



Making chemistry
to fuel
the future

ENVIRONMENTAL REPORT

2013



LETTER FROM THE
PRESIDENT
OF THE MANAGEMENT
BOARD

3



RESPONSIBILITY

4



PROGRESS

8



PEOPLE

14



ENERGY

18

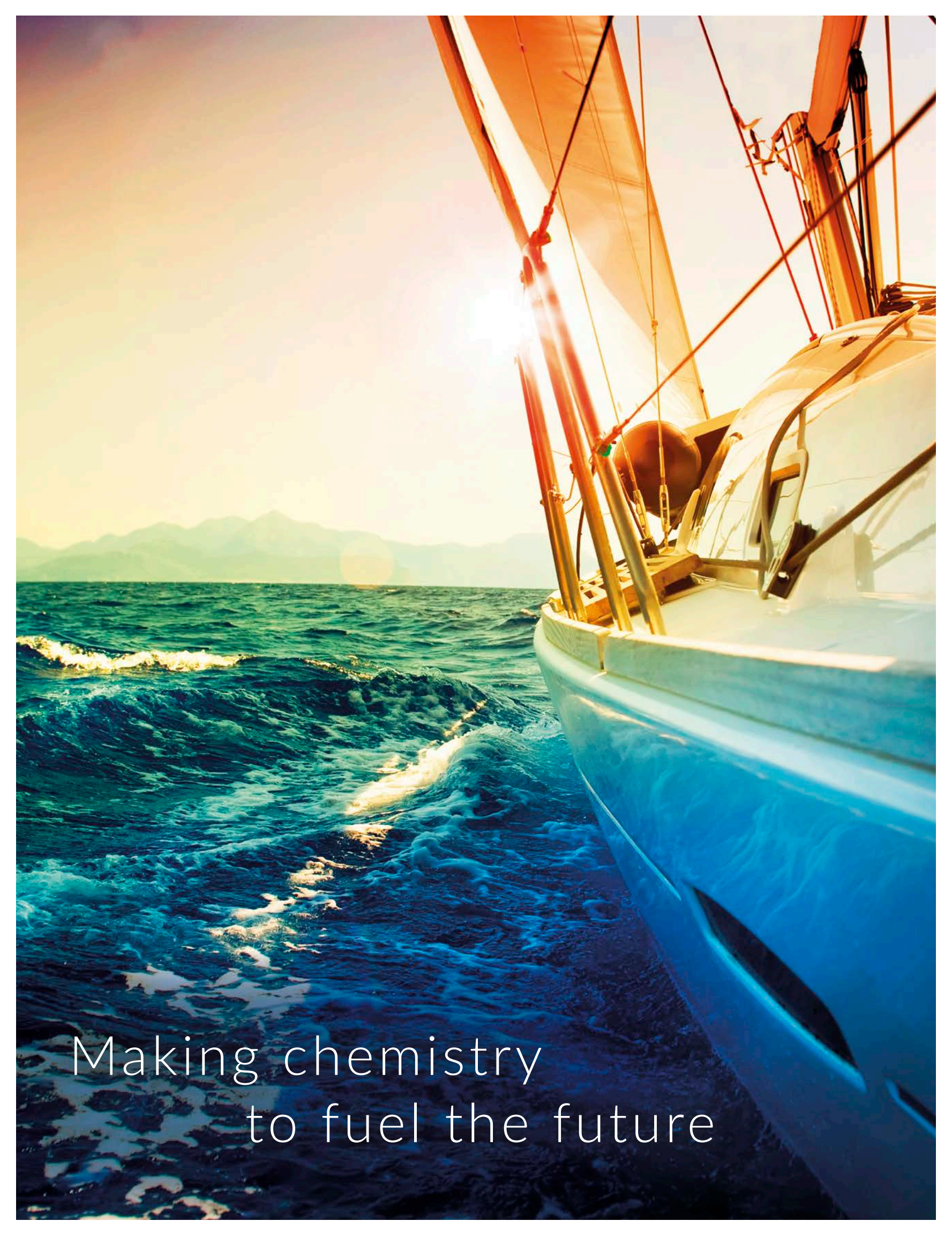


DEPENDABILITY

26

ENVIRONMENTAL REPORT ANWIL

2 0 1 3



Making chemistry
to fuel the future



LADIES & GENTLEMEN,

nowadays, a regard to the environment and sustainable development are a prerequisite of an advantage over the competition. We are well aware that the companies in the chemical industry have a particular task in this matter. Therefore in ANWIL we strive not only to be an integral part of our environment, but also to effectively affect the development.

This is reflected in our mission statement: Making chemistry to fuel the future. A foundation of our well-developed corporate culture is the awareness of the responsibility that the company has for the quality of the environment and our immediate surroundings. The sense of responsibility, naturally combined with our economic aspirations, are aimed at the constant strengthening of our market position and value.

We are constantly improving our environmental, quality, occupational health and safety management systems and raising environmental awareness of our team and responsibility of each employee for the safe work management. We have been a member of the International Responsible Care Program, gathering global leaders in chemical industry around the environmental initiatives for 20 years. Participation in the Program has a public dimension-its implementation requires ANWIL constant dialogue with stakeholders and consistent statement of real activities in the area of environmental and health protection as well as safety process.

Our environmental initiatives have been noticed and appreciated in the prestigious events by independent experts. Last year Polish Chemical Forum 2013 awarded the ecological drying of sludge from biological treatment of wastewater coming from the Terephthalic Acid Plant, belonging to PKN ORLEN.

We also understand the Corporate Social Responsibility as an effective care for local community, which we have been actively supporting for almost 50 years. Therefore, in May 2014 we have established the "ANWIL for Włocławek" foundation supporting the initiatives of local non-governmental organizations with grant competitions to further benefit the regional development. I am convinced that in this way we will be able to allow the implementation of projects that will bring tangible benefits to the local community.

Responsibility, progress, people, energy and dependability are the core values that determine the priorities and affect the decisions of the entire ORLEN Group. The core values are the guiding principles that dictate our actions in the ever-changing world and determine our way of thinking about the initiatives on the environment, employees, local communities and our stakeholders. Those values are also reflected in the layout of this Report, which I encourage you to read.

Piotr Chełmiński
acting as President of the Management Board
ANWIL S.A.



RESPONSIBILITY

WE COMBINE ECONOMIC ASPIRATIONS WITH TAKING RESPONSIBILITY FOR OUR SURROUNDINGS: NATURAL ENVIRONMENT, EMPLOYEES AND LOCAL COMMUNITIES.

We are one of the largest chemical companies in Poland, and a leading employer in the Kujawy-Pomerania region. Our strong position on the local and global market is a result of the highest quality of our products, meeting the needs of our Clients from tens of countries all over the world. Our innovativeness and constant development would not be possible without the great commitment of our team of over 1200 top-class specialists in their fields.

We are fully aware that the scale and type of our business affect our environment. We treat the sustainable development, following the corporate social responsibility (CSR) principle, first of all as an obligation to our employees, natural environment and local communities.

This is reflected in our mission statement: ***Making chemistry to fuel the future.*** It also affects common values for all the companies being part of the ORLEN Group. Responsibility, defined as an action to support sustainable development, considering the interests of our current and future generations, caring for the environment, corporate culture and good relations with our surrounding is one of the key values.

The practical implementation of the Corporate Social Responsibility principle is based on the needs of our surroundings - external (local community and natural environment) and internal (work environment).

ANWIL: RESPONSIBLE NEIGHBOUR

The roots of our company reach back to 1966. For over half of the century, we have become a vital part of our region and local community - an important source of our valued employees.

Our ambition is to become a good, responsible neighbour to the residents of our region. We are engaged in many initiatives to support our local community, charities, important enterprises, and local cultural and sports events.

We put a great deal of care into improving mutual relations and open atmosphere by holding the Open Doors events to allow students from local schools and universities to visit our plants and get to know our company.

We encourage development of our younger generation, environmental education of young people and their involvement in social activities. We are aware that these young people will set the life standards in our region in the future.

Our sustainable development strategy is based on three general principles:

economic efficiency aimed to benefit the community allowing for social and environmental costs,

environmental care protection of natural resources and reduction of negative impact on the environment, supported by the implementation of the "Responsible Care" initiative and an ISO 14001 certified Environmental Management System,

social balance active initiatives to improve the quality of life of local communities and active participation in cultural, educational and sports events in the region.



IT IS GOOD TO HELP

A good neighbourhood is the ability to discern problems and needs of those around us. Our charity initiatives are part of our Charity Policy. We work together with the ORLEN Gift of the Heart Foundation and engage in our own initiatives. We support various foundations and charities providing aid and financing purchases of new medical and rehabilitation equipment and supplies. We also donate to the Polish Red Cross and the Polish Association for Palliative Care.

We take care of our former employees and arrange financial help for pensioners and senior citizens with prescription drug costs, operation and medical care costs.

In May 2014 we have established the **ANWIL Foundation for Włocławek** to support the region's development and improve the quality of life of its residents. The foundation will supporting the initiatives of local non-governmental organizations with grant competitions to further benefit the regional development.



FOR CURRENT AND FUTURE GENERATIONS

Our environmental initiatives are guided by our belief in our responsibility for the quality of life and health of our current and future generations. Our strategic priority is a sustainable development: using the natural resources, we aim to reduce the negative impact of our technological processes on the environment, achieve energy and water efficiency and implement environment friendly waste management.

We also aim to improve the ecological awareness of our employees and the sense of joint responsibility for the quality of our environment. The majority of our environmental initiatives is voluntary, and is an expression of our care and concern for water, air and soil quality in the region.

We use the highest quality technologies and advanced process management systems conforming to **ISO 14001 Environmental Management System** requirements. The environmental investments implemented for many years are compliant with the international environmental programs.

We are a proud member of the international "Responsible Care" initiative gathering leading chemical companies around the concept of the protection of the environment and health. The initiative aims to search for new solutions for efficient energy use, waste and wastewater reduction, pollutant emission reduction and improved process safety and employee health. Our participation in the initiative is also an obligation to have a continuous dialogue with our local community.

We are widely promoting ecology in both our economy and our daily life. In 2014, as part of the "**Responsible Care**" initiative, we have launched the 12th edition of "A Tree for a Bottle" campaign. We encourage educational facilities to collect the PET bottles through fun and noble competition. The collected bottles are recycled and a tree is planted as a symbol. Throughout the twelve editions, young people from

Poland have collected over 22 million bottles, and the forest stand of Poland has gained almost 27 thousand trees. The largest number of bottles, in all twelve editions, has been collected in Włocławek in an event coordinated by ANWIL: 4,026,213 bottles.

We support various symposia and events on a wide variety of chemical and environmental topics. We encourage the youngest generation to participate in artistic contests inspired by the environmental issues. As part of the "Responsible Care" initiative, we have introduced an Environmental Academy of Skills for the teachers of local schools; the event held for three consecutive years has an important role in improving ecological awareness of our younger generation.

RESPONSIBLE EMPLOYER

We are one of the largest employers in the region providing a place to work and develop for over 1,200 specialists. We understand the employer's responsibility not only as a necessity to provide safety in the workplace and health protection but also to provide the conditions for professional and personal development of our employees. We want the employment in our company to be the source of satisfaction and commitment. We improve our team relations by holding various integration meetings and occasional events. We have agreed an open information policy to share information using various tools - internal media, Intranet, TV, flyers, posters, corporate newsletter, etc.

Our initiatives on sustainable development have been noticed and appreciated. In 2009, we were third in the CSR reliability ranking. The research was conducted by Braun&Partners for the Polish Confederation of Private Employers Lewiatan. Our high rating is a result of our responsibility to the environment and corporate governance standards.



PROGRESS

OUR MAIN ADVANTAGES ARE THE HIGHEST QUALITY PRODUCTS AND OPERATIONAL EXCELLENCE. COMBINED WITH THE ORLEN GROUP STRENGTH THOSE ARE THE FOUNDATION OF OUR DEVELOPMENT AND VALUE GROWTH.

50 years will pass in 2016 from the decision on the construction of a nitrogen production plant in Włocławek, and we have come a long way since then. The production plant in Włocławek is now one of the most modern and advanced facilities in Europe. We manufacture raw materials licensed by the world's leading suppliers: Diamond Shamrock (chlorine), Swenson (soda lye), Bertrams (caustic soda), Pittsburg Plate Glass (vinyl chloride), Shin-Etsu (polyvinyl chloride), Haldor Topsoe (ammonia), Kaltenbach (ammonium nitrate) and Uhde (calcium ammonium nitrate). We employ an environmentally-friendly membrane electrolysis cell, a technology licensed by Uhde, a retrofitted wastewater treatment plant, a NOx reduction plant, an advanced organochlorine waste combustion plant, an environmentally-friendly drying plant for sludge from biological treatment of industrial waste. The plants constructed many years ago are constantly retrofitted, not only to meet our Client's requirements regarding product quality, but also to significantly reduce the impact of our technological processes on the environment.

We are part of the ORLEN Group, one of the largest multi-utility companies in this part of Europe. Our position is bolstered by SPOLANA - Czech chemical company - part of the ANWIL Group, a manufacturer of PVC, caprolactam and other chemicals.



CORE VALUES

RESPONSIBILITY

We respect our customers, shareholders, the natural environment and local communities.

PROGRESS

We explore new possibilities.

PEOPLE

We are characterised by our know-how, teamwork and integrity.

ENERGY

We are enthusiastic about what we do.

DEPENDABILITY

You can rely on us.

ANWIL S.A. Quality and HSE Policy

We are a part of ORLEN Capital Group and cooperate with all its Companies on improving and developing the Management Systems compliant with the requirements of the following standards: PN-EN ISO 9001, PN-EN ISO 14001 and PN-N-18001/OHSAS 18001. We give great consideration to quality of our products and process thus focusing on the satisfaction of our Clients. Mindful of the safety of the personnel, we care about their working environment. We are aware that our operations require the use of natural resources and affect the natural environment.

WITH ALL THIS IN MIND, WE CONSIDER THE FOLLOWING AS OUR PRIORITY GOALS:

- developing the company taking into account the principles of sustainable development
- producing and supplying products compliant with applicable requirements and expectations of Clients
- strengthening our market position
- striving for optimization of production costs
- taking efforts to sustain the condition, order and harmony of the natural environment
- preventing pollution and potential threats and consistently reducing the negative impact on the surroundings
- constantly improving the level of safety and hygiene at work.

WE ENSURE OUR PRIORITIES ARE EFFECTIVELY IMPLEMENTED BY:

- clearly defining the competences of individual personnel members and constantly developing and expanding their knowledge in the field of quality and HSE
- identifying the factors affecting or likely to affect quality, environment and safety and precisely determining and supervising any related operations and actions
- providing a flexible commercial offer accommodating the changing needs of Clients
- diligently monitoring the company impact on the surrounding environment, including people's safety
- adhering to legal regulations and other requirements concerning the sphere of HSE and carrying out a periodic assessment of the compliance
- implementing projects both improving the quality and safety levels and reducing the impact on the environment, in particular by revamping the equipment and searching for new solutions
- demonstrating concern about the natural resources, manifested in particular in a rational use of raw materials, materials, water, and energy
- limiting the potential impact on the environment at the pollution source
- preventing injuries, accidents at work, occupational diseases and near-miss incidents
- selecting the Suppliers and developing the mutual communication in order to ensure continuous supply of raw materials and services compliant with our requirements
- maintaining honest and benevolent relations with stakeholders
- running business operations subordinated to predetermined financial parameters
- raising the awareness and commitment of all the personnel members to the process of continuous improvement of the work-related methods, organization and environment.

The image of ANWIL S.A. as a reliable, stable, and socially responsible company is strengthened through the implementation of the Responsible Care initiative.

All the personnel members know, understand, and respect our Policy. As it is publicly available, we feel bound and obliged by its contents towards our Clients, the Shareholder, and community as a whole.

December 2012

Being part of the strong group provides an important synergy and the basis for further development. We share the highest ethical principles and common values included in the "ORLEN Group Values and Code of Conduct" issued in January 2014. We believe that the reliability and honesty are a strong foundation of the success. The core values are the guiding principles that dictate our decisions and a clear signal on who we are and what rules we follow.

Our main advantages are the highest quality products, committed team and continuously improved processes with special focus on the quality of the environment. We employ the **latest management systems**, conforming to ISO 9001 (Quality Management System), ISO 14001 (Environmental Management System) and PN-N-18001 and OHSAS 18001 (Occupational Health and Safety Management System).

TOGETHER FOR THE ENVIRONMENT

We work together with other chemical companies, for the initiatives on natural environment and quality of life to have the largest impact possible. Since 1995, we have been part of the international "Responsible Care" Program, and we have been working together with various associations to work out the best industrial practices. We are a member of Euro Chlor - association of chlor-alkali process plant operators in Europe and Fertilizers Europe - representing the major producers of nitrogen-based fertilizers in Europe. As a member of the Chamber of Industrial Energetics and Energy Customers, we actively participate in Forum CO₂ to coordinate industry actions to target greenhouse gas emissions and manage emission rights.

AWARDS

The awards received in the recent years vindicate our course of actions motivate further development and self-improvement. The most important awards:

Gold Statue of the Polish Business Leader - awarded by the BCC for exceptional financial performance, highest quality products, dynamic development, constantly improved technologies and leading position on the Polish and European chemical market;

Ten Diamonds to the Gold Statue of the Polish Business Leader - awarded for financial performance, sustainable and dynamic development;

European Medal for polyvinyl chloride (Polanvil), calcium ammonium nitrate (CANWIL) and PVC sheets (Anwipor Light and Anwidur), awarded by the Office of the Committee for European Integration and the BCC;

The One Who Changes the Polish Industry - title awarded by the Polish Association for Supporting Entrepreneurship - for innovativeness and competitiveness of the Polish company;

A Pillar of Polish Economy - title awarded by "Puls Biznesu" magazine five times so far; our company has been appreciated by the jury as the best company in the Kujawy-Pomerania region;

Poland Now - title awarded to calcium ammonium nitrate CANWIL by the Polish Promotional Programme Foundation;

Great Pearl of the Polish Economy - title awarded by the "Polish Market" working together with the Institute of Economic Sciences of the Polish Academy of Sciences to create the ranking of the most economically effective companies.



- Ammonium nitrate
- Calcium ammonium nitrate - CANWIL with magnesium, CANWIL S with sulphur
- Suspension polyvinyl chloride - Polanvil
- Sodium hydroxide
- PVC compounds
- PVC sheets
- Ammonia
- Other chemicals

CHEMISTRY FROM A TO Z

Our innovativeness and consistency have given us a leading position in the chemical industry in Poland. In response to our Client's expectations, we are successively extending our offer of advanced products for processing industry and means of production for agriculture.

We are the only manufacturer of suspension PVC (trade name: Polanvil) in Poland, a raw material used in production of granulates, construction profiles, water and wastewater pipelines and medical equipment (with relevant certificates). Almost half of manufactured Polanvil is exported to the demanding European markets.

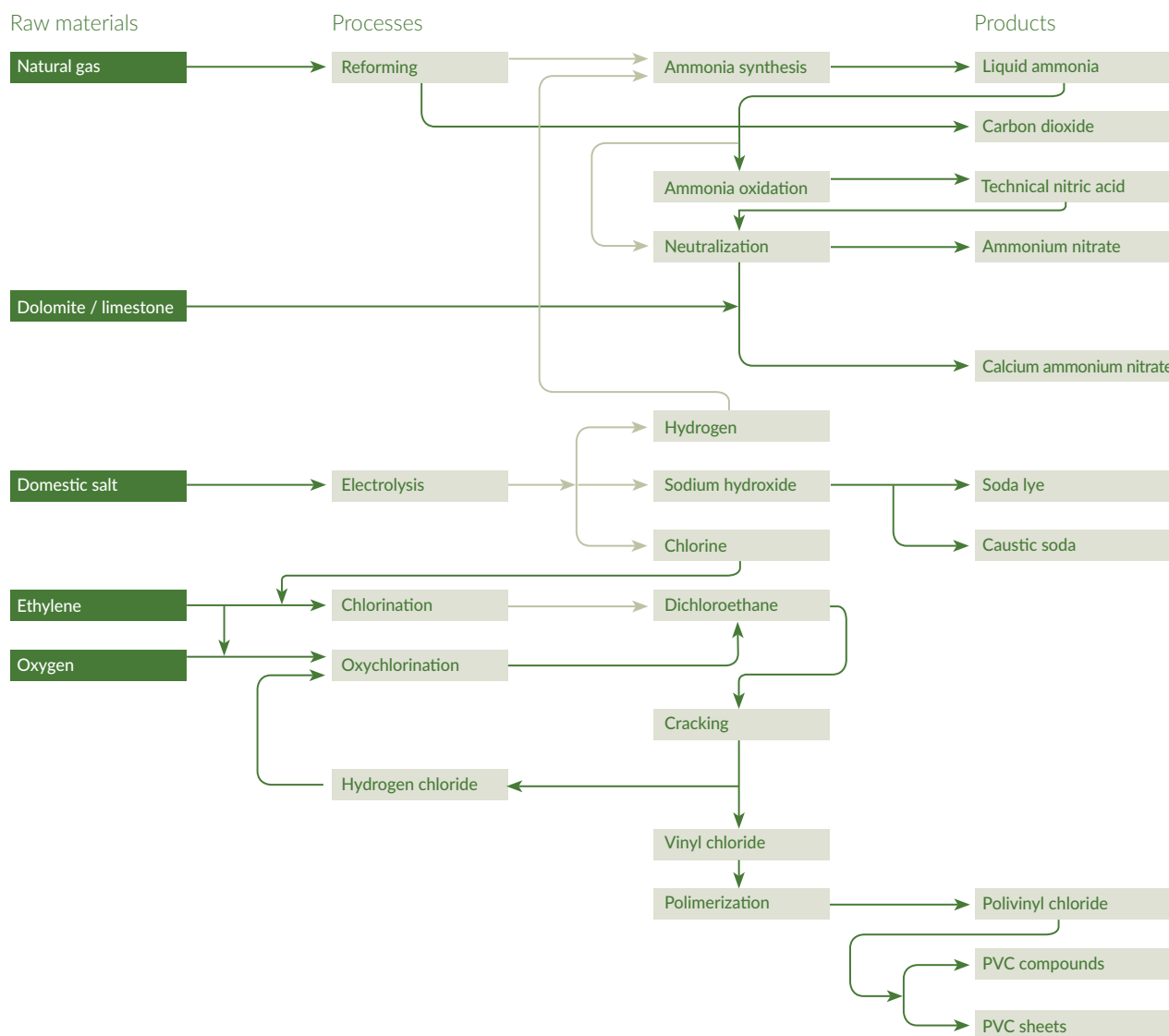
We are one of the leading manufacturers of nitrogenous fertilizers in Poland. Our fertilizers, including ammonium

nitrate and calcium ammonium nitrate (CANWIL), our most popular products - are certified by the Polish Centre for Testing and Certification with the highest quality certificate Q.

We manufacture PVC cable compounds, PVC dry blends and hard technical compounds for wall panels, construction profiles and electrical conduits, and we have been manufacturing PVC sheets since 1998.

We are the largest manufacturer of sodium hydroxide in Poland, sold as soda lye and prilled caustic soda and various chlor-alkali products (chlorine, oxochlorate(I), sodium chloride, hydrochloric acid) and chemicals (ammonia, ammonia solution, liquid nitrogen and liquid oxygen).

BASIC PROCESSES





PEOPLE

THE HEALTH AND SAFETY OF THE PERSONNEL WORKING IN AND NEAR OUR PLANTS IS AN ABSOLUTE PRIORITY DETERMINING ALL OUR DECISIONS.

A widely understood safety is as important as our financial performance. The scope of all our decisions that may affect safety is specified in our Safety Policy issued in 2002 and constantly updated. The compliance with our policies gives us the certainty that the ANWIL production-related activities are safe for the personnel working in and near our plants.

SECURING SAFETY

We are constantly improving our safety systems. We are currently at the stage of implementing the new REACH and CLP regulations aimed at protecting health and environment by a strict control of risks related to the exposure to chemical substances and mixtures in the workplace.

The number of work accidents systematically decreases every year. Only two such accidents were recorded in 2013, compared to 16 accidents recorded in 2009.

We are constantly monitoring concentration and levels of hazardous factors at the workplace. The tests using individual dosimetry method show that the limit values are not exceeded, although the maximum permissible noise level was being exceeded in some plants. In those cases,

special precautions to reduce the noise exposure are taken, including acoustic barriers, acoustic booths, noise hazard zone markings, noise protection, inspection systems, medical examination and following medical recommendations.

The work, fire and technical safety are guaranteed by the most advanced technologies and solutions in accordance with the Best Available Techniques. The safety system includes technical means and organizational procedures, used in emergency and perfected through training sessions.

The key meaning is attributed to preventive and corrective actions. All the legal regulations are complied with thoroughly. We are aware of the meaning of the employee responsibility for safety and company property. The prerequisites of the occupational health and safety are high qualifications and skills of our employees and co-operation of occupational health and safety personnel, management, resident physicians, Social Labour Inspectorate and the entire company team.

OUR SAFETY PRIORITIES ARE:

- identification of hazards and emergencies,
- preventing accidents and ensuring emergency readiness of all services,
- emergency, fire or other hazard procedure,
- employee access to key information on risk management.

Number of work accidents

2008	10
2009	16
2010	8
2011	4
2012	4
2013	2



We have introduced many initiatives to improve the awareness and practical knowledge on occupational health and safety outside the required occupational health and safety training. Since May 2011, we have introduced the **Safe ANWIL** initiative for all employees, including high and middle level management. **Safe ANWIL Champions League** is part of the initiative. Two editions of the competition involved healthy competition to improve awareness on occupational health and safety, first aid and fire safety. The highest safety requirements are also imposed on our business partners.

The identification of hazards involve a periodical assessment of work conditions, plant condition, occupational risk for each work station as well as emergency and accident analysis in other plants. The failures can be prevented by periodical analysis of technical and technological protection systems, ensuring fire alarm system and fire equipment efficiency and unrestricted access to water and other extinguishing agents. We have introduced and are currently updating the "Failure Prevention Program" and the "Internal Emergency Operation Plan". We have developed the "Safety Report", approved by the fire department area commander in Toruń.

The internal fire team with the most advanced rescue and extinguishing equipment is a key element of our safety system. Our chemical rescue team gains the necessary experience in the state of the art training base.

We also pay special attention to the transport safety, a key element of the chemical industry. The strictest standards on transport, especially hazardous materials provide safety for the natural environment, employees and local residents.

We are a member of SPOT - Technical Assistance and Information System for emergencies or road accidents involving chemical products. We observe the international regulations on road and rail transport safety (ADR and RID).

PREVENTION FIRST

Apart from the initiatives on workplace safety, we also offer health coverage to our employees. We pay special attention to prevention: not only regular physical examinations or inoculations but also proper nutrition and physical activity as a universal method to maintain good health and well-being.

OUR EMPLOYEES ARE COVERED BY MANY PREVENTION PROGRAMS. THE MOST IMPORTANT ARE:

- early detection of cardiovascular diseases (for 35-55 years old),
- early detection of cervical cancer (cytology for women aged 30 - 59),
- inoculation against hepatitis and flue vaccination (autumn-winter),
- "Together we change the Diabetes" - national program for diabetics,
- free mammography (for women aged 25 - 59),
- "Stop smoking with us" - stop smoking treatment,
- additional blood analysis (sugar and cholesterol levels) - as part of the National Heart Protection Program (for personnel over 40).



ENERGY

ENERGY - ONE OF OUR FIVE CORE VALUES - IS SYNONYMOUS TO ENTHUSIASM AND COMMITMENT. THIS APPROACH ALSO CHARACTERISES OUR INITIATIVES TO REDUCE THE IMPACT ON NATURAL ENVIRONMENT.

Our company, as well as any other company is not neutral to the environment and our natural resources. The environmental policy is one of the guiding principles of the sustainable development strategy. We systematically introduce environmental investments in conformity with ISO 14001 Environmental Management System requirements and environmental initiatives including the "Responsible Care" initiative.

The best reward is when our environmental investments and initiatives contribute to the improvement of the quality of the environment. The true touchstone is also the appreciation by experts.

INFLUENCE UNDER CONTROL

We have developed a fully regulated formal and legal status for the use of environment. The fourteen key administrative decisions include four integrated permits for:

- plants operated by Plastics Production Department,
- fuel combustion plant - thermal-electric power station operated by Infrastructure Department,
- plants operated by Fertilizer Production Department,
- plants for non-hazardous and neutral waste processing with separate areas for hazardous wastes.

Due to our consistent implementation of our environmental policy, a dynamic development does not require an increase in negative impact of our technological processes on the environment.

OUR ENVIRONMENTAL EFFORTS ARE APPRECIATED AND AWARDED MANY PRESTIGIOUS AWARDS. WE ARE ESPECIALLY PROUD OF THE FOLLOWING AWARDS:

Golden Orbital - "Effective initiatives on the environment" category (competition held by "Rynek Chemiczny" and the Foreign Investors' Chamber of Commerce and Industry in Poland),

Friendly to the Environment - winner of the competition held for the last 14 years under the patronage of the President of Poland (award in "Technology Worth Recommending" category for the hydrogen chloride recovery plant for residual organochlorines),

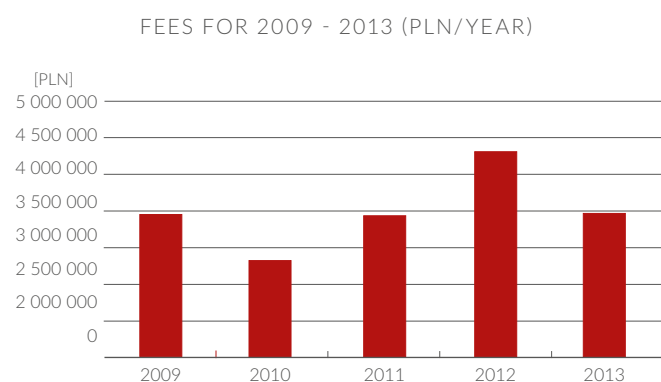
Pantheon of Polish Ecology - title awarded for implementation of ISO 14001 compliant system,

Company Close to the Environment 2008 - title awarded by the European Forum for Environmental Responsibility in the national ecology competition,

Leader of Polish Ecology for ORLEN Group - one of the two projects awarded in the "Polish Chemical Forum 2013" competition was the drying plant for sludge from biological treatment of industrial waste from terephthalic acid production plant (PKN ORLEN).

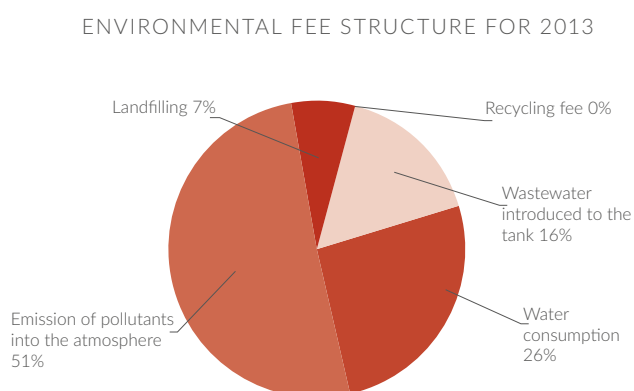
ENVIRONMENTAL FEES

In 2013, the environmental fees were reduced by one fifth compared to 2012. The costs for emission of pollutants into the atmosphere prevail in the fee structure (51% of all fees). In 2013, we have paid PLN 1,678,000 i.e. PLN 426,000 less than in 2012. The highest amount of gases and dusts is introduced to the atmosphere by Fertilizer Production Department (62%).



ADMINISTRATIVE FINES

In 2013, the local control authority (Environmental Protection Inspector for Kujawy-Pomerania region) did not record any violations, which might have imposed the administrative fines on our company.



FEES FOR 2009 - 2013, BY OBLIGATION (PLN/YEAR)

Item	Obligation	2009	2010	2011	2012	2013
1	Water consumption	600 150	568 874	734 787	886 275	854 146
2	Wastewater introduced into Ośła river	315 353	298 604	530 141	1 175 142	507 401
3	Emission of pollutants into the atmosphere	2 302 136	1 808 435	1 981 431	2 113 719	1 687 450
4	Landfilling ¹⁾	148 805	82 124	129 061	128 776	228 171
5	Recycling fee	74 503	52 459	40 929	24 085	12 589
Total		3 440 947	2 810 496	3 416 349	4 327 997	3 289 757

1) total for 2009-2013 include costs for landfilling wastes on the landfills for non-hazardous and neutral wastes with separated areas for hazardous wastes, managed by the Infrastructure Department only.

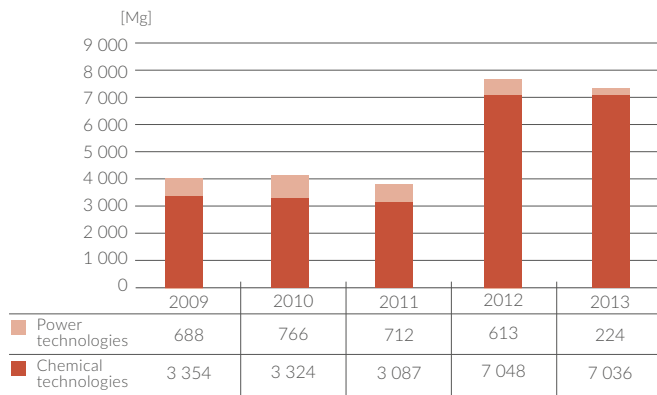
EMISSION OF POLLUTANTS INTO THE ATMOSPHERE

273 sources contribute to the emission of pollutants into the atmosphere:

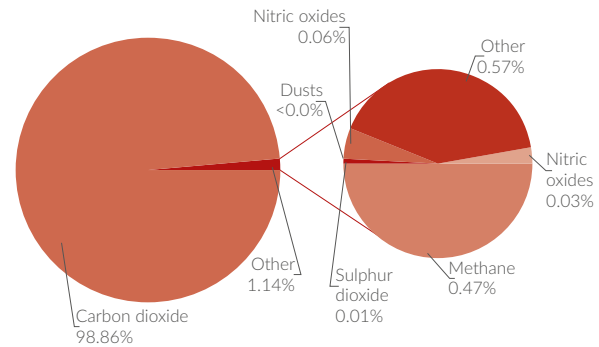
- 196 in Plastics Production Department (P-1, P-2, P-3, P-4),
- 76 in Fertilizer Production Department (A-1, A-2),
- 1 in Infrastructure Department.

The emission of substances by each emission source was controlled in the financial year by periodic measurements. The concentration and substance emission are measured for the hydrogen chloride recovery plant for residual organochlorines, thermal-electric power station and nitric acid production plant (allowing for dinitrogen monoxide and ammonia emission) on a continuous basis.

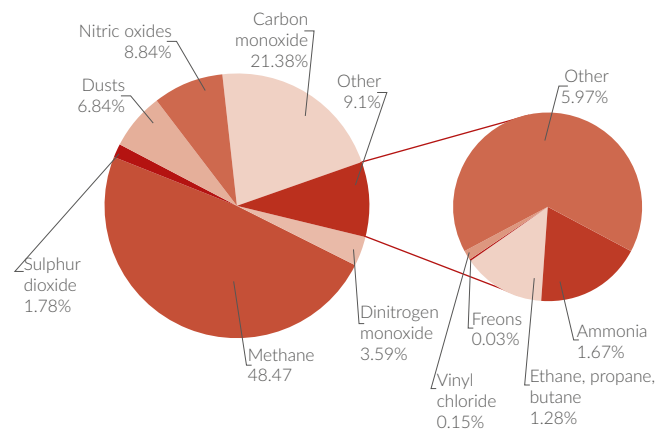
EMISSION OF SUBSTANCES (WITHOUT CO₂ EMISSION) BY SOURCE



SUBSTANCE EMISSION STRUCTURE IN 2013 (WITH CO₂ EMISSION)



SUBSTANCE EMISSION STRUCTURE IN 2013 (WITHOUT CO₂ EMISSION)



In 2013, compared to the previous year we have recorded:

- reduction of dust pollutant emission by 4.3%,
- reduction of gas pollutant emission by 17%.

WATER AND WASTEWATER MANAGEMENT

In 2013, a small increase (by approx. 4.8%) in total quantity of wastewater introduced via W-1 into the Ośla river was recorded with:

- significant reduction in COD load due to stabilized stream of wastewater removed from the Terephthalic Acid Production Plant (PTA),
- reduction in BOD5 due to stable operation of a biological node of the Industrial Wastewater Treatment Plant ANWIL S.A. and higher stability of processes being the basic source of the pollutants,
- reduction in ammonium nitrogen load at increased nitrate nitrogen load, due to periodically less stable operation

of the biological section of the Industrial Wastewater Treatment Plant ANWIL S.A. and the nitrification process,

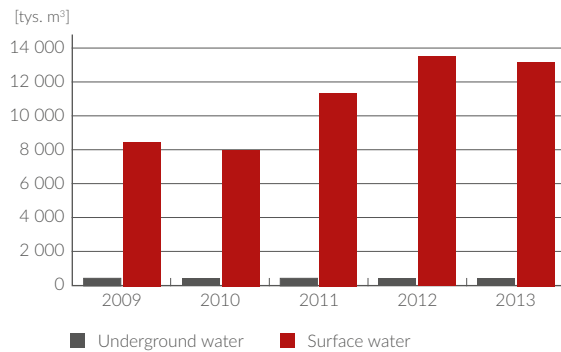
- slight increase in chloride and sulphate load due to change in production capabilities of Plastics Production Department,
- slight reduction in total suspended matter load due to stable and more efficient operation of the Industrial Wastewater Treatment Plant responsible for removal of those pollutants,
- reduction in heavy metal load and organochlorines as a result of operation of ANWIL S.A. production facilities.

WASTEWATER REMOVED BY ANWIL S.A.
IN 2009÷2013

Rodzaj oddziaływania	Jednostka	2009	2010	2011	2012	2013
Wastewater introduced to the tank	thousand m ³	4 861.0	5 277.1	7 938.9	8 092.3	8 481.4

In 2013, a reduction in the consumption of surface water by 1.9% and increase in consumption of underground water by approx. 2.9% was recorded.

CONSUMPTION OF UNDERGROUND
AND SURFACE WATER IN 2009÷2013



POLLUTION LOAD FOR POLLUTANTS INTRODUCED WITH THE WASTEWATER IN 2009÷2013 INTO THE OŚLA RIVER

Impact	Unit	2009	2010	2011	2012	2013
COD	Mg	331.4	149.5	544.3	804.4	653.1
Nitrate nitrogen		43.6	77.5	123.1	84.2	100.3
Ammonia nitrogen		30.0	17.6	8.3	25.4	8.1
Chlorides		5 776.4	5 215.5	7 914.1	7 773.5	8 891.3
Sulphates		947.9	681.6	1 246.7	1 453.2	1 653.9
Total suspended solids		22.4	19.6	153.1	105.0	103.47
Metals*		1.02	1.80	1.90	2.88	1.44
Organochlorines*		0.40	0.51	0.39	0.57	0.35

* chromium, zinc, cadmium, copper, nickel, lead, vanadium.

** tetrachloromethane, hexachlorobenzene, hexachlorobutadiene, trichloromethane, 1,2-dichloroethane, trichloroethylene, tetrachloroethylene.

WASTE MANAGEMENT

Wastes landfilled in the plant landfill in 2013 increased slightly by 2.6% compared to the last year. The difference was due to higher waste generation rate:

- soil and stones containing dangerous substances (waste code 17 05 03*- generated at 408 tonnes i.e. 100% increase compared to 2012);

- brine wastewater (by approx. 534 tonnes, i.e. 25% increase compared to 2012).

Reduced quantity of sludge from biological treatment of industrial waste (waste code 19 08 12) (by approx. 933 tonnes, i.e. 72.24% less compared to 2012) due to commissioning of the sludge drying plant.

WASTES LANDFILLED IN 2009÷2013

Impact	Unit	2009	2010	2011	2012	2013
Landfills for non-hazardous and neutral wastes with separated areas for hazardous wastes	998.2/2	4.98	5.28	0.00	0.00	413.08
	997.2	4 203.82	2 462.28	3 587.60	3 483.41	3 160.42
	997.11 ¹⁾	–	–	–	–	–

¹⁾ reclaimed and disused area

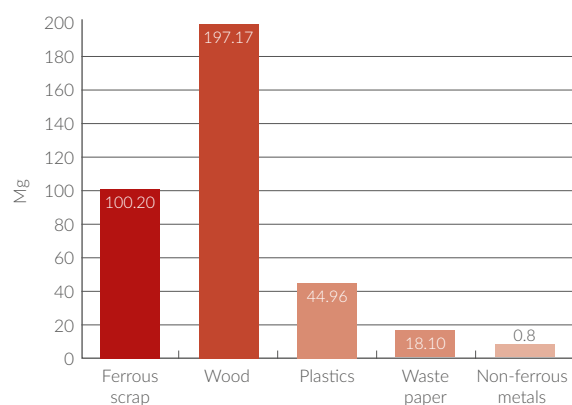


PACKAGING

In 2013, we have introduced 3,071.86 tonnes of packaging with our products - 73.61% in Poland and 26.39% in other European countries. The 841.39 tonnes of packaging were manufactured.

Following the example of the recent years, we have introduced a selective collection of wastes that can be reused as a raw material or can be recovered as a raw material or intermediate product.

RAW MATERIALS MANUFACTURED IN 2013



PACKAGING DATA FOR 2009-2013

Rok	Packaging introduced with product in Poland (t)	Exported packaging and with product (t)	Manufactured packaging (t)
2009	2 600.73*	548.65*	856.88
2010	2 200.47*	448.23*	632.66
2011	2 153.91*	819.44*	795.78
2012	2 486.45*	765.08*	1 007.78
2013	2 261.14*	810.72*	841.39

* does not include wooden pallets



DEPENDABILITY

WE SEEK THE BEST SOLUTIONS FOR THE ENVIRONMENT USING OUR OWN EXPERIENCE AND EXPERTISE AS WELL AS BY WORKING WITH LEADING UNIVERSITIES, EXPERTS AND INDUSTRIAL ORGANIZATIONS.

In the recent years, we have completed several investments to improve the quality of the environment and life of the residents of our region. Our most important solutions:

sludge drying plant construction and commissioning, wastewater treatment plant operated by the Water and Wastewater Management Department; investment commissioned in April 2013 allowed to reduce the quantity of landfilled wastes,

Benfield LB node retrofitting, Ammonia Production Plant resulting in reduction in CO₂ and NO_x emission and improving the energy efficiency rating of the ammonia production plant,

umbrella roof construction, Ammonium Nitrate Plant with a foundation protected against introducing fertilizer into the soil during rainfall,

reduction in the number of brine pipeline wells by almost a half (106 to 58) from IKS Solino to ANWIL; reduced number of potential brine leakage sources,

two wells repair, KPNS and KPNK sewerage system and the wastewater cleaning system piping, Vinyl Chloride Production Plant,

production efficiency improvement program, Fertilizer Production Department, co-financed by the European Regional Development Fund, a series of tasks completed on the Ammonia Production Plant and the Ammonia Acid Production Plant involving various production stages aimed to reduce the process energy intensity and thus the production costs.

The environmental impact is also a key factor, since the project aims to limit the emission of gases into the atmosphere by:

nitrogen oxide NO _x	- 11.772	tonnes per annum
carbon oxide CO	- 1.759	tonnes per annum
carbon dioxide CO ₂	- 36 825.64	tonnes per annum

The sustainable development strategy requires us to constantly seek new solutions to minimize the impact of our technological processes on the environment. CHEMEKO company owned by ORLEN Eko, a part of the ORLEN Group has an experience and is responsible for the control of the impact of technological processes on the environment, analysis of potential effects and imaging trends of the environmental requirements. CHEMEKO leads the Polish Office of the International Responsible Care Program on behalf of the Polish Chamber of Chemical Industry, promoting environmental initiatives among local communities.

The experience of our team is combined with the expertise of external institutes and organisations working on the environmental issues.

WE WORK TOGETHER WITH:

leading global chemical companies as part of the "Responsible Care" Program;

Polish Group of Chemical Safety of the Polish Chamber of Chemical Industry;

Wrocław University of Technology;

Łódź University of Technology on prevention of serious failures in the industry (post-graduate studies for ANWIL engineers and cooperation in development of three Safety Reports) and cooperation with the department of flow machines;

Industrial Chemistry Research Institute;

Polish Recycling System - Recovery Organisation in Warsaw on recovery of packaging;

"Fertilizers Europe" – representing the major producers of nitrogen-based fertilizers in Europe;

"Euro Chlor" – association of chlor-alkali process plant operators in Europe on limiting energy consumption by chloride and soda lye production processes and thus reduction in CO emission into the atmosphere and preservation of natural resources;

Chamber of Industrial Energetics and Energy Customers as part of the Forum CO₂;

Ecology Education Centre in Włocławek on environmental education of our younger generation.





Making chemistry
to fuel
the future

ANWIL S.A.

87-805 Włocławek, ul. Toruńska 222
tel. 54 236 30 91

e-mail: anwil@anwil.pl

www.anwil.pl

