

Summary of Corporate
Responsibility For

2018-2017

**Our commitment
for the future**

to continue new innovation

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Responsibility For

2018-2017



BAZAN GROUP



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About The Report

Below is a summary of the Bazan Group Corporate Responsibility Report for 2018, which includes The highlights of the Report.

You can view the full report at:

www.bazan-sustainability.co.il

Message from the Acting CEO

Shlomi Basson



Dear readers,

I am proud to present to you the Bazan Group Corporate Responsibility Report (the first since 2011), in which we endeavored to present a broad picture of our activities and the goals and challenges that lie ahead.

It took two years to draft and is the fruit of thorough and meticulous work. Publication of the report is another important step in carrying out the Company's managerial strategy and for developing the dialog with interested parties. We intend to continue publishing future reports in accordance with the most current and stringent reporting standards. The report in front of you relates to the Group's activities in 2017-2018, but before we delve into the details, I would like to shine a spotlight on the future from my perspective. The global energy market is currently undergoing rapid and dramatic changes, changes that will intensify in the foreseeable future. Global energy consumption, changing energy sources and the battle against global warming pose challenges for industrial and energy corporations interested in developing new technologies, new products and new capabilities.

Bazan Group has set itself a goal to become a leader in the world of energy innovation. We are currently exploring various ventures and our relationships as an energy industry with startups from various fields and academic institutes will continue to expand and tighten through collaboration to develop innovative technologies.

If in the past there was a clear divide between the energy industry and the renewable energy industry, starting from 2020 onwards we will see mutual integration and intensification thanks to the relative advantages of the old and new energy industries joining forces.

The report before you, focuses primarily on issues defined materially by the interested parties of Bazan Group, including residents of Haifa Bay, the Group's employees, the media, shareholders, decision makers and others. The Group deals with issues such as air quality, terms of employment, employee safety and business ethics that arise according to the needs of the interested parties.

The information provided in the report reliably reflects the activities of Bazan Group, with emphasis on the local and national arena. In the local arena, we reviewed our activities in relation to stringent regulatory requirements and conducted informed and relevant discourse with the Haifa Bay Area communities.

In the national arena, we focused on the need for the Group's operations to supply the basic raw materials required for the economy, such as essential fuels for transportation, polymers for the plastics industry and others. As you will see, Bazan is in the process of making the raw materials less pollutant and more environmentally friendly.

The Group's sustainability strategy focuses on human health and improving the quality of life. These are expressed in two key aspects: The first is to reduce the environmental impacts of industrial operations and the second, to optimize and improve the quality of life of many people by improving the Group's products.

However, concern for one's lifestyle and future cannot be addressed without special attention to the welfare of the people closest to us - our workers. Group employees are the force that drives us to thrive and succeed and therefore we are guided by the desire to continuously improve the work environment.

In order to ensure a safe and healthy working environment in Bazan Group, appropriate safeguards and precautions are taken for industrial production and the oil refining process in particular. Beyond that, Bazan invests considerable resources in creating a "safety climate" at the plant with the aim of reducing the number of accidents and safety incidents and creating a safer working environment.

We still have a long way to go to achieve the ambitious goals that we set for ourselves in each of our core operations. Only through sharing with the public, by understanding that we all have similar needs, can we successfully achieve our goals and create a healthy and clean living environment for us and for future generations. Our door is always open to you, we invite you to review and comment on the report. Your response is required so that we can continue to tailor the reports to the needs of the interested parties from year to year.

December 2019

Shlomi Basson
Acting CEO



About the Group



Bazan Group is the largest refinery and petrochemicals company in Israel, and the Haifa Refinery compound consists of three plants and included Carmel Olefins Ltd. and Gadiv Petrochemical Industries Ltd. An additional plant, Ducor Petrochemicals BV, is located in the Netherlands. The Group produces a wide range of petroleum distillation products with maximum production capacity of 26,600 tons of crude oil per day (197,000 barrels). More than 70% of the Company's products are distributed in the local market and the rest are exported, mainly to countries in the Mediterranean region. In addition to petroleum products, Bazan Group also produces downstream products such as polymers, aromatics, oils and waxes.

The Group employs approximately 1,400 permanent workers in Israel and more than 1,000 additional contract workers each year. A comprehensive study by BDO revealed that Bazan contributed, directly and indirectly, to the employment of some 14,400 workers in the country in 2018 (in terms of jobs). Its operations cover an area of 2,200 dunams in the Haifa Bay area.

Key Goals

In order to ensure improvement in key issues that are significant to Bazan Group and its stakeholders, the Group has decided to adopt a number of strategies in its four core areas that have a major impact on the Company's operations.



Topic **Quality of the Environment**
Strategy **Reducing benzene emissions**

Current situation:

1.5 tonne of benzene emissions in 2019 (compared to 2.2 tonne of benzene emissions in 2018)

Goal:

0.75 Tonne Of Benzene Emissions By 2024
Reduction Of 66%
In Emissions Compared To The Volume Of Emissions In 2018



Topic **Safety of the Workers**
Strategy **Reducing the number of work accidents according to the injury rate (IR) index**

Current situation:

In 2018, the IR was 1.5 (reduction of 80% compared to 2017)

Goal:

IR lower than 1 by 2024



Topic **Ethics and Supply Chain**
Strategy **Preparing an appendix of ethics and the signing of all suppliers**

Current situation:

At present there is no ethics appendix and the Company's suppliers are not assessed in regard to this issue

Goal:

By 2022, all the Company's suppliers will have signed this appendix



Topic **Innovation**
Strategy **Promoting two in-house projects and three external start-ups each year, by the end of 2024**

Current situation:

In 2019, the Group established the infrastructure for its innovation activities and embarked on preliminary collaborations with local and international entities

Goal:

2 internal organizational projects every year
3 external start-ups every year
By the end of 2024

At the Forefront of Innovation

Bazan Group invests in R&D (research and development) and innovation that enables it to provide high quality products and services in various markets and to position itself as a market leader now, and in the future. Below is a breakdown of some of the Group's outstanding innovations:



● Open Innovation

In early 2019, Bazan Group established its Bnovation innovation system- a platform for the Group's direct involvement with startups, entrepreneurs and researchers, that helps in creating an internal and external ecosystem with the goal of integrating the new age into the energy industry.

● Strong Transparent Polypropylene

One of the disadvantages of polypropylene is that it cannot be transparent and strong at the same time. Thanks to innovative development, the Company has succeeded in overcoming this drawback and introducing a transparent and strong polypropylene to the market for a wide range of uses, including food packaging (sheets, cups, trays, transparent ice cream boxes), household consumer goods (transparent storage boxes, household utensils), children's toys, toolboxes and products for the automobile industry.

● BLAB Program

The Bnovation system's first program designed for entrepreneurs, researchers and start-ups in which the Group will provide selected projects with a package of services, such as support and professional advice from Company employees, together with the opportunity to use the Company's infrastructure and pilot facilities for field experiments.

● Extending Shelf Life of Food

Carmel Olefins R&D department, in collaboration with the Technion, has developed an innovative plastic packaging that contains nanocapsules of polymer processed oils. After closing the food packaging with the product inside, the oil is released in a controlled manner inside the packaging and can prevent the development of a microorganism, a process that gives the packaging an antibacterial resistance advantage against a variety of bacteria and fungi. The project known as Nanopack has received Euro 7.7 million in support from the EU. Link to project website: <https://www.nanopack.eu/>

Environmental Quality

Maintaining a clean environment is essential for maintaining the health of the community, sustaining a prosperous community life and quality of life, and contributing to strengthening present and future social resilience. Therefore, Bazan Group regards environmental protection as paramount and is committed to minimizing the ecological footprint of its operations.

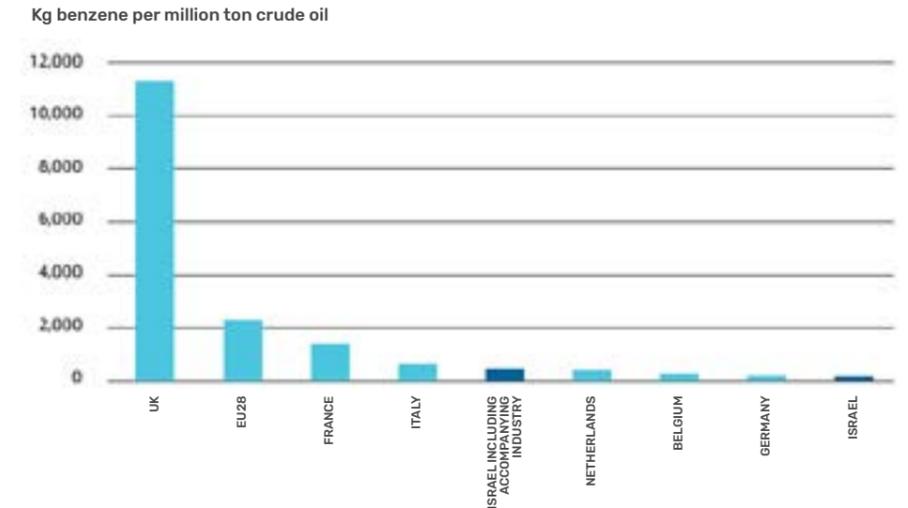


Ensuring The Quality Of The Air

The group invests considerable resources in reducing air Pollution, as part of implementing its

Comparison of benzene emissions per crude oil refining unit in 2017

* Source: Environmental Emissions Register issued by the Ministry of Environmental Protection in October 2019



Air quality is generally measured using several key indices:

concentration of volatile organic materials (NMVoc), concentration of sulfur dioxide (SO₂), nitrogen oxides (NO_x) and particles (PM).

The Ministry of Environmental Protection's Environmental Emissions Register report for 2018, indicates that a "comparison of emissions from Israeli refineries and European refineries, by standardizing the volume of crude oil refining, provides the following picture: NO_x emissions in Israel are similar to the average in Europe; SO₂ emissions are lower than emissions in Europe; and NMVoc and benzene emissions in Israel are the lowest among the countries tested."

To significantly reduce pollutant emissions, the Group operates advanced emission reduction systems in its processing furnaces and production facilities.

The following are some of the Company's achievements in this area - reduction of benzene emissions and suspended particles.

Benzene Emissions (2012-2018)



77% decrease in benzene emissions in 2012 through 2018

The main source of benzene emissions into the air (95%) is from transportation and gas stations. In the benzene production process, benzene is emitted into the air. In 2016, the environmental levels for several pollutants, including benzene, were intensified under the Clean Air Law when the most stringent levels in Europe and the US were defined. As part of this intensification, marine environment level was added for benzene emissions. This level is unique to Israel and does not appear in European and US regulation. The average yearly EU air quality level for benzene is 5 mcg/m³ (micrograms\sq. m.), the average benzene emissions from refineries in Europe is 5.25 tonne per year. The marine environment level that was set for benzene emissions is 3.9 mcg/m³ and allows for seven exceptions per year at each air monitoring station. Until this revision, there was only an annual threshold value for benzene, which was also revised and intensified at the same time. Bazan began implementing a work plan relating to benzene emissions in 2016. Since April 2017, and following a hearing at the Ministry of Environmental Protection, Bazan Group has been under an administrative order that tightens the regulatory supervision and monitoring with regard to benzene emissions from the Group's plants. In October 2017, the Ministry of Environmental Protection approved the Group's detailed work plan that includes monitoring, detection and treatment of the Haifa Basic Oils Carmel Olefins Gadiv Petrochemical Ind. Oil Refineries benzene emission sources inside the compound. Over the past two years the Group has executed its work plan for the treatment of this pollutant, and as mentioned, this has significantly reduced benzene emissions from the compound. The work plan includes, among other things:

- Purchasing an integrated central treatment CTO* and VCU** system that will enable more effective suction capacity at higher rates.
- Installing a VCU system (for suction and treatment of benzene vapor).
- Establishing a real-time UV-DOAS (benzene monitoring system) installed on the Group's fence*
- **Emergency Team** - the Group trained a special team that works to locate benzene emission sources using specialized measuring equipment. The findings of their work are reported regularly and immediately to the Ministry of Environmental Protection..

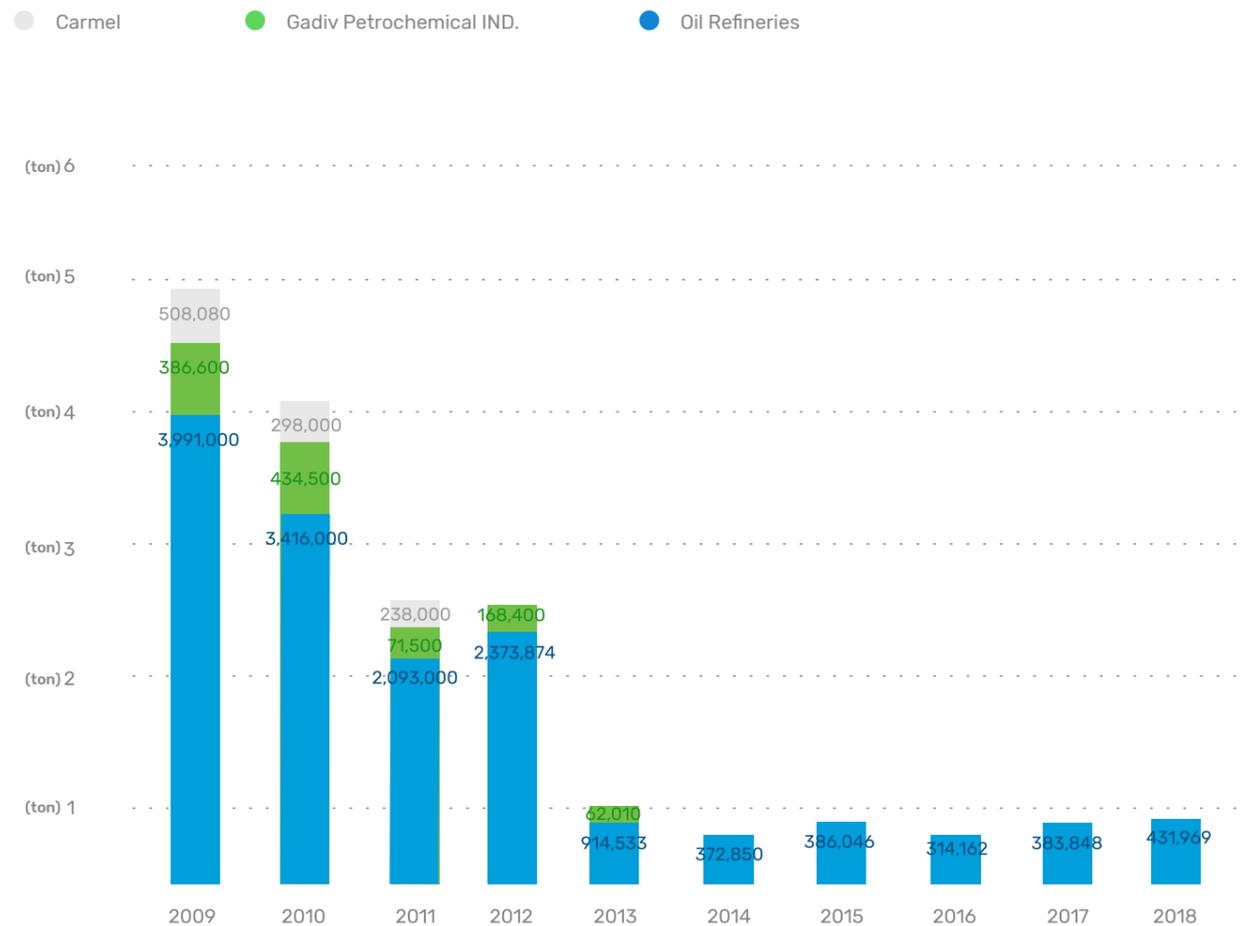
* The data is reported to the Ministry of Environmental Protection and a special purpose team checks real-time alerts sent from the system.

CTO - Catalytic Thermal Oxidizer - a facility for treating emissions containing organic matter, which oxidizes the compounds containing carbon dioxide and water.

VCU - Vapor Combustion Unit - a vapor burning type of thermal oxidation system for treating emissions containing hydrocarbons. This system oxidizes (burns) the hydrocarbons at high temperatures and converts them into water and carbon dioxide and emits them safely into the atmosphere.

All of these resulted in a drastic reduction in benzene emissions: over the last 5 years, emissions have dropped by 77%. The most significant decrease was in the Gadiv plant (95% decrease). In 2018, Bazan emitted 2.2 tonne of benzene, and one of the key goals the Group set out in this report, is to reach benzene emissions of 0.75 tonne by 2024 - a reduction 66% compared to emissions in 2018.

Data on SO2 Emissions (years 2009 - 2018)



91% reduction in SO2 emissions in 2009 through 2018

Water

Bazan invests much effort to reduce its water consumption in general, and its consumption of potable water in particular, by using alternative sources such as brackish water, reclaimed water from independent sources and desalinated water from the effluent recovery facility that reclaims all industrial effluents from Bazan and Carmel Olefins.

Bazan Water Consumption (m3)

	2018	2017	2016	2015
Fresh water	2,680,777	3,355,231	5,533,855	5,929,460
Reclaimed water	3,472,120	2,856,555	929,347	992,166
Brackish water	2,052,004	2,249,639	2,572,264	2,246,327

Wastewater

Industrial wastewater from the production processes of the Group companies is treated by the companies independently and discharged to the effluent recovery facility. Thus, preventing the effluent from flowing into the Kishon river, as in the past. Clean brine flows continuously from the effluent recovery facility at a quality compliant with the discharge permit, at a rate of 40% of the total wastewater.

Once the effluent recovery facility began operating, the amount of effluents decreased by 75%.

Industrial wastewater discharged into the Kishon

Year	Wastewater to Kishon (m3)
2014	3,000,000
2015	2,837,000
2016	2,709,000
2017	701,373
2018	662,674

Waste

Bazan Group has adopted various measures to reduce the amount of waste at source and to redirect as much waste as possible for reuse and recycling. Since 2015, the amount of non-hazardous waste has been reduced as a result of redirecting some of the waste for recycling and recovery.

Non-hazardous Waste (tons)

	2018	2017	2016	2015	2014
Bazan	3,737	4,997	5,018	6,051	1,924
Gadiv	642	303	7	34	
Carmel	1,120	1,048	508	57	330
Haifa Basic	131	198	162.9		
Total Bazan Group	5,630	6,546	5,696	6,142	2,254

Hazardous Waste (tons)

	2018	2017	2016	2015	2014
Bazan	1,820	2,067	8,843	4,553	970
Gadiv	888	698	753	808	905
Carmel	1,282	1,427	1,091	1,189	1,258
Haifa Basic	123	80	43	83	251
Total Bazan Group	4,113	4,272	10,731	6,633	3,384

* The high volume of waste in 2016 was due to the evacuation of sludge from the factory

The People

Bazan Group considers its human resources as most important for the Company's success and prosperity over the years. It is no wonder, therefore, that the Group invests so much in improving the working conditions and physical well-being of its employees, through professional education and training of employees and managers, and that it encourages personal and professional empowerment, creating a balance between the home and the job, leisure activities, diversity of the workforce in the organization and so forth. This trend increases employee satisfaction and dedication to the organization.



Employee Safety and Health Above All

As aforesaid, a safe and healthy work environment is top priority at the Bazan Group. The Group works in accordance with the requirements of the law for safeguarding the health of all employees, who undergo periodic check-ups, well beyond the requirements of the law, in setting up new facilities and in ongoing operation.

The Group's considerable investment in employee training and advanced safety measures has resulted in a significant reduction in the number of work accidents, among the Company's employees and contractor employees that it employs.

Number of work accidents in 2017 - 2018

(Company employees and contract workers)

Business unit	2017			2018		
	Company employees	Contract workers	Total	Company employees	Contract workers	Total
Total Bazan Group	46	25	71	18	24	42
Fuels	25	9	34	10	17	27
Polyolefins	11	3	14	4	4	8
Aromatics, oils and waxes	8	8	16	4	3	7
Headquarters	2	5	7			

Working with the community

Bazan Group's involvement in the community is based on harnessing its financial and human resources and abilities to promote and empower the communities among which it is located. This is reflected in the creation of strategic, long-term collaborations based on dialog with the community together with deepening community engagement and assistance, with emphasis on integrating volunteers.

Among the various existing projects, below are two projects that the Group is particularly proud of:

Holocaust survivors are not forgotten

Bazan Group is committed to a project launched by the non-profit, Leket Israel, and its employees distribute food packages to Holocaust survivors living in the Haifa and Karyot area. Once a month, employees, in their own time, visit the homes of the survivors, talk to them and hand them the food package.



Contribution for youth supporting the IDF

Each year, two 10-day stints are held, during which youths aged 15 to 18 work at IDF Northern Command bases. The activities carried out at the bases are part of work program of the Emergency Stores Unit of the Logistics Corps, and includes servicing of equipment and equipping emergency stores. The teens prepare personal equipment to improve the individual well-being of the soldiers, emergency food packages for the civilian population, updating contact information and more. The project, in its 28th consecutive year, is funded by the Company and includes a shuttle service and light breakfast for the boys and girls.

In 2017-2018 the contribution to the community increased by 100% and at present amounts to NIS 3.3 million