub>. In 2017, the figures were 374 Mg N<sub>2</sub>O and 0.76 kg N<sub>2</sub>O/t HNO<sub>3</sub>, respectively.

Grupa Azoty Police emits only negligible amounts of N<sub>2</sub>O.



## BEST PRACTICE

*Nitrogen oxide is much more toxic than carbon dioxide. For several years, Grupa Azoty Police and Grupa Azoty Kędzierzyn have been producing a water solution of urea, which is injected before the catalyst in the exhaust system in engines. Thanks to the reactions provoked by the substance, the engine emits nitrogen and water vapour, which are neutral to the environment. In the case of heavy vehicles running on diesel, the product – sold in Poland under the brand name NOXy® – is the only effective means allowing a vehicle to meet European emission standards.*



## Direct greenhouse gas (GHG) emissions and volume expressed as CO<sub>2</sub> equivalent, by GHG category (t)

	Greenhouse gas category	2017	2018
Grupa Azoty Kędzierzyn	Carbon dioxide	1 172 569.00	1 163 313.00
	Nitrous oxide	111 608.00	116 857.00
Grupa Azoty Police	Carbon dioxide	1 653 948.00	1 450 644.00
	Nitrous oxide	0.00	0.00
Grupa Azoty Puławy	Carbon dioxide	3 273 991.00	3 313 366.00
	Nitrous oxide	171 882.00	197 858.00
Grupa Azoty	Carbon dioxide	1 053 743.00	971 748.00
	Nitrous oxide	106 884.00	119 626.00

[305-4]

## Greenhouse gas (GHG) emissions intensity CO<sub>2</sub> emissions volume (t)

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
	2017	2018	2017	2018	2017	2018	2017	2018
CO <sub>2</sub> emissions intensity ratio [t CO <sub>2</sub> /t NH <sub>3</sub> ]	1.57	1.59	1.82	1.82	1.67	1.68	1.52	1.87
N <sub>2</sub> O emissions intensity ratio [kg N <sub>2</sub> O/t HNO <sub>3</sub> ]	0.76	0.76	Nd	Nd	0.64	0.76	1.05	1.47

SCROLL TABLE

[305-5]

## Reduction of greenhouse gas (GHG) emissions (Mg CO<sub>2</sub>e)

	2017	2018
Grupa Azoty Kędzierzyn	58 110,00	81 773
Grupa Azoty Police	26 300,000,00	2 500

	2017	2018
Grupa Azoty Puławy	0,00	0
Grupa Azoty	11 535.00	52 354 <sup>1</sup>
<b>Total</b>	<b>95 945.00</b>	<b>136 627</b>

<sup>1</sup> Base year: 2012 (preceding catalyst replacement).

## Nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), and other significant air emissions, by type of substance (Mg)

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		C
	2017	2018	2017	2018	2017	2018	2017
<b>Ammonia (NH<sub>3</sub>)</b>	352.00	242.00	428.42	450.00	1 132.92	1 035.00	151.00
<b>Benzo-alpha-pyrene (C<sub>2</sub>OH<sub>12</sub>)</b>	0.0025	0.0025	0.0001	0.0001	0.0100	0.0048	0.0030
<b>Sulfur dioxide (SO<sub>2</sub>)</b>	1 272.00	1 051.00	2 795.33	1 894.00	942.56	1 678.00	1 632.00
<b>Carbon dioxide (SO<sub>2</sub>)</b>	1 007 830.00	965 554.00	1 438 908.23	1 169 727.00	1 718 853.23	1 799 379.00	1 086 947
<b>Sulfuric acid (H<sub>2</sub>SO<sub>4</sub>)</b>	0.00	0.0001	53.59	65.00	0.00	0.00	46.00
<b>Organic acids</b>	0.30	0.163	0.00	0.00	0.00	0.00	0.00
<b>Volatile organic compounds (VOC)</b>	34.00	39.00	4.56	4.39	37.60	44.00	0.00
<b>Methane (CH<sub>4</sub>)</b>	119.00	165.00	0.00	0.00	11.25	11.00	30.00
<b>Nitrogen oxides (NO<sub>x</sub>)</b>	890.00	4 853.00	1 090.53	837.00	2 420.22	2 036.00	5 389.00
<b>NO<sub>2</sub></b>		837.00		748.00		2 035.00	
<b>Nitrous oxide (N<sub>2</sub>O)</b>	374.00	392.00	0.00	0.00	620.28	710.00	499.00

SCROLL TABLE

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Cieplice
	2017	2018	2017	2018	2017	2018	2017
Melamine dust	0.00	0.00	0.00	0.00	11.13	11.00	0.00
Urea dust	35.00	20.00	117.75	104.00	28.92	29.00	0.00
Ammonium nitrate dust	76.00	88.00	0.00	0.00	387.58	391.00	172.00
Ammonium sulfate dust	0.00	0.00	3.75	0.00	198.23	7.47	0.00
Particulate matter	101.00	110.00	0.00	109.00	0.00	0.00	181.00
Particulate matter from fuel combustion	54.00	23.00	83.85	55.00	111.99	109.00	61.00
Carbon monoxide (CO)	304.00	63.00	118.74	281.00	133.63	167.00	82.00
Aliphatic hydrocarbons	14.0000	0.00	0.0200	17.24	10.6100	15.25	0.0000
Fluorine compounds	25.00	0.00	4.41	23.58	13.75	12.78	0.00
Other	399.00	398.00 <sup>2</sup>	0.00	0.00	88.070	73.00 <sup>3</sup>	2.00

<sup>2</sup> Metals from fuel combustion, chlorine (as HCl), other dust (absorbent, coal, dolomite), dioctyl terephthalate dust.

<sup>3</sup> Including sulfur trioxide, hydrogen cyanide, benzene, aromatic hydrocarbons, hydrated lime dust, fertilizer dust, chlorine, mercury, nickel, chromium, lead, zinc, copper.



Read about our water, wastewater and waste management

[\[103-2\]](#) [\[301-3\]](#) [\[304-1\]](#) [\[306-1\]](#) [\[306-2\]](#)

## Wastewater

[\[103-2\]](#)

Grupa Azoty's operations generate three types of wastewater – process wastewater, sanitary sewage, and spent cooling water and stormwater. Depending on the type, the wastewater is transported using the industrial wastewater system for treatment at the central wastewater treatment plant or the biological wastewater treatment plant.

- Industrial wastewater and sanitary sewage undergo mechanical and chemical treatment at the central wastewater treatment plant, and the treated water is then discharged into the Biała Tarnowska river.
- Industrial wastewater containing biodegradable substances is directed via drains and trestle-supported sewer lines for treatment at the biological wastewater treatment plant; from there, it is streamed for additional treatment to the wastewater

treatment at the biological wastewater treatment plant; from there, it is streamed for additional treatment to the wastewater treatment facility operated by the Tarnów Water and Sewage Utility.

- Stormwater and spent cooling water from Grupa Azoty's premises are transported by means of separate collectors via the retention pond, and then discharged through the Sutro weir into the Dunajec river. If a failure occurs and the wastewater contaminates the EF drain, the drain may be cut off completely and all of the wastewater may be pumped to the central wastewater treatment plant. It is also possible to direct the entire volume of wastewater generated by Grupa Azoty to the wastewater treatment facility operated by the Tarnów Water and Sewage Utility.

[306-1]

## Wastewater by discharge point (m<sup>3</sup>)

	Wastewater discharge point	2017	2018
Grupa Azoty Kędzierzyn	Rivers (Oder river)	5 563 175,00	4 756 343.00
Grupa Azoty Police	Rivers (Oder river)	34 462 323,00	32 242 661.00
Grupa Azoty Puławy	Rivers (Vistula river)	83 772 426.00	78 073 173.00
Grupa Azoty	Municipal wastewater treatment facilities	1 422 000,00	1 425 000.00
	Rivers (Biała, Dunajec)	4 208 000,00	3 641 000.00
Total		129 427 924.00	120 138 177.00

## Wastewater by treatment method (m<sup>3</sup>)

	Wastewater treatment method	2017	2018
Grupa Azoty Kędzierzyn	Biological treatment	2 402 297.00	3 020 880
	Central wastewater treatment plant (mechanical and chemical treatment)	2 402 297,00	3 020 880
	Piskorzowiec	5 563 175.00	4 756 343
Grupa Azoty Police	Central wastewater treatment plant (mechanical and chemical treatment)	34 462 323.00	32 242 661
Grupa Azoty Puławy	Biological industrial wastewater treatment plant	1 728 030.00	1 746 210
	Central wastewater treatment plant (mechanical and chemical treatment)	1 770 145.00	1 306 881
	Dawidagi	254 040.00	254 040
	Blackwater industrial wastewater treatment plant (biological treatment)	136 680.00	116 340
	Biological treatment (3rd degree)	83 772 426.00	78 073 173
Grupa Azoty	Biological industrial wastewater treatment plant	1 422 000.00	1 425 000

	Wastewater treatment method	2017	2018
	Central wastewater treatment plant (mechanical and chemical treatment)	3 790 525.00	3 641 000
Suma			124 847 065

[103-2]

## Waste

Most of the waste is recycled by the Group companies internally or by external service providers. We follow closed-loop economy trends, analyse the life cycles of our products, and investigate what further steps can potentially be taken in this area.

[306-2]

## Waste by disposal method (Mg)

Disposal method	Year	Grupa Azoty Kędzierzyn	Grupa Azoty Police	Grupa Azoty Puławy	Grupa Azoty
Storage	2018	12	272	1 571	0
	2017	16 985	1 205	265	0
Recovery by external service provider	2018	116 417	120 304	82 129	39 100
	2017	115 287	152 678	81 597	49 682
On-site recovery	2018	0	360 205	16	109
	2017	0	419 988	25	140
Transfer to third- party service providers	2018	116 741	120 450	82 108	60 801
	2017	115 471	152 936	81 610	62 477
Storage	2018	0	1 850 743	15 808	21 500
	2017	0	2 197 467	17 501	0
Neutralisation other than through storage by a third- party service provider	2018	154	87	97	17 600
	2017	0	257	13	464
Neutralisation other than through on-site storage	2018	0	1 847 193	0,03	0
	2017	0	1 357 811	0.05	0
Total	2018	233 324	4 299 254	181 728	139 110
	2017	247 743	4 282 342	181 011	112 763

[301-3]



## Percentage of reclaimed products and their packaging materials (by type of material)

	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
	2017	2018	2017	2018	2017	2018	2017	2018
Wood	16.00	16.00	16.00	16.00	16.00	16.00	16.00	24.02
Paper and cardboard	61.14	61.10	61.10	60.97	61.01	60.99	61.01	69.41
Packaging that held hazardous substances			30.00	38.89	30.09	40.09	29.93	106.09
Steel and sheet steel	51.01	51.00	51.00	51.61	51.02	51.02	51.11	123.69
Plastics	23.50	23.50	23.5	23.50	23.50	23.5	23.49	25.02
Multi-material packaging							20.00	53.62

SCROLL TABLE

[103-2]

## Biodiversity

Because of the scale of their operations and the size of their plants, some of the Group entities are located adjacent to protected areas, or have such areas under their management. We want to minimise the effect of our activities on the neighbouring wildlife areas. Over the years, we have demonstrated our ability to conduct industrial operations in a responsible and environmentally friendly manner.

[304-1]

Grupa Azoty leases an area of 4.56 ha covered entirely with flowing waters, which is required for the industrial infrastructure of a weir on the Dunajec river. The lessor is the Regional Water Management Authority of Kraków. The operations conducted in this area, which includes surface and underground water intake facilities as well as reservoirs feeding water to an underground municipal water intake point, pose no threat to biodiversity. Abstraction of water is subject to relevant permits which set the maximum quantities of water that may be drawn.

Grupa Azoty Police owns or holds perpetual usufruct rights to land adjacent to nature reserves (Białokrzew Kopicki, Olszanka, Uroczysko Święta, Świdwie) and Natura 2000 sites (Police Kanały, Zalew Szczeciński, Ostoja Wkrzańska, Ujście Odry and Zalew Szczeciński). In 2018, the company's emissions to air and water did not have a significant impact on the biodiversity of those reserves and sites.





## BEST PRACTICE

*There are also two active landfills on the company's premises: the iron sulfate landfill and the phosphogypsum landfill. The company has implemented and observes a strict process regime that minimises the landfills' impact on the environment. Since 1994, efforts have been made to introduce high growing vegetation at the landfill site. The landfill site is covered with trees, mainly aspen, acacia, hybrid willow, birch, populus, sambucus and pine trees. For a number of years, it has been a habitat for animals, such as beech martens, otters, stoats, foxes, roe deer, boars and about 100 species of birds.*

*Based on field observations, ornithologists from the University of Szczecin found the area adjacent to the landfill site (storage reservoirs of the wastewater treatment plant) to be comparable with the Świdwie reserve in terms of the number and diversity of bird species.*

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Grupa Azoty Kędzierzyn and Grupa Azoty Puławy are not located in or adjacent to any areas created or established under the Nature Conservation Act of April 16th 2004.

Of the four largest companies of the Grupa Azoty Group, Grupa Azoty Police is the only one whose operations could have a potential impact on biodiversity, due to its emissions. Grupa Azoty Police conducts its operations on the basis of legal permits and with due regard to established emission standards. In 2018, there were no incidents that could have a significant impact on biodiversity.





ENSURING PRODUCTION SAFETY TO PEOPLE AND THE ENVIRONMENT

## Occupational health and safety

[103-2] [403-2]

We are committed to ensuring that each and every day all our employees return home from work safe and sound. The complete safety of our staff is our topmost priority – the prohibition against working without adequate protective equipment is strictly observed across the Grupa Azoty Group.

Everyday workplace safety is based on procedures and enforcement of full compliance with their provisions. At the Grupa Azoty Group, we follow the highest OHS standards, requiring our employees to undergo mandatory training and take regular exams to check their knowledge of OHS-related issues. Apart from Group-wide solutions, each of our companies implements industry-specific policies to ensure the highest standard of safety.

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### No work-related fatal accidents at the Grupa Azoty Group in 2018

And no cases of occupational diseases at the Grupa Azoty

Group in 2016–2017 OHS monitoring is a multi-level process based on:

- Continuous monitoring of process parameters relevant to safety,

- Assignment of OHS oversight responsibilities to OHS management personnel of all levels,
- Periodic inspections,
- Periodic OHS assessments by OHS Committees.



See our OHS performance

[403-1] [403-2]

[N403-9]

## Number of people injured on the job by gender

	F	M
Grupa Azoty Kędzierzyn	1	7
Grupa Azoty Police	4	28
Grupa Azoty Puławy	9	18
Grupa Azoty	2	10

All accidents reported by Grupa Azoty Puławy in 2018 were minor accidents except for one serious incident.

[403-1]

The collective bargaining agreement at our Puławy plant was amended in 2018 by expanding the list of people eligible for additional remuneration and by modifying the employee remuneration rules.

Employees at all of our largest companies are represented by OHS committees. The compositions and remits of individual committees are similar. They include representatives of the employer (delegates from HR and OHS units and occupational physicians providing preventive care to employees) and of the employees (trade union delegates and social labour inspectors). OHS-related issues are comprehensively provided for in the Group's formal agreements with trade unions. At Grupa Azoty, safety-at-work issues are regulated in the Work Rules, and are regularly consulted with the company's social labour inspector and, once a quarter, discussed at meetings of the OHS committee. In the case of Grupa Azoty Kędzierzyn, relevant provisions are incorporated into the integrated management system. The Management Board holds regular monthly consultations with trade unions, while its individual members consult specific matters with labour organisations. At Grupa Azoty Puławy, OHS matters are addressed by the OHS committee and discussed at monthly meetings between trade unions and the Management Board. At Grupa Azoty Police, general OHS rules are covered by its collective bargaining agreement, while specific provisions are contained in internal regulations. Consultations are held during the OHS committees' meetings at least once a quarter.





## BEST PRACTICE

*Grupa Azoty ZAK has implemented a 5S system, which helps to create and maintain an ergonomic, clean and safe workplace. Also, the STOP Safe Behaviour Watch Programme has been launched, integrating safe behaviours into the company's organisational culture. 'Own' ambulance with a rescue team on board is available 24/7 to employees and visitors staying on the premises controlled by Grupa Azoty ZAK.*

*Twenty-six portable external defibrillators were purchased in 2017 and 2018, and selected employees were trained to operate the equipment. A general obligation to wear eye protection has been introduced for all employees and visitors at the production facilities.*

## Percentage of workforce represented in formal OHS committees

	2017	2018
Grupa Azoty Kędzierzyn	100%	100%
Grupa Azoty Police	100%	100%
Grupa Azoty Puławy	100%	100%
Grupa Azoty	100%	100%

All of the largest Grupa Azoty Group companies have in place CCTV, safeguards and procedures dedicated to preventing accidents which could put staff at risk of death or serious injury. They also maintain well-trained fire services capable of effective rescue operations, with additional support from supernumerary chemical rescue and technical rescue teams working in a continuous system.

Our commitment to OHS has been recognised by independent experts. The Grupa Azoty Group companies were distinguished with the 'Gold Card of Safe Work Leader', which is awarded to businesses that operate effective OHS management systems and have effective OHS prevention programmes in place.





## BEST PRACTICE

*Employee safety, both on the production floor and throughout the plant premises, is a key priority at the Grupa Azoty Group. At Grupa Azoty Puławy, we recorded a few serious accidents involving the collision of a bicycle with a car joining a main road from an internal access road. In order to prevent similar accidents in the future, we have changed the traffic control system by installing vertical stop signs at junctions with main roads and by marking the junctions with stop lines and stop signs painted on the road surface. So far the markings have been placed at the junctions where most accidents occur.*



## BEST PRACTICE

*Nearly 200 firefighters from four provinces took part in two-day rescue exercises held on the premises of Grupa Azoty Police. The purpose was to check whether the firefighters are prepared to respond to large-scale incidents like industrial fires. The Company Fire Brigade of Grupa Azoty Police also participated in the drill (codename "Azoty-18"), which was prepared and executed by order of the Commander-in-Chief of the State Fire Service. Firefighters from the provinces of Zielona Góra, Poznań, Wrocław and Szczecin rehearsed mock emergency scenarios using some 30 vehicles, including special rescue-from-height vehicles and chemical and environmental*



emergency response vehicles. The drill covered evacuation of employees at risk of electric shock from a tower with a height of approximately 50 metres, response to a leak from the ammonia unit, and rescue of a person trapped under phosphogypsum landfill.

*The Company Fire Brigade counts over 50 firefighters*

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## BEST PRACTICE

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*Grupa Azoty Police has the 'STOP Accidents' programme in place, which seeks to prevent risks by observing whether work is performed in safe conditions. Rewards were given to those employees who were particularly observant and demonstrated commitment to the project. With employee safety in mind, the '5 Minutes for Safety' project was run, consisting of short lessons dedicated to a selected OHS issue.*

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## BEST PRACTICE

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*A health promotion campaign including employee health checks was run as part of the annual Safety Days in 2018. The event also featured competitions for chemical emergency response teams and the presentation of awards to staff engaged in OHS prevention projects run under the 'STOP Accidents' programme.*

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OUR IMPACT ON THE SOCIAL AND ECONOMIC DEVELOPMENT OF THE EXTERNAL ENVIRONMENT

## We share knowledge

[[IR – Presentation of results]]

*Competitors do not even do a half of what Grupa Azoty does.*

*The company should continue to invest in its local community, enabling people to develop, gain an education, have broader ambitions, and live with dignity.*

”

A quote from a dialogue session

”

[103-2]

Prime quality specialisation in various fields of chemical technology is among our biggest assets. Many of our employees are top-of-the-line experts in their respective fields both at home and in Europe. We share our knowledge and experience with chemists from Poland's leading institutions of research and science.



Our key partner remains the prestigious New Chemical Syntheses Institute, which has for years been the first choice research facility for many Group companies. Our partnership involves a range of R&D and implementation projects pursued in Poland and abroad, as well as joint development and pilot launch of new products and manufacturing technologies. Examples include an upgrade and capacity increase at two production lines of Grupa Azoty Police's ammonia plant, upgrade of nitric acid units in Tarnów and Kędzierzyn-Koźle, and construction of a flue gas desulfurisation system at Grupa Azoty Puławy. Together with our partner, we are also working to develop smart fertilizers, that is new formulas tailored to the specific needs of various crops as well as the nutrient content in soils. Since it first began to work with the New Chemical Syntheses Institute, the Group has spent a total of over PLN 80m on joint research projects.



[Read more about the Chemical Syntheses Institute](#)

The New Chemical Syntheses Institute is among Poland's top research institutions in industrial chemistry. It was rated A in the most recent parametric evaluation, which confirms the very high quality of its scientific research. Its key source of revenue is applied research and implementation projects for the broad fertilizer industry. In recent years, it has spent in excess of PLN 120m to expand its innovative research and production facilities. The Institute conducts applied research in the area of large-scale chemical synthesis related to synthesis gas production, ammonia synthesis, catalysts, nitrogen compounds and nitrogen, phosphorus and compound fertilizers. It also works on the development of new bioeconomy and green chemistry technologies, including innovative biomaterials such as biodegradable polymers, which are made from renewable raw materials and are applied across many industries. The Institute is also a European leader of research into supercritical CO<sub>2</sub> extraction of phytochemicals.

In a joint project run in 2018, we designed a unit for comprehensive processing of waste streams containing sodium sulfate. The unit comprises two main processes: nanofiltration and electrodialysis, and produces a solution of sulfuric acid and sodium hydroxide suitable for industrial applications. A patent application has been filed, and the solution may be used in practice in the industrial sector.



## BEST PRACTICE

*In 2018, Grupa Azoty and the Faculty of Chemistry of the Jagiellonian University signed an agreement for scientific and research collaboration in the fields of chemical sciences, new materials and technologies, and environmental protection. Together with the University's researchers, we will run research projects and master's degree, doctoral and habilitation projects. Under the agreement, student and research internship programmes will be organised and employees will be part of advisory teams considering the contracted research projects.*





## BEST PRACTICE

*In November 2018, Grupa Azoty was a partner of Congress 590 in Jasionka. Our experts participated in panel discussions on raw material policy and implementation-based doctoral programmes. During the event, Wojciech Wardacki, President of the company's Management Board, spoke about the strategic role of raw materials, their impact on the Group's business and financial condition and the need to protect agriculture.*

We accept our share of responsibility for the future of our industry and for the quality of life and living conditions in the communities which host our operations. We develop new products, set new trends and influence the market and its environment, which is why we engage in the activities of numerous organisations with a global, national or local reach. Our representatives are invited to sit at the most important decision-making tables, for example at the World Economic Forum in Davos and thematic regional forums, while also being the first voice from Central Europe at the Royal Institute of International Affairs Chatham House in London, Europe's leading think tank.

For years, we have been a strategic partner of the Polish Chemical Industry Congress – one of the highest-profile industry events in Poland and the key forum for discussion and sharing of expertise in technological solutions, innovative concepts and strategies, implementation of capex projects, process safety, innovation, and the impact of the legal and economic environment on the industry. In 2018, we took part in the strategic debate 'Chemicals of the Future – Key Development Directions'.

We understand the importance of knowledge transfer between the Grupa Azoty Group and various actors involved in food production, sharing our knowledge with both farmers and agricultural consultants. At many levels we educate them on sustainable agriculture – relying on traditional, proven training channels, but also making use of the latest knowledge transfer technologies.





## BEST PRACTICE

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*Products made in Police and their applications in various types of crops were the main topics discussed during a seminar on modern soil fertilization methods that was held at Grupa Azoty Police's registered office in 2018. The training was attended by farmers from the provinces of Zielona Góra and Szczecin. It was their first visit to Grupa Azoty Police.*

*Participants were provided with data on fertilizers made by the company and were given a tour of the production line so that they could see the fertilizer granulation, drying and sieving process for themselves. Attended by 23 farmers, the seminar was a second meeting of this type between the fertilizer producer and its potential customers.*

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See how we support farmers

[203-1]

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*It is necessary to build the public's awareness of why fertilizers are needed to produce food.*

*The company provides plenty of training events, meetings and information materials on fertilizer application management. Farmers, especially those running large agricultural operations, are well trained.*

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A quote from a dialogue session

”

Driven by technological progress, the present-day economy needs comprehensive service. Taking good advantage of agricultural progress requires increasing levels of expertise which takes account of economical growth in yields and ensures proper quality of agricultural products and safety of the environment. At the Grupa Azoty Group, we want to help farmers and agricultural consultants to efficiently manage agricultural operations.

[203-1]

## We provide training

Together with our trading partners, we organise free training courses for farmers. Our experts share their knowledge of crop plants and the use and application of fertilizers. We explain specific soil and crop requirements. We always remain open to questions and we are happy to see the high attendance at our meetings.

Our training projects are supplemented with the Fertilizer Encyclopaedia, providing a wealth of knowledge, including understandably presented practical information not only about fertilizer characteristics but also about nutrients and soil. The website also contains current information on agricultural product prices and farm work schedules prepared by the Grupa Azoty Group's experts.

We also train our regional representatives through the Agroacademy project, run as regular meetings in various Polish cities and towns to educate them, both in theory and practical aspects, about fertilizers and their application. The meetings are an opportunity to exchange experiences from various regions of the country and to pass on farmer feedback, gathered by our sales representatives, on the products and promotional activities we have carried out.

## We initiate cooperation

At the Grupa Azoty Group, we know that a fast-changing and growing organisation needs to look for people who will be its strength in the near and more distant future. We want top talent to work for us, so we need to encourage and motivate the best candidates. It is therefore necessary to strengthen the Group's reputation of a professional employer. As a step towards this goal, we have launched the 'Grupa Azoty Brand Ambassador' programme, which aims to promote the brand in academic circles. A dynamic, creative ambassador representing us at the university will be responsible for raising interest in the Grupa Azoty Group's activities and building its positive image as an employer of choice.

The Grupa Azoty Brand Ambassadors will serve as a bridge between the Group and the academic community. Their tasks will include constant monitoring of the Group's activities in the industry media, providing information and support in the organisation of meetings, seminars, workshops, and promotional events. The Ambassadors will also participate in arranging stands during university job fairs and will become the key source of knowledge about the Grupa Azoty Group for their fellow students. In exchange for their service, the students will receive benefits such as monthly ambassador scholarships, public transport tickets and an opportunity to visit our facilities.

Candidates are accepted based on a completed recruitment form available at [grupaazoty.com](http://grupaazoty.com). Selected candidates will be invited for an interview.



### BEST PRACTICE

*In June 2018, postgraduate students of industrial process safety analysed the safety of the facilities in selected departments of our plant in Kędzierzyn-Koźle. The findings were presented at a meeting with employees of the production departments and members of Grupa Azoty Kędzierzyn's OHS and maintenance teams.*





## BEST PRACTICE

*In September 2018, our plant in Kędzierzyn Koźle became the patron of the Władysław Szafer Agricultural Education School Complex in Głubczyce, supporting mainly agriculture-related vocational classes. With over 200 graduates every year, the school additionally provides training courses to more than 100 farmers.*



## BEST PRACTICE

*In October 2018, we organised a third meeting between representatives of the Polish fertilizer industry, scientists and farmers on the experimental plots of Grupa Azoty Puławy. It was an excellent opportunity for more than 140*

*invited guests to discuss and ask questions about the use of different fertilizer combinations for particular crops. The main purpose of the workshop was to familiarise agricultural producers and consultants with the results obtained to date from the field research.*

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[203-1]

## We engage in research

Since 2015, we have been running a unique research project under the name 'Grounded in Knowledge', in which we offer testing of soil for nutrient content free of charge. As part of a three-year campaign, we set ourselves the goal of reaching almost 2,000 farms across Poland and collecting 28,000 soil samples at as many as 17 regional chemical and agricultural stations. As a result the farm owners can learn the actual nutrient requirements of their soil and plan the right fertilization strategy. In the 6th edition of the campaign, the Grupa Azoty Group reached nearly 3,000 farms across the country and collected almost 40,000 samples. The 6th edition of the programme was held in May 2018, attracting almost 1,000 participants.

'Grounded in Knowledge' is very popular among farmers, but it is also appreciated by independent industry experts.

## We embrace space technologies

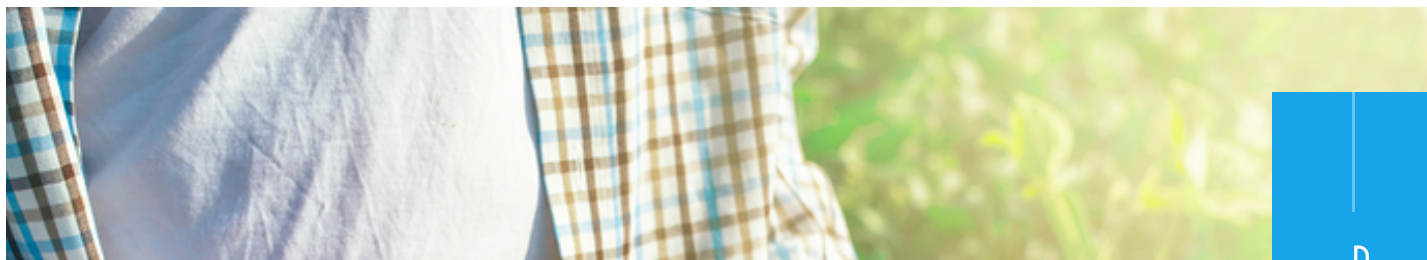
Although our products are active in the ground, we are reaching for space technologies as well. We launched a pilot project whereby farmers can be informed about changes in the condition of their crops based on satellite observations. An application we are going to offer will enable direct communication with a seed spreader, management of soil water resources, and even crop yield forecasting. Its launch has been made possible by an agreement signed with SatAgro, a Polish start-up company.

The technology, soon to be made available to Polish farmers by Grupa Azoty and SatAgro, allows direct access to satellite observations made by NASA, the European Space Agency, the European Commission (Copernicus programme), and private operators. As a result, farmers gain crop data processing tools which can be used for individual farm fields to aid in effective farm management. With the application offered by Grupa Azoty, users will be able to remotely monitor crop growth, assess the impact of weather conditions and agronomic treatments, and analyse historical data.

As a small company that has only recently entered the market, SatAgro had limited possibilities of promoting its solution among farmers. But having partnered with Grupa Azoty, it has been able to reach farmers operating over many thousand hectares of land.

For SatAgro users, the solution offers two important benefits. Firstly, the SatAgro-generated application maps for precise fertilization allow farmers to rightsize the amount of fertilizers used, which results in efficiency gains. Moreover, while many users already had equipment for precision treatments, creating an application map required a considerable amount of time and know-how. With the application it is a matter of minutes, which means that SatAgro enables farmers to take full advantage of their equipment.

We want to remain an open business organisation, regularly holding open-door days for those interested in the inner workings of our plants. We support education by offering internship and traineeship opportunities for students, granting scholarships, and – to develop talents that could later become part of our own human resources – working with schools and academic institutions to organise specialist classes and faculties with a chemistry-focused syllabus.







## BEST PRACTICE

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*AGROREWOLUCJE is a new online show whose participants are selected from among Polish farmers who wish to increase productivity and profits from their farms and register as candidates. Grupa Azoty is among the project's partners. Viewers will see how three not very profitable and poorly organised Polish farms are transformed into productive, modern and, most importantly, profitable ones.*

*The hosts, Anna and Grzegorz Bardowski, stars of the Polish version of 'Farmer Wants a Wife', and experts will show how to correctly plan and take care of crop production so that it brings tangible financial benefits. The project also aims to demonstrate how to efficiently perform agrotechnical treatments, how to apply fertilizers, protect and feed crops and stimulate them to bring higher yields.*

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## BEST PRACTICE

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*We do not forget about farmers' children, either. With the youngest ones in mind, the Grupa Azoty Group organised the 'Chemistry in Agriculture' artistic contest, where children from across Poland had the chance to win attractive gifts*

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## Grupa Azoty Police

In 2018, following the conclusion of an agreement between Grupa Azoty Police and the local County Governor's Office, 13 students of the Ignacy Łukasiewicz School Complex in Police started a four-week internship at the company. The students took part in internship activities at the Water Analysis Laboratory, the Pigments BU Technology Department and the Fertilizers BU Technology Department.

## Grupa Azoty

- In 2013, Grupa Azoty concluded an agreement with the Technical School Complex in Mościce whereby it agreed to hire ten graduates of each year, fund scholarships and prizes for successful students, provide trainee placements at its plant, deliver specialist classes through its experts, and co-fund the purchase of teaching aids.
- The company supports education of children and youth working with the SIEMACHA Association, KANA Catholic Youth Education Centre, Comprehensive School Complex No. 1 in Tarnów-Mościce, and Sports School Complex.

## Grupa Azoty Kędzierzyn

- Grupa Azoty Kędzierzyn signed a patronage agreement with the Inland Navigation School Complex whereby the latter's students learning to be 'inland navigation technicians' may use Grupa Azoty Kędzierzyn's water infrastructure and port as well as take part in open-door classes. The agreement also provides for expert support in joint initiatives, e.g. conferences or scientific sessions on inland waterway transport, and a scholarship programme for students.
- In 2018, Grupa Azoty Kędzierzyn signed a patronage agreement with the Władysław Szafer Agricultural Training Centre, taking under its patronage agriculture-related fields of study (including the following specialisations: farm technician, agriculture mechanisation and agrotechnics technician, horse breeding technician, landscape architecture technician, rural tourism technician, nutrition and catering services technician or food technologist).



### BEST PRACTICE

*Grupa Azoty Kędzierzyn became a patron of the chemistry classes at Nicholas Rej School Complex No. 3 in Kędzierzyn-Koźle.*

*It runs a Technology Workshop for the students at Grupa Azoty Kędzierzyn, forming part of their practical vocational training. The classes take place in designated places on the company's premises, i.e. at the laboratory of nitrate fertilizers, laboratory of organic analysis, and laboratory of ammonia and nitric acid, as well as the calcium ammonium nitrate department, nitric acid department and alcohol department, and are held on a full-day basis, once a week, in order to implement the school curriculum. Divided into semester groups, they last until the end of a school year, ending with a grade for the subject on the school report. For years, the company has provided chemical equipment to the school laboratory, supported its chemistry competitions, and offered scholarships to the most talented students.*

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## Grupa Azoty Puławy

In 2014, under a cooperation agreement between the Maria Curie-Skłodowska University of Lublin, Grupa Azoty Puławy and the New Chemical Syntheses Institute, the University's local branch in Puławy was opened. Its establishment was prompted by high demand on the labour market for specialists in chemistry and chemical processes. The Puławy branch of the Maria Curie-Skłodowska University offers engineering studies in technical chemistry, taught in well-equipped classrooms by highly qualified staff of the Maria Curie-Skłodowska University, Warsaw University of Technology, experts employed at Grupa Azoty Puławy and specialists from various scientific institutions based in Puławy. In addition to other opportunities, the technical chemistry students may attend classes held on the company's premises, and complete internships at Grupa Azoty Puławy. Under that cooperative arrangement, the company also commissions topics of academic theses, and its employees serve as the thesis co-supervisors.

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OUR IMPACT ON THE SOCIAL AND ECONOMIC DEVELOPMENT OF THE EXTERNAL ENVIRONMENT

We engage in outreach and sponsorship activities that benefit local communities.

[103-2]

*We expect continued sponsorship of local events and further cooperation with local communities and institutions.*

Dialogue session

Our products cross many borders and are used by consumers all over the world, but we never forget where they come from and how our manufacturing facilities impact the local communities. We strive to maximise the positive impacts and we care to be seen by local residents and authorities as a good neighbour that contributes to economic, cultural and social development.

## See what community outreach initiatives we ran in 2018:



The Group companies continue the long-standing tradition of supporting initiatives that promote sports and physical activity on the local and national level. We believe that physical activity enhances positive attitudes and values, building up the social capital and improving the fitness of all generations of Poles.



### Grupa Azoty Puławy

- Grupa Azoty Puławy became a strategic partner of Speedway Lublin, competing in Nice 1 speedway league.
- In 2018, our company provided 120 handball players of the Azoty-Puławy Sports Club with professional sports equipment, including tracksuits and backpacks.
- In 2018, Grupa Azoty Puławy started cooperation with the local Azoty Yacht Club, which organises sailing courses and camps on lakes and the Vistula River.  
The company supported young athletes, including Jakub Szymula, a talented wrestler from the Lublin region, representative of Poland and winner of the title of Junior Champion of Poland in 2018.
- In 2018, the Grupa Azoty Puławy Sports Academy, a social and sports programme for children playing football, continued its activities. The Academy's initiatives included several local football tournaments organised by individual teams. The Chemists' Day celebrations featured the second tournament for the Grupa Azoty Puławy CEO Cup, in which young football players took part.



### Grupa Azoty Police

- Grupa Azoty Police signed a sponsorship agreement with Marcin Lewandowski, a resident of Police and one of Europe's best middle-distance runners, winner of the indoor European Championship 800 and 1,500 meter run.
- Support was provided to the futsal world champion.
- Ten employees of Grupa Azoty Police – nine men and one woman – decided to commemorate the hundredth anniversary of Poland's regained independence by running. During three days in May 2018, each participant ran ten distances of ten kilometres – a hundred in total. The route of the relay passed by places of importance to Police, where there are monuments and plaques that commemorate prominent Polish figures. In the first kilometres, the runners were accompanied by Marcin Lewandowski.
- Grupa Azoty Police offered support for the Gerhard Scherer volleyball memorial.
- Continued assistance was provided to the Chemik Police football club.
- The company regularly organises the Tournament for the Cup of the Management Board of Grupa Azoty Police, an event attended by employees of the company's individual departments. Games are played on a full-size pitch and consist of two 30-minute halves. Five teams signed up to compete in 2018.





Sports clubs and associations sponsored by Grupa Azoty in 2018 included:

- Unia Tarnów Żużlowa Sportowa Spółka Akcyjna, the owner of the Unia Tarnów Speedway Club (including training for children and youths),
- ZKS Unia Tarnów Sports Club (football; including training for children and youths),
- Tarnów Handball Association (including training for children and youths),
- Jedyńka Tarnów Students' Sports Club (women's volleyball),
- Interschool Students' Sports Club 1811 (basketball),
- AZS (University Sports Association) Club at the State Higher Vocational School in Tarnów (field and track section),
- Miejsko-Ludowy Klub Sportowy (sports club) Dąbrovia (archery),
- School of the Youths' Palace (handball),
- Jaskółki Students' Sports Club (speedway),
- Interschool Village Sports Club (athletics),
- SOKÓŁ Mościce-Tarnów Students' Sports Club (swimming).

In 2018, Grupa Azoty became title sponsor of the 4th edition of the Radłów Triathlon. More than 450 participants from Poland and abroad, including the best Polish triathlon athletes, took part in the competition.

In addition, Grupa Azoty organises regular sailing regatta for its employees. In 2018, the competition was entered by 33 yachts and almost 200 participants.



## BEST PRACTICE

*More than 200 preschoolers from nine pre-schools located in Police took part in the Grupa Azoty Przedszkoliada Tour 2018 sports event, which was held for the second time in the hall of the Ignacy Łukasiewicz School Complex in Police. It was a part of Europe's largest series of sports events for preschoolers.*



### Grupa Azoty Kędzierzyn

- Grupa Azoty Kędzierzyn has been a long-standing Main Sponsor of ZAKSA Kędzierzyn-Koźle, a premier league volleyball team, promoting not only the company, but also the town, region and province.
- Grupa Azoty Kędzierzyn supports the sporting career of paralympic badminton player Bartłomiej Mróz, multiple World and European Championships medalist, whose primary goal for the next couple of years will be to qualify for the Tokyo 2020 Paralympic Games.  
On his road to Japan, he needs to win a series of tournaments played around the world.
- As far as amateur sports are concerned, Grupa Azoty Kędzierzyn provides support to a number of regional initiatives, including the 'Chemik' Sporting Society (football academy and boxing sections) and 'Lewada' Equestrian Club, as well as various projects undertaken by the 'Koziołek' Sports Club (e.g. the Sixth Charitable Santa Claus Run), the Municipal Interschool Sports Club (e.g. the 'Koziołki Pływackie' swimming championships) and the Santa Claus Basket Tournament in Prudnik.
- Grupa Azoty Kędzierzyn granted scholarships in excess of PLN 25 thousand for the most talented students from two school complexes in Kędzierzyn-Koźle.



### Grupa Azoty Puławy

- Grupa Azoty took patronage of the second edition of the 'Tarnów Polskiej Piosenki' musical festival. The billing included Maryla Rodowicz, Natalia Kukulska, Złoty Maanam, Sarsa and Mateusz Ziółko. The final concert held in the Tarnów market square was watched by about eight thousand viewers.
- In 2018, Grupa Azoty Puławy was the patron of the Henryk Sienkiewicz Museum in Wola Okrzejska. The company co-financed the purchase of memorabilia of Henryk Sienkiewicz: 25 letter manuscripts and the writer's reports from his journey to Africa.



### Grupa Azoty Police

In 2018, Grupa Azoty Police commenced cooperation with the Social, Educational and Cultural Association of the Youth Wood & Brass Band. The band promotes musical culture, representing the region and the country at international events. Grupa Azoty Police also signed an agreement with the Rodzina Rozwój Sukces Foundation of Szczecin, under which an album with recordings of the Animato harmonica band was released.



### Grupa Azoty

In 2018, Grupa Azoty lent its support to:

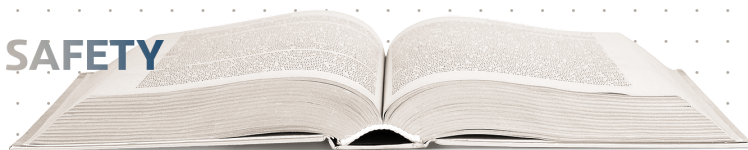
- Paderewski Centre in Kańska Dolna,
- Mościce Arts Centre,
- ArtContest Artistic Association of Tarnów (Grupa Azoty International Jazz Contest),
- BWA City Art Gallery of Tarnów,
- Klasa Dance Association (National Ballroom Dance Tournament),
- Tarnów Regional Museum,
- Ludwik Solski Theatre of Tarnów.

In 2018, Grupa Azoty became patron of the 11th edition of the 'Wawel at Dusk' music festival.

SOCIAL

# EDUCATION

AND SAFETY



Grupa Azoty Puławy

- In 2018, Grupa Azoty Puławy continued its partnership with the Puławy Technical School Complex and the Maria Curie-Skłodowska University in Lublin (the University's local branch in Puławy). The Technical Chemistry major curriculum has been designed to match the competencies needed in the chemical industry. The cooperation with Maria Curie-Skłodowska University allowed the graduates of the Technical School Complex of Puławy to continue their education by taking relevant courses at the University, and the company employees had the opportunity to supplement their education through of extramural studies.
- The Puławy-based company's initiatives also extended to the youngest residents of the county. In partnership with the Puławy Science and Technology Park, it organised events promoting science among children and youth as part of the Young Chemist's Day and Lublin Science Festival. Students from 14 educational institutions participated in the Young Chemist's Day. The total number of participants was close to five thousand.

Grupa Azoty Puławy is running the 'It's Good to Be a Pole' programme promoting national pride and traditions and commemorating important events and famous figures in Poland's history. The programme was inaugurated on the National Remembrance Day of the Cursed Soldiers, which was celebrated with a patriotic concert 'It's Good to Be a Pole' held at the music studio of the Polish Radio in Lublin. Grupa Azoty Puławy is also the main partner of the project 'The Underground Army Returns', under which a website devoted to the Cursed Soldiers was set up. The company is the patron of various publications, including themed supplements to local newspapers that promote and popularise the knowledge of Poland's post-war heroes.

The initiatives undertaken under the 'It's Good to Be a Pole' programme included:

- Partnering the project 'The Underground Army Returns',
- Series of educational programmes 'The Cursed – the Unconquered of the Lublin Region', honouring heroes of Poland's struggle for independence, and a series called 'Independent', commemorating the 100th anniversary of Poland's regaining independence, broadcast on Channel 3 of the Polish Television in Lublin,
- Support of the Cursed Soldiers Rally, Cursed Soldiers Memorial Race, Wolf's Trail and other patriotic runs and marches,
- Support in organising a patriotic concert to honour Edward Taraszkiewicz, codename 'Żelazny', and his brother Leon Taraszkiewicz, codename 'Jastrząb', heroes of Poland's independence underground,
- Support in staging a re-enactment of the Battle of Komarów, the biggest battle of cavalry fought during the Polish-Soviet War, to celebrate the 97th anniversary of the event,
- Assistance offered to Poles returning from Kazakhstan in adapting to the new environment, in partnership with the Polish Community Association,

- Support in organising the 25th Sienkiewicz-Named Schools Rally in Puławy,
- Help with the purchase of the manuscript of Henryk Sienkiewicz's 'The Deluge' for the Henryk Sienkiewicz Museum in Wola Okrzejska.
- Grupa Azoty Puławy is a long-standing supporter of the 'Safety is Our Common Goal' campaign for children and youth from the county of Puławy that is partnered by the town's police and firefighters. The initiative involves meetings at educational institutions across the county (primary schools, junior high schools and kindergartens). Each participant receives an educational brochure and small gifts (including reflective bands).



#### Grupa Azoty Police

- Grupa Azoty Police has built strong partnerships with the Szczecin-based West Pomeranian University of Technology and University of Szczecin, as well as the Police School Complex.
- Grupa Azoty Police is also visited by large numbers of university and other students as well as scientists interested in the chemical industry. The company organises guided bus tours around its facilities. Visiting professionals are also shown selected business units.



#### Grupa Azoty

- Grupa Azoty supports the Tarnów Branch of the Polish Tourist Association, the Society of the Friends of Mościce, and the Tytus Chałubiński PCK Blood Donors Club at Grupa Azoty.
- It also provides assistance to the Volunteer Water Rescue Service in Tarnów.
- In 2018, for the fifth time Grupa Azoty organised a scholarship competition addressed to students of the Faculty of Chemical Engineering and Technology of the Kraków University of Technology. For many years now, the company has been partnering with the Kraków University of Technology, particularly in running student internships, assisting in bachelor's and master's theses, as well as student and doctoral placements.
- In 2018, experts from Grupa Azoty participated in the 'Close Encounters with Chemistry' popular science session held at the Technical School Complex in Tarnów. During the session, students were shown the properties of plastics and tempered glass as well the ecological secrets of wind power generation. The students also demonstrated chemical experiments. The session was attended by more than 200 young people studying at classes with a chemistry-focused syllabus.

Grupa Azoty collaborates with:

- Institute of Fundamental Technological Research of Polish Academy of Sciences,
- Jagiellonian University of Kraków,
- Institute of Biotechnology and Antibiotics,
- Institute of Biopolymers and Chemical Fibres,
- West Pomeranian University of Technology in Szczecin,
- Warsaw University of Technology,
- Adam Mickiewicz University of Poznań,
- Institute of Power Engineering,
- Ignacy Mościcki Industrial Chemistry Research Institute,
- New Chemical Syntheses Institute,
- Institute of Non-Ferrous Metals.



#### Grupa Azoty Kędzierzyn

For many years now, Grupa Azoty Kędzierzyn has supported the 'Your Friend Numbers 998-112' social information campaign run by the PARAM centre in Opole to improve public safety by raising risk awareness, educating and training people in risk

# CHARITY

## AND EMPLOYEE CAMPAIGNS



### Grupa Azoty Puławy

Grupa Azoty Puławy periodically holds blood donation campaigns for its employees. In 2018, three such events were attended by 118 donors under the slogan '100 Blood Donors to Commemorate the 100th Anniversary of Poland's Regained Independence'. More than 44,500 ml of blood was collected.



### Grupa Azoty Police

In 2018, Grupa Azoty Police supported a charity auction at the 7th Charity Concert in Police to raise funds for the rehabilitation of two seriously ill boys. The auctioned items included T-shirts signed by Polish ski jumpers – bronze medalists of the Olympic Games, a T-shirt of Marcin Lewandowski, winner of the 1,500-metre run at the European Indoor Championships, backpacks and blankets, donated by Members of the Grupa Azoty Police Management Board. The auction brought in nearly PLN 47 thousand.



### Grupa Azoty

292 children of Grupa Azoty employees took part in summer camps organised by the company in 2018. The children went on holiday to Gliczarów Górny (near Zakopane), Rewal (on the Baltic coast) and Neum (in Bosnia and Herzegovina).



### Grupa Azoty Kędzierzyn

In December 2018, for the seventh time Grupa Azoty Kędzierzyn organised the '10 Metres of Sweets' charity drive: packages full of sweets, prepared by the company's employees, were sent to the needy children from the Kędzierzyn-Koźle County.





## OUR IMPACT ON THE SOCIAL AND ECONOMIC DEVELOPMENT OF THE EXTERNAL ENVIRONMENT

# We employ locally

[103-2] [203-2]

The Grupa Azoty Group co-exists with the towns and cities that are home to its manufacturing plants. We create jobs and provide many opportunities for development.

The Grupa Azoty Group's most valuable asset is its employees. The expertise and dedication of close to 10,000 people comprising the workforce of our four leading companies are the key drivers of our business success. As one of our top priorities, we strive to continuously improve working conditions and workplace safety, and to raise employee satisfaction. We are proud to support our employees' volunteering efforts.



**Learn more about our staff**

[102-8] [405-1] [102-41] [401-1] [401-2]

As at December 31st 2018, the Group employed a total of 14,967 people, with 67% of them working for the four leading companies. In 2017, the Group's headcount was 14,434 people (67% employed with the four leading companies). Our employee turnover remains low. 90% of the staff at Grupa Azoty Kędzierzyn, Grupa Azoty Police, Grupa Azoty Puławy, and Grupa Azoty are hired under open-ended employment contracts. Our workforce numbers are continuously growing as the Group has opted not to hire contingency workers any more. Most our employees are men (77% in 2018 and 74% in 2017) and persons aged 30 to 55

(54% of the four leading companies' total workforce in 2018). However, the majority of our laboratory staff and professionals are women. The HR-related projects that we are going to focus on in the coming periods include building a strong and consistent corporate culture across the Group, developing programmes to support employees' competence and innovation drive, managing age diversity in the workplace, and developing mentoring programmes.

[102-8]

#### Total number of employees by gender and type of employment contract (headcount)

		2017		2018	
		F	M	F	M
Grupa Azoty Kędzierzyn	Open-ended contract	428	993	415	998
	Fixed-term contract	50	106	59	98
	Total	478	1 099	474	1096
Grupa Azoty Police	Open-ended contract	478	1 743	494	1 828
	Fixed-term contract	58	223	47	159
	Total	536	1 966	541	1987
Grupa Azoty Puławy	Open-ended contract	728	2 457	720	2 504
	Fixed-term contract	91	222	78	185
	Total	819	2 679	798	2689
Grupa Azoty	Open-ended contract	589	1 342	598	1 387
	Fixed-term contract	52	166	49	166
	Total	641	1 507	647	1553
Total		2 474	7 251	2460	7325
		9 725		9785	

#### Total number of employees by gender and working time arrangement (headcount)

		2017		2018	
		F	M	F	M
Grupa Azoty Kędzierzyn	Part-time	1	2	1	22
	Full-time	477	1 097	473	1 094
	Total	478	1 099	474	1 096
Grupa Azoty Police	Part-time	2	0	2	1
	Full-time	534	1966	539	1 986
	Total	536	1966	541	1 987
Grupa Azoty Puławy	Part-time	1	0	1	0
	Full-time	818	2 679	797	2 689
	Total	819	2 679	798	2 689
Grupa Azoty	Part-time	1	2	1	3

		2017		2018	
		F	M	F	M
	Full-time	640	1 505	646	1 550
	Total	641	1 507	647	1 553
<b>Total</b>		<b>2 474</b>	<b>7 251</b>	<b>2 460</b>	<b>7 325</b>
		<b>9 725</b>		<b>9 785</b>	

[405-1]

Number of directors, officers, and staff by gender, age group, and other diversity indicators

Kategorie pracowników	Grupa Azoty Kędzierzyn				Grupa Azoty Police				Grupa Azoty Puławy				Grupa Azoty			
	2017		2018		2017		2018		2017		2018		2017		2018	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Operators	39	655	39	659	10	1 113	10	1 113	22	1 029	16	1 046	52	717	45	717
Other blue-collar jobs	23	110	23	103	67	383	67	383	118	878	115	875	55	312	52	312
Managing officers	46	70	45	61	26	82	26	82	58	115	55	115	40	80	40	80
Laboratory staff	112	11	112	11	173	6	173	6	178	2	177	1	197	8	200	8
Supervisors	7	80	8	81	17	129	17	129	19	234	18	231	11	112	11	112
Senior staff	91	38	97	43	4	2	4	3	119	49	119	47	149	93	161	93
Specialists	151	120	144	122	230	233	230	232	292	328	285	332	133	157	135	157
Senior management	9	15	6	16	9	18	9	19	13	44	13	42	4	28	3	28
Management Board	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>478</b>	<b>1 099</b>	<b>474</b>	<b>1 101</b>	<b>536</b>	<b>1 966</b>	<b>536</b>	<b>1 987</b>	<b>819</b>	<b>2 679</b>	<b>798</b>	<b>2 689</b>	<b>641</b>	<b>1 507</b>	<b>647</b>	<b>1 507</b>
	<b>1 577</b>		<b>1 575</b>		<b>2 502</b>		<b>2 528</b>		<b>3 498</b>		<b>3 487</b>		<b>2 148</b>		<b>2 148</b>	

SCROLL TABLE

Percentage of employees by gender and type of position

Position	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		
	2017	2018	2017	2018	2017	2018	

Position	F	Grupa Azoty Kędzierzyn	F	Grupa Azoty Police	F	Grupa Azoty Puławy	F						
	2017		2018		2017		2018		2017		2018		2018
	F	M	F	M	F	M	F	M	F	M	F	M	F
Operators	2,3%	41,5%	2,48%	41,84%	0,4%	44,5%	0,36%	46,04%	0,6%	29,4%	0,46%	30,00%	2,4%
Other blue-collar jobs	1,5%	7,0%	1,46%	6,54%	2,7%	15,3%	2,93%	14,00%	3,4%	25,1%	3,30%	25,09%	2,6%
Managing officers	2,9%	4,4%	2,86%	3,87%	1,0%	3,3%	0,99%	3,24%	1,6%	3,3%	1,58%	3,30%	1,9%
Laboratory staff	7,1%	0,7%	7,11%	0,70%	6,9%	0,2%	6,92%	0,28%	5,1%	0,1%	5,08%	0,03%	9,2%
Supervisors	0,4%	5,1%	0,51%	5,14%	0,7%	5,1%	0,67%	4,98%	0,5%	6,7%	0,52%	6,62%	0,5%
Senior staff	5,8%	2,4%	6,16%	2,73%	0,2%	0,1%	0,16%	0,12%	3,4%	1,4%	3,41%	1,35%	6,9%
Specialists	9,6%	7,6%	9,14%	7,75%	9,2%	9,3%	9,02%	9,18%	8,3%	9,4%	8,17%	9,52%	6,2%
Senior management	0,6%	0,9%	0,38%	1,02%	0,3%	0,7%	0,36%	0,75%	0,4%	1,2%	0,37%	1,20%	0,2%

SCROLL TABLE

SCROLL TABLE

Percentage of employees by age and type of position

Position	Grupa Azoty Kędzierzyn						Grupa Azoty Police						
	2017			2018			2017			2018			
	<30	30-50	50+	<30	30-50	50+	<30	30-50	50+	<30	30-50	50+	<30
Operators	3%	24%	17%	2,67%	23,62%	18,03%	8%	23%	14%	8,47%	24,49%	13,45%	4
Other blue-collar jobs	0%	5%	3%	0,38%	4,63%	2,98%	2%	8%	8%	1,46%	8,27%	7,20%	3
Managing officers	0%	4%	3%	0,00%	3,81%	2,92%	0%	3%	2%	0,00%	2,65%	1,58%	0
Laboratory staff	1%	4%	3%	1,02%	3,81%	2,98%	1%	4%	3%	1,19%	3,48%	2,53%	
Supervisors	0%	3%	3%	0,06%	2,54%	3,05%	0%	3%	2%	0,04%	3,24%	2,37%	0
Senior staff	2%	5%	2%	2,03%	5,14%	1,71%	0%	0%	0%	0,00%	0,12%	0,16%	0
Specialists	0%	10%	6%	0,32%	10,54%	6,03%	1%	10%	7%	1,46%	10,13%	6,61%	1
Senior management	0%	1%	0%	0,00%	1,08%	0,32%	0%	1%	0%	0,04%	0,71%	0,36%	0
Management Board	0%	0%	0%	0,00%	0,19%	0,13%	0%	0%	0%	0,00%	0,00%	0,00%	0
TOTAL	6%	56%	38%	6,48%	55,37%	38,16%	12%	51%	36%	12,66%	53,09%	34,26%	9

SCROLL TABLE

[102-41]

All employees of the four leading Group companies are covered by collective bargaining agreements.

Employees covered by collective bargaining agreements	2016	2017	2018
Grupa Azoty Kędzierzyn	1 568	1 577	1 570
Grupa Azoty Police	2 396	2 502	2 528
Grupa Azoty Puławy	3 416	3 498	3 487
Grupa Azoty	2 088	2 148	2 200
<b>TOTAL</b>	<b>9 468</b>	<b>9 725</b>	<b>9 785</b>

[401-I]

Workforce by gender and age (headcount)

	Rok	2017				2018			
	Gender	F		M		F		M	
Grupa Azoty Kędzierzyn	<30	37	37%	64	63%	43	3%	59	4%
	30-50	252	29%	629	71%	253	16%	616	39%
	50+	189	32%	406	68%	178	11%	421	27%
	<b>Total</b>					<b>431</b>	<b>27%</b>	<b>1037</b>	<b>66%</b>
Grupa Azoty Police	<30	49	16%	263	84%	56	2%	264	10%
	30-50	288	23%	990	77%	298	12%	1 044	41%
	50+	199	22%	713	78%	187	7%	679	27%
	<b>Total</b>					<b>485</b>	<b>19%</b>	<b>1 723</b>	<b>68%</b>
Grupa Azoty Puławy	<30	55	17%	271	83%	53	2%	258	7%
	30-50	426	21%	1 575	79%	404	12%	1 568	45%
	50+	338	29%	833	71%	341	10%	863	25%
	<b>Total</b>					<b>745</b>	<b>21%</b>	<b>2 431</b>	<b>70%</b>
Grupa Azoty	<30	48	22%	169	78%	51	2%	186	8%
	30-50	387	32%	841	68%	343	16%	797	36%
	50+	206	29%	497	71%	253	12%	570	26%
	<b>Total</b>					<b>596</b>	<b>27%</b>	<b>1 367</b>	<b>62%</b>
<b>Total &lt;30</b>						<b>203</b>	<b>2%</b>	<b>767</b>	<b>8%</b>
<b>Total 30-50</b>						<b>1 298</b>	<b>13%</b>	<b>4 025</b>	<b>41%</b>



	Rok	2017				2018			
	Gender	F		M		F		M	
<b>Total 50+</b>						<b>959</b>	<b>10%</b>	<b>2 533</b>	<b>26%</b>
<b>TOTAL</b>		<b>2 474</b>	<b>25%</b>	<b>7 251</b>	<b>75%</b>	<b>2 460</b>	<b>25%</b>	<b>7 325</b>	<b>75%</b>

#### New hires by gender and age

	Year	2017				2018			
	Gender	F		M		F		M	
Grupa Azoty Kędzierzyn	<30	14	38%	13	20%	17	40%	12	20%
	30-50	11	4%	35	6%	16	6%	27	4%
	50+	2	1%	2	0%	0	0%	4	1%
	<b>Total</b>	<b>27</b>	<b>6%</b>	<b>50</b>	<b>5%</b>	<b>33</b>	<b>8%</b>	<b>43</b>	<b>4%</b>
Grupa Azoty Police	<30	28	57%	91	35%	19	34%	61	23%
	30-50	27	9%	104	11%	21	7%	61	6%
	50+	0	0%	6	1%	0	0%	2	0%
	<b>Total</b>	<b>55</b>	<b>10%</b>	<b>201</b>	<b>10%</b>	<b>40</b>	<b>8%</b>	<b>124</b>	<b>7%</b>
Grupa Azoty Puławy	<30	20	36%	52	19%	6	11%	32	12%
	30-50	37	9%	66	4%	10	2%	37	2%
	50+	3	1%	6	1%	0	0%	4	0%
	<b>Total</b>	<b>60</b>	<b>7%</b>	<b>124</b>	<b>5%</b>	<b>16</b>	<b>2%</b>	<b>73</b>	<b>3%</b>
Grupa Azoty	<30	13	27%	50	30%	14	27%	38	20%
	30-50	17	4%	60	7%	25	7%	53	7%
	50+	0	0%	6	1%	0	0%	7	1%
	<b>Total</b>	<b>30</b>	<b>4%</b>	<b>116</b>	<b>7%</b>	<b>39</b>	<b>7%</b>	<b>98</b>	<b>7%</b>
<b>Total &lt;30</b>						<b>56</b>	<b>28%</b>	<b>143</b>	<b>19%</b>
<b>Total 30–50</b>						<b>72</b>	<b>6%</b>	<b>178</b>	<b>4%</b>
<b>Total 50+</b>						<b>0</b>	<b>0%</b>	<b>17</b>	<b>1%</b>
<b>TOTAL</b>		<b>169</b>	<b>7%</b>	<b>487</b>	<b>7%</b>	<b>128</b>	<b>5%</b>	<b>338</b>	<b>5%</b>

#### Total number of terminations and employee turnover by gender and age

	Year	2017				2018			
	Gender	F		M		F		M	
Grupa Azoty Kędzierzyn	<30	4	11%	3	5%	3	7%	2	3%
	30-50	7	3%	12	2%	7	3%	12	2%

	Year	2017				2018			
	Gender	F		M		F		M	
	50+	17	9%	32	8%	27	15%	32	8%
	<b>Total</b>	<b>28</b>	<b>6%</b>	<b>47</b>	<b>4%</b>	<b>37</b>	<b>9%</b>	<b>46</b>	<b>4%</b>
Grupa Azoty Police	<30	5	10%	19	7%	2	4%	19	7%
	30-50	5	2%	49	5%	3	1%	33	4%
	50+	22	11%	77	11%	23	12%	64	9%
	<b>Total</b>	<b>32</b>	<b>6%</b>	<b>145</b>	<b>7%</b>	<b>28</b>	<b>6%</b>	<b>116</b>	<b>7%</b>
Grupa Azoty Puławy	<30	7	13%	5	2%	2	4%	10	4%
	30-50	4	1%	12	1%	7	2%	11	1%
	50+	24	7%	40	5%	29	9%	52	6%
	<b>Total</b>	<b>35</b>	<b>4%</b>	<b>57</b>	<b>2%</b>	<b>38</b>	<b>5%</b>	<b>73</b>	<b>3%</b>
Grupa Azoty	<30	3	6%	6	4%	4	8%	4	2%
	30-50	3	1%	22	3%	8	2%	19	2%
	50+	25	12%	38	8%	15	6%	37	6%
	<b>Total</b>	<b>31</b>	<b>5%</b>	<b>66</b>	<b>4%</b>	<b>27</b>	<b>5%</b>	<b>60</b>	<b>4%</b>
<b>Total &lt;30</b>						<b>11</b>	<b>5%</b>	<b>35</b>	<b>5%</b>
<b>Total 30-50</b>						<b>25</b>	<b>2%</b>	<b>75</b>	<b>2%</b>
<b>Total 50+</b>						<b>94</b>	<b>10%</b>	<b>185</b>	<b>7%</b>
<b>TOTAL</b>		<b>126</b>	<b>5%</b>	<b>315</b>	<b>4%</b>	<b>130</b>	<b>5%</b>	<b>295</b>	<b>4%</b>

[401-2]

## Full-time employee benefits unavailable to part-time employees or those employed under fixed-term contracts

Part of our commitment to supporting employees is a wide range of employee benefits offered by Grupa Azoty Group companies under their occupational welfare scheme.

The employee benefits include:

- Healthcare,
- Corrective eyeglasses,
- Protective wear and workwear,
- Health and life insurance,
- Retirement benefits,
- Financial incentive scheme dedicated to retiring personnel,
- Social fund,
- Length-of-service award, annual bonus,
- Training and courses,
- Maternity/parenting/paternity leaves,
- Co-financing of holidays and leisure.

Under the occupational welfare scheme, the Grupa Azoty Group employees\* are also entitled to:

- Participation in the Occupational Pension Scheme,
- Participation in health-promoting programmes and rehabilitation procedures,
- Participation in the financial incentive scheme dedicated to retiring personnel,
- Participation in the free-of-charge 'Work-Life Balance' counselling project, as part of which employees can receive free-of-charge psychological advice,
- Co-financing of university-level education,
- partial financing of holidays.

\* Excluding Grupa Azoty Puławy employees. At Grupa Azoty Puławy, special focus is placed on providing support to retired personnel – we stay in touch with approximately 2,000 such persons, each year presenting them with Christmas vouchers, inviting them to Senior Dance Parties, providing support to finance holidays, including sanatorium treatment, co-financing their cinema or swimming pool tickets, or providing housing loans.



## BEST PRACTICE

*Since 2018, all Grupa Azoty Police employees who have just become parents have been entitled to layettes for their babies. During a special meeting, they receive congratulations and practical baby care packages for their newly born children.*

*Grupa Azoty Police also takes care of its retiring employees. Twice a year, official meetings are held during which the members of the company's Management Board have the opportunity to thank every retiring employee for their involvement and work for the company.*

Each of the key Group companies is a significant and valued employer in the region in which it operates. The table below shows ratios of standard entry level wages compared to minimum wages in Poland in 2018.

[202-1]

Ratios of standard entry level wages by gender compared to local minimum wages\*

Employees covered by collective bargaining agreements	Ratio of standard entry level wages for women compared to local minimum wages	Ratio of standard entry level wages for men compared to local minimum wages
Grupa Azoty Kędzierzyn	2.58	3.14
Grupa Azoty Police	2.42	2.76
Grupa Azoty Puławy	1.13	1.46
Grupa Azoty	2.52	2.34

\* Ratio calculated as the average entry level wages compared to local minimum wages.

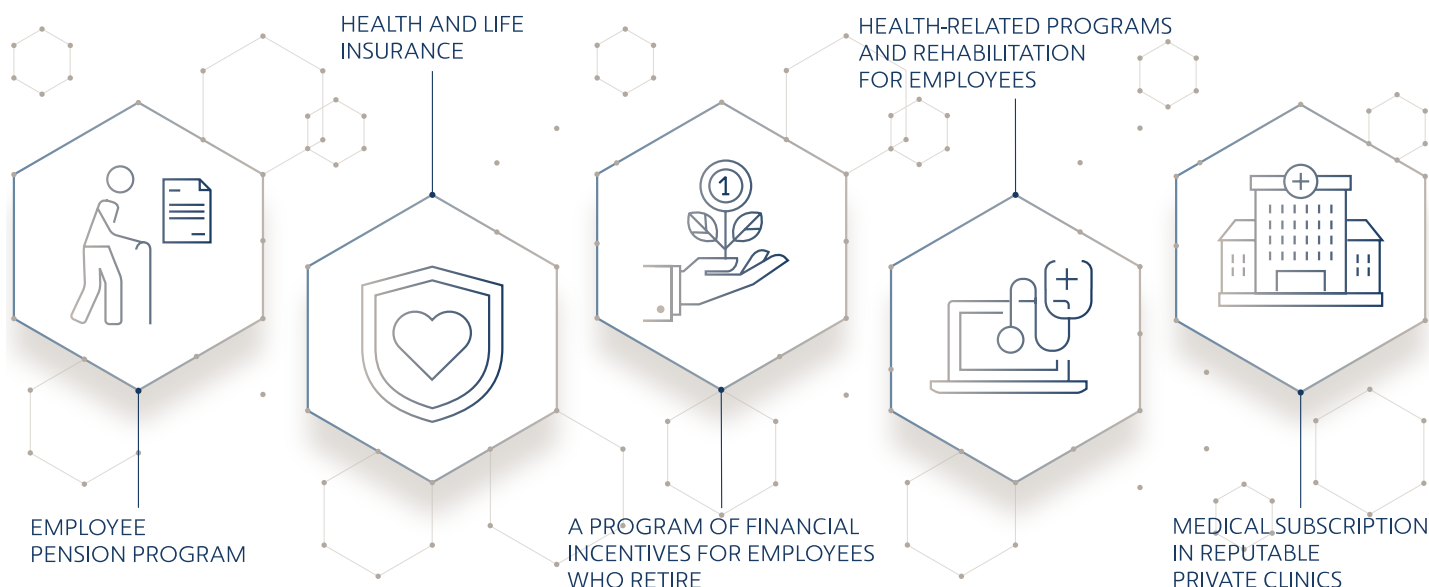
[405-2]

### Ratio of average gross salary or wages of women to men

Position	Grupa Azoty Kędzierzyn	Grupa Azoty Police	Grupa Azoty Puławy	Grupa Azoty
Operators	103.07	104.76	106.29	102.16
Other blue-collar jobs	103.1	76.31	83.26	97.74
Managing officers	91.3	92.97	92.9	91.34
Laboratory staff	109.01	79.68	129.08	116.87
Supervisors	79.64	80.75	91.96	94.53
Senior staff	101.33	59.67	81.96	90.67
Specialists	98.94	79.89	89.89	95.66
Senior management	107.71	113.57	106.32	78.78

We offer competitive compensation and a generous employee benefit package. We are honoured to be trusted by our staff and happy to see their low turnover. Ensuring equal and equitable treatment of all our employees is among our key guiding principles set out in the Grupa Azoty Group's Code of Ethical Conduct.

Employee benefits offered by the Grupa Azoty Group include:



## BEST PRACTICE

*Since 2016, Grupa Azoty Kędzierzyn has been running the 'Our Environment' Employee Initiatives Budget, which helps implement our employees' best ideas and proposals that make a positive difference to the environment. In 2018, PLN 50 thousand was allocated to such projects.*

Know-how, experience, commitment, and teamwork skills drive our performance and lead to achievements appreciated by the market and investors. That is why at Grupa Azoty we attach great weight to the development of our personnel, providing them with in-house training opportunities and supporting their continuing education efforts at universities. New employees are properly onboarded, the management is regularly trained to improve their various managerial skills, and professionals from different fields continue to develop their expertise and soft skills alike. Implementation of most new organisational and process solutions is accompanied by dedicated training. The Group also funds all training required by law and pays all fees related to occupational licensing exams.





## BEST PRACTICE

*In the academic year 2017/2018, seven employees of Grupa Azoty Police took part in the Implementation-based Doctoral Programme project of the Ministry of Science and Higher Education. The project allows its participants to combine the writing of their doctoral thesis with their professional careers, and its aim is to foster conditions for cooperation between science and businesses. Doctoral students are employed at and carry out research projects for the company. Their research agenda is subject to approval by the thesis supervisor selected from one of the 54 college or university departments that joined the programme. In addition, if the supervisor decides that the research plan is appropriate and the doctoral student is a good candidate, a request is filed with the Ministry for a scholarship equal to the minimum salary payable to an assistant at the university (approximately PLN 2.5 thousand). Thus, a future PhD holder receives a double salary while he or she writes their doctoral thesis: one from the company, the other in the form of the scholarship.*

## Grupa Azoty

- OHS training
- ISO training
- Position-specific training
- University tuition allowance
- English language course for employees, attended by approximately 70–80 students

## Grupa Azoty Kędzierzyn

- The Foreman Academy Project aimed at improving team building and effective teamwork skills;
- employees are reimbursed the costs of English courses

## Grupa Azoty Puławy

- Co-financing of language course tuition fees
- Co-financing of post-graduate, MBA and PhD programme tuition fees
- Opportunities provided to attend open training courses as well as specialist and industry conferences
- Opportunities provided to attend closed training courses and take occupational licensing exams
- The Grupa Azoty Puławy Professional Skills Development Programme dedicated to blue-collar staff, as part of which mentoring guidelines were defined, and curricula were developed for each blue-collar position; the programme was implemented along with a new SAP Qualifications Management module, to which data on all blue-collar employees' qualifications was migrated
- The Competence Improvement Programme dedicated to white-collar staff as part of the Grupa Azoty Puławy Skills Academy; an in-house training platform was set up under the programme to encourage employees to share knowledge with one another and allow them to improve their social and managerial competencies such as communication, teamwork and team management skills

The employee training process is covered by the integrated quality, environment and safety management system. All employee groups undergo training. Many courses are provided at the request of employees, who are free to choose their subject matter, form of instruction, and date, as long as a course is going to improve employees' work-related skills (must be linked to their current or future responsibilities) and there are sufficient funds in the training budget.

## Grupa Azoty Police

Employees develop their skills in keeping with the approved annual training schedule of Grupa Azoty Zakłady Chemiczne Police. The schedule represents a training programme for the company's employees, based on which training and professional advancement activities are organised.

Programmes to support the continued employability of terminated or retiring personnel

- Improving employees' professional qualifications through formal education
- The 'Green Forge' internship programme, designed to introduce flexible options for recruiting top talent for the company
- The Smooth Succession Programme, designed to ensure continuous governance of the company, provide development opportunities to the management, and improve the competencies of outstanding employees
- The Multi-Skill Programme aimed at enhancing employees' skills and expertise and creating flexible options to recruit qualified personnel
- Educational programmes taught under the company's auspices:
  - Chemical Technology Class – created to increase the availability of qualified technicians for recruitment by Grupa Azoty
  - 2nd edition of a programme in olefin manufacturing processes at the West Pomeranian University of Technology in Szczecin, run to educate highly-qualified professionals

[404-1]

## Average number of training hours per employee by gender

Year	2017		2018	
Gender	F	M	F	M
Grupa Azoty Kędzierzyn	9.24	16.42	5.75	8.78
Grupa Azoty Police	10.31	15.85	5.05	10.66
Grupa Azoty Puławy	17.74	20.42	15.80	14.40
Grupa Azoty S.A.	9.53	7.54	7.21	7.21
<b>Average</b>	<b>11.71</b>	<b>15.06</b>	<b>8.45</b>	<b>10.26</b>

## Average number of training hours per employee by type of position

Structure level	Grupa Azoty Kędzierzyn		Grupa Azoty Police		Grupa Azoty Puławy		Grupa Azoty	
Year	2017	2018	2017	2018	2017	2018	2017	2018
Operators	12.90	7.84	17.52	11.61	10.35	8.32	3.63	3.78
Other blue-collar jobs	10.54	17.13	9.45	9.10	8.42	16.79	2.96	1.09
Managing officers	10.17	10.94	21.44	13.05	8.89	21.83	18.38	38.74
Laboratory staff	8.31	3.54	5.78	5.05	17.95	9.03	0.00	1.03
Supervisors	11.69	3.48	15.34	6.69	8.14	12.16	6.08	7.43
Senior staff	10.76	5.21	104.00	0	10.62	11.64	7.51	9.09
Specialists	10.22	7.19	12.55	5.88	12.37	21.11	27.20	15.01
Senior management	9.84	19.0	25.11	12.93	10.66	46.13	28.25	2
Management Board	n/d	n/d			not applicable		not applicable	
Average	10.55	8.22	26.40	7.14	10.92	16.33	11.75	8.68

SCROLL TABLE

[404-3]

## Percentage of staff subject to regular performance assessment and career development reviews by gender\*

Year	2017		2018	
Gender	F	M	F	M
Grupa Azoty Kędzierzyn	100%	100%	100%	100%
Grupa Azoty Police	100%	100%	100%	100%
Grupa Azoty	100%	100%	100%	100%

\* At Grupa Azoty Kędzierzyn, Grupa Azoty Police and Grupa Azoty the annual performance assessment covers all employees except those with length of service of less than a year, members of the respective company's Management Board, employees delegated to trade unions and Social Labour Inspector at a given company.

\*\* Grupa Azoty Puławy does not carry out periodic performance assessments. Under the bonus policy (bonuses are awarded on a quarterly basis, with the total amount of the bonus fund contingent on the company's financial performance), managers are required to award bonuses based on employee performance assessment, taking into account the incentivising effect of a bonus. The assessment results are not recorded (only the amount of the bonus awarded is). In 2017, an agreement was signed to amend the Company collective bargaining agreement. The amended collective bargaining agreement provides for a review of the employee's career development by the employee's superior (based on a set of criteria) and for differentiating the amount of base salary paid to employees holding the same positions on the basis of the review. The first such review took place in 2018.



## BEST PRACTICE

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*In 2013, Grupa Azoty Police launched the 'Most Productive Shift Ranking' competition, where the winning teams receive financial and non-financial prizes. The winners in each year are those teams which demonstrate the greatest efficiency, compliance with safety standards, innovation and low absenteeism rates. In 2018, all departments of business units as well as power, laboratory analysis and infrastructure centres entered the competition.*

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## OUR REPORT

# Report scope and boundary, applicable standards and guidelines

[102-50]

This integrated report contains a summary of the Grupa Azoty Group's financial and non-financial performance for 2018. In preparing it, we relied on the latest guidelines of the Global Reporting Initiative (GRI Standards). Its content and layout are also based on relevant recommendations of the International Integrated Reporting Council (IIRC).

[102-54] [102-52]

This report was prepared in the Core version. It presents data for 2018, unlike the previous report, which covered the two-year period 2016–2017.

## Report scope and boundary, applicable standards and guidelines

[102-45] This report describes the non-financial activities and performance of the four key companies of the Grupa Azoty Group:

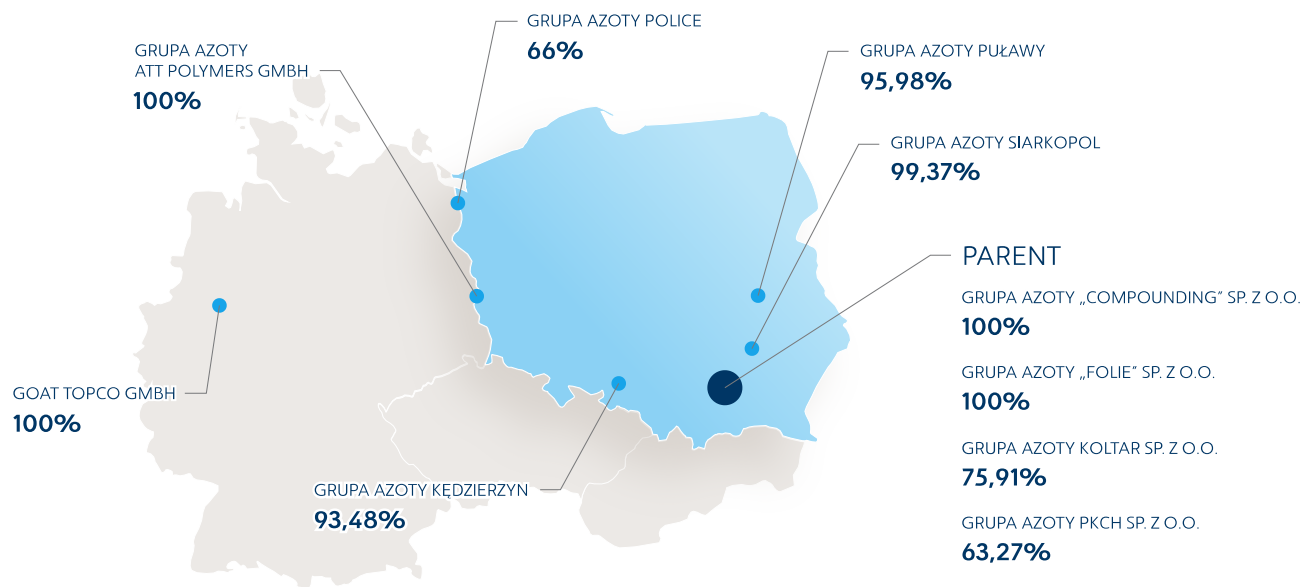
- Grupa Azoty of Tarnów (the parent),
- Grupa Azoty Zakłady Azotowe Kędzierzyn of Kędzierzyn-Koźle (Grupa Azoty Kędzierzyn; ZAK),



- Grupa Azoty Zakłady Azotowe Puławy of Puławy (Grupa Azoty Puławy),
- Azoty Zakłady Chemiczne Police of Police (Grupa Azoty Police).

In addition to those listed above, seven other companies are included in the consolidated financial statements (subsidiaries of Grupa Azoty): Goat TopCo GmbH, Grupa Azoty ATT Polymers GmbH (Guben, Germany), Grupa Azoty Polskie Konsorcjum Chemiczne Sp. z o.o. (Tarnów), Grupa Azoty Koltar Sp. z o.o. (Tarnów), Grupa Azoty Kopalnie i Zakłady Chemiczne Siarki Siarkopol (Grzybów), Grupa Azoty Folie Sp. z o.o. and Grupa Azoty Compounding Sp. z o.o.

## The parent and its subsidiaries as at December 31st 2018



The financial data in this report have been taken from the consolidated financial statements of Grupa Azoty.

[102-56]

In order to exercise due care, a third-party consultancy (Deloitte Advisory Sp. z o.o.) was engaged to assist in the preparation of this report. However, the report was not externally assured.

The financial data sourced from financial statements has been audited by independent auditors.

Approximately 70 employees of the four key Group companies were involved in the data collection process.

[102-49]

The report scope and boundary, as well as methods of measurement, were not subject to any major changes.

[102-46]

## Report drafting process

In late February and early March 2018, we carried out an anonymous survey covering 417 employees. It was designed to gauge their opinions about key areas of the Grupa Azoty Group's responsibility towards its environment. The survey was anonymous and lasted 15 days (from February 27th to March 13th 2018). Additionally, on February 27th 2018, a dialogue session was held in Tarnów. It was attended by representatives of Grupa Azoty's key external stakeholder groups:

- The municipal authorities,
- The county authorities,
- Public cultural centres,
- Social institutions,
- Trading partners,
- Customers,
- Farmers.

During the meeting, aspects of low, medium and high relevance were identified. The aspects of low relevance, providing no measurable added value for the organisation and recipients of this report, were disregarded.

This year’s report covers the following non-financial aspects:

[102-47] [103-1]

Significant aspects of GRI reporting for Grupa Azoty

Key aspects:
Offering safe, premium quality products
Innovation and challenges of the future
Grupa Azoty Group's business results and market position
Emissions management and energy efficiency
Ethics and anti-corruption
Resource consumption efficiency, including water consumption management
Occupational health and safety

Important aspects:
Growing the intellectual capital
Diversity and equal opportunity

Engaging in joint projects with schools and universities, educational initiatives
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OUR REPORT

# GRI table

[102-55]

GRI table – GRI content index

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
FOUNDATION [2016]			
GRI 101		Foundation	✓
UNIVERSAL STANDARDS			
ORGANIZATIONAL PROFILE [2016]			
GRI 102	102-1	Name of the organization	✓

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
GRI 102	102-2	Activities, brands, products, and services	✓
GRI 102	102-3	Location of headquarters	✓
GRI 102	102-4	Location of operations	✓
GRI 102	102-5	Ownership and legal form	✓
GRI 102	102-6	Markets served	✓
GRI 102	102-7	Scale of the organization	✓
GRI 102	102-8	Information on employees and other workers	✓
GRI 102	102-9	Supply chain	✓
GRI 102	102-10	Significant changes to the organization's size, structure, ownership, or supply chain	✓
GRI 102	102-11	Precautionary Principle or approach	✓
GRI 102	102-12	External economic, environmental and social charters, principles or other initiatives to which the organization subscribes, or which it endorses	✓
GRI 102	102-13	Membership of associations	✓
<b>STRATEGY</b>			
GRI 102	102-14	Statement from senior decision-maker	✓
GRI 102	102-15	Key impacts, risks, and opportunities	✓
<b>ETHICS AND INTEGRITY</b>			
GRI 102	102-16	Values, principles, standards, and norms of behaviour	✓
<b>GOVERNANCE</b>			
GRI 102	102-18	Governance structure of the organization, including committees of the highest governance body	✓
<b>STAKEHOLDER ENGAGEMENT</b>			
GRI 102	102-40	A list of stakeholder groups engaged by the organization	✓
GRI 102	102-41	Employees covered by collective bargaining agreements	✓
GRI 102	102-42	The basis for identifying and selecting stakeholders with whom we engage	✓

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
GRI 102	102-43	The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	✓
GRI 102	102-44	Key topics and concerns raised	✓
<b>REPORTING PRACTICE</b>			
GRI 102	102-45	Entities included in the consolidated financial statements	✓
GRI 102	102-46	Defining report content and topic Boundaries	✓
GRI 102	102-47	List of material topics	✓
GRI 102	102-48	<p>The effect of any restatements of information given in previous reports, and the reasons for such restatements (e.g. mergers or acquisitions, change of base years or periods, nature of business, measurement methods)</p> <p><b>Note:</b> No information given in previous reports was subject to restatement.</p>	✓
GRI 102	102-49	<p>Changes in reporting</p> <p><b>Note:</b> The report scope and boundary, as well as methods of measurement, were not subject to any major changes. The data reported in the 302-3 disclosure was updated according to the corrected statement of an industrial customer filed with the Energy Regulatory Office.</p>	✓
GRI 102	102-50	<p>Reporting period</p> <p><b>Note:</b> Reporting period: January 1st to December 31st 2018</p>	✓
GRI 102	102-51	<p>If applicable, the date of most recent previous report</p> <p><b>Note:</b> The most recent integrated report covered the years 2016 and 2017 and was published in August 2018.</p>	✓
GRI 102	102-52	The organization's claim of reporting in accordance with the GRI Standards, either Core or Comprehensive option	✓



GRI Standard	Number of the disclosure	Title of the disclosure	Verification
GRI 102	102-53	<p>Contact details</p> <p><b>Note:</b> For further information on the report, please contact:</p> <p><b>Paweł Piwowarczyk</b>, <a href="mailto:pawel.piwowarczyk@grupaaazoty.com">pawel.piwowarczyk@grupaaazoty.com</a>  <b>Katarzy Kapustka</b>, <a href="mailto:katarzyna.kapustka@grupaaazoty.com">katarzyna.kapustka@grupaaazoty.com</a></p> <p>We want to know your opinion about the report and the scope of information you would like us to provide in its next edition. To share your opinion and to request a copy of the report, please send a message to <a href="mailto:pawel.piwowarczyk@grupaaazoty.com">pawel.piwowarczyk@grupaaazoty.com</a></p> <p><b>Media enquiries:</b> Grupa Azoty Press Officer  <a href="mailto:rzecznik@grupaaazoty.com">rzecznik@grupaaazoty.com</a>  <b>Investor enquiries:</b> Investor Relations Team  <a href="mailto:ir.tarnow@grupaaazoty.com">ir.tarnow@grupaaazoty.com</a></p>	✓
GRI 102	102-54	The organization's claim of reporting in accordance with the GRI Standards, either Core or Comprehensive option	✓
GRI 102	102-55	GRI Content Index	✓
GRI 102	102-56	A description of the organization's policy and current practice with regard to seeking external assurance for the report	✓
<b>MANAGEMENT APPROACH</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	✓
GRI 103	103-2	The management approach and its components	✓
GRI 103	103-3	<p>Evaluation of the management approach</p> <p><b>Note:</b> No change</p>	✓
<b>TOPIC-SPECIFIC DISCLOSURES</b>			
<b>ECONOMIC</b>			
<b>ECONOMIC PERFORMANCE [2016]</b>			
GRI 201	201-2	<p>Financial implications and other risks and opportunities due to climate change</p> <p><b>Note:</b> partially reported</p>	✓
GRI 201	201-4	Significant financial assistance received from government	✓
<b>MARKET PRESENCE [2016]</b>			
GRI 202	202-1	Ratios of standard entry level wages by gender compared to local minimum wages	✓
<b>INDIRECT ECONOMIC IMPACTS [2016]</b>			

SCROLL TABLE

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
GRI 203	203-1	Infrastructure investments and services supported	✓
GRI 203	203-2	Significant indirect economic impacts	✓
<b>ANTI-CORRUPTION [2016]</b>			
GRI 205	205-3	Confirmed incidents of corruption and actions taken	✓
<b>ANTI-COMPETITIVE BEHAVIOUR [2016]</b>			
GRI 206	206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	✓
<b>ENVIRONMENTAL</b>			✓
<b>MATERIALS [2016]</b>			
GRI 301	301-1	Materials used by weight or volume  <i>Note:</i> partially reported	
GRI 301	301-3	Percentage of reclaimed products and their packaging materials for each product category	✓
<b>ENERGY</b>			
GRI 302	302-1	Energy consumption within the organisation, including information on the type of raw materials used	✓
GRI 302	302-3	Energy intensity	✓
GRI 302	302-4	Reduction of energy consumption	✓
<b>WATER AND EFFLUENTS [2018]</b>			
GRI 303	303-3	Total water withdrawal, by source	✓
<b>BIODIVERSITY [2016]</b>			
GRI 304	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	✓
GRI 304	304-2	Significant impacts of activities, products, and services on biodiversity	✓
<b>EMISSIONS [2016]</b>			
GRI 305	305-1	Direct greenhouse gas (GHG) emissions	✓
GRI 305	305-4	Greenhouse gas (GHG) emissions intensity	✓

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
GRI 305	305-5	Reduction of GHG emissions	✓
GRI 305	305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	✓
<b>EFFLUENTS AND WASTE [2016]</b>			
GRI 306	306-1	Total volume of water discharge by destination	✓
GRI 306	306-2	Total weight of waste by type and disposal method	✓
<b>ENVIRONMENTAL COMPLIANCE [2016]</b>			
GRI 307	307-1	Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations	✓
<b>SOCIAL</b>			
<b>EMPLOYMENT [2016]</b>			
GRI 401	401-1	New employee hires and employee turnover	✓
GRI 401	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	✓
<b>OCCUPATIONAL HEALTH AND SAFETY [2018]</b>			
GRI 403	403-1	Occupational health and safety management system	✓
GRI 403	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	✓
GRI 403	403-9	Work-related injuries	
<b>TRAINING AND EDUCATION [2016]</b>			
GRI 404	404-1	Average hours of training per year per employee	✓
GRI 404	404-2	Programs for upgrading employee skills and transition assistance programs	✓
GRI 404	404-3	Percentage of employees receiving regular performance and career development reviews by gender and by employee category	✓
<b>DIVERSITY AND EQUAL OPPORTUNITY [2016]</b>			
GRI 405	405-1	Number of directors, officers, and staff by gender, age group, and other diversity indicators	✓
GRI 405	405-2	Ratio of basic salary and remuneration of women to men for each employee category	

GRI Standard	Number of the disclosure	Title of the disclosure	Verification
<b>NON-DISCRIMINATION [2016]</b>			
GRI 406	406-1	Total number of incidents of discrimination and corrective actions taken	✓
<b>LOCAL COMMUNITIES [2016]</b>			
GRI 413	413-1	Operations with local community engagement, impact assessments, and development programs	✓
GRI 413	413-2	Operations with significant actual and potential negative impacts on local communities	✓
<b>PUBLIC POLICY [2016]</b>			
GRI 415	415-1	Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country  <b>Note:</b> In accordance with the Grupa Azoty Group's Donation Policy, no political contributions were made directly or indirectly in the reporting period.	✓
<b>CUSTOMER HEALTH AND SAFETY [2016]</b>			
GRI 416	416-1	Assessment of the health and safety impacts of product and service categories	✓
GRI 416	416-2	Incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services	✓
<b>MARKETING AND LABELING [2016]</b>			
GRI 417	417-1	Requirements for product and service labelling and information	✓
GRI 417	417-2	Incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labelling	✓
GRI 417	417-3	Incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications	✓
<b>SOCIOECONOMIC COMPLIANCE [2016]</b>			
GRI 419	419-1	Non-compliance with laws and regulations in the social and economic area	✓

Own indicators

**ASPECT: PRODUCTS AND SERVICES**

Own indicators	
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A300-1	Extent of impact mitigation of environmental impacts of products and services
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