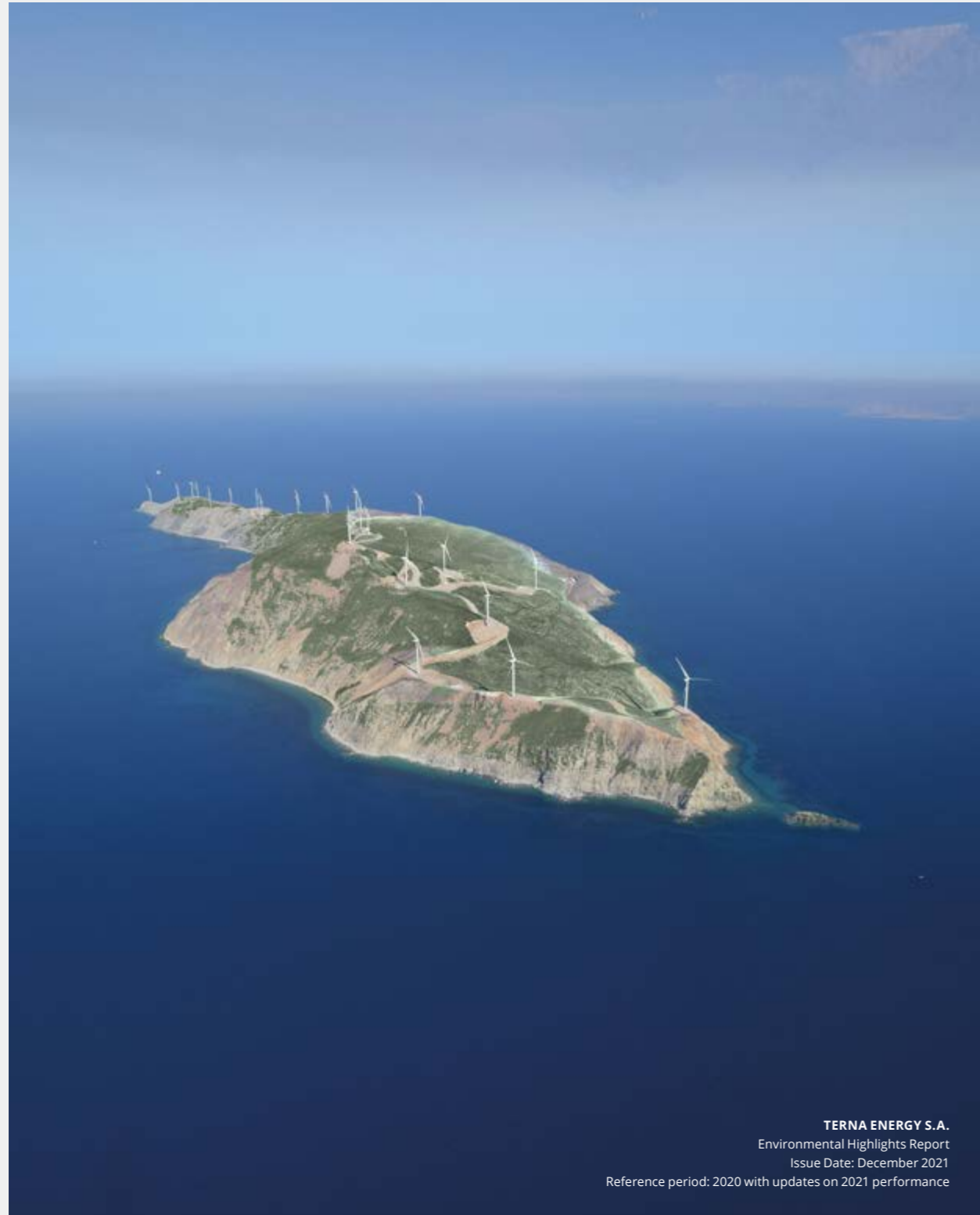


ENVIRONMENTAL HIGHLIGHTS REPORT





TERNA ENERGY S.A.
Environmental Highlights Report
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About TERNA ENERGY

TERNA ENERGY is one of the leading developers of Renewable Energy Sources (RES) in Greece. Climate change mitigation lies at the core of our business and is fully integrated in our decision and management mechanisms. Having the full support of our Board of Directors, TERNA ENERGY is actively involved in climate change mitigation in the following ways:

1. To decarbonize our company with reference to Scope 2 emissions. More specifically, we commit in using 100% green electricity from 2021 onwards in all our facilities in Greece.
2. To broaden and intensify the assessment of risks and opportunities for climate change that we perform as part of our Environmental Management System, and to align it with the recommendations of TCFD.
3. To contribute to global decarbonization by increasing the installed capacity of our energy production from RES to 3GW by the end of 2025. We will continue and intensify the production of energy from RES, which in 2020 resulted to the prevention of 3 million tons of Greenhouse Gases (GHG).
4. To accelerate our investment plans in the field of energy storage, aiming to contribute decisively to the maximization of penetration of RES and to the achievement of the Greek national goals for energy and climate.

In order to execute our strategy and work towards continuous improvement we are planning the following actions to be implemented from 2022 onwards:

Continue to increase the awareness of our personnel with targeted training sessions.

Promote climate change awareness in our value chain (suppliers, subcontractors and customers) by including specific clauses in our agreements with suppliers and subcontractors.

Expand the ISO 50001 certification of our energy management system to all our existing installations and offices in Greece.

Investigate additional measures for the reduction of our Scope 1 emissions including use of electric/hybrid vehicles and equipment.

Expand the estimation of Scope 3 emissions to include emissions across our value chain.



About these Environmental Highlights

In line with our commitment to transparency and disclosure, TERNA ENERGY published its seventh Corporate Responsibility (CSR) report, in November 2021. In these highlights, we share a condensed overview of our environmental performance for 2020 with updates on 2021 performance.

For a more in-depth overview of our progress to date, we invite you to read our [2020 CSR Report](#).

Renewable energy and climate change

Climate change mitigation

Energy generation and consumption

In 2020, TERNA ENERGY’s electrical energy generation from renewable energy sources exceeded 4 thousand GWh, thus averting the emission of 3 million tons of greenhouse gases.

Table 1: **TERNA ENERGY total annual electricity generation in Greece and abroad and avoided GHG emissions 2016 - 2020**

Year	Electricity generation from renewable energy sources (GWh)	CO ₂ Emission prevention (t CO ₂ eq)
2016	1,770	1,317,651.61
2017	2,092	1,608,411.14
2018	2,714	2,010,868.16
2019	3,238	2,374,323.33
2020	4,151	3,006,166.00

Electrical energy generation for 2021 was 2.284 GWh in total, affected by the disinvestment in USA.

The electricity consumption in our operations, is coming mainly from the national grid, since the electricity we produce in our power plants is primarily channeled to the grid.

Table 2: **TERNA ENERGY Greek facilities: energy consumption data for 2020**

Energy consumption data ¹	2020
Total energy consumption (in MWh)	11,686
Total energy consumption from the Grid (in MWh)	9,266
Total energy consumption from fuels (MWh)	2,420
Percentage of consumed energy from the grid	79.3%
Percentage of consumed energy from fuels	20.7%
Total of energy consumption that is derived from non-renewable sources (in MWh)	9,287
Total of energy consumption that is derived from renewable sources (in MWh)	2,399
Percentage of energy consumption that is derived from non-renewable sources	79.47%
Percentage of energy consumption that is derived from renewable sources	20.53%
Total electrical energy consumption (MWh)	9,266
Total of electrical energy consumption that is derived from non-renewable sources (in MWh)	6,867
Total of electrical energy consumption that is derived from renewable sources (in MWh)	2,399
Percentage of electrical energy consumption that is derived from non-renewable sources	74.1%
Percentage of electrical energy consumption that is derived from renewable sources	25.9%
Total energy consumption that is derived from non-renewable sources excluding office facilities (in MWh) ²	9,088
Total electrical energy consumption excluding office facilities (in MWh) ²	8,997
Total electrical energy consumption that is derived from non-renewable sources excluding office facilities (in MWh) ²	6,667
Total energy consumption that is derived from renewable sources excluding office facilities (in MWh) ²	2,329
Total electrical energy consumption that is derived from renewable sources excluding office facilities (in MWh) ²	2,329
Breakdown of non-renewable electrical energy share by source:	
Lignite	11.4%
Diesel	7.6%
Natural Gas	43%
Mineral Coal	6.7%
Fossil Fuels	0.8%
Nuclear Power	4.6%
Breakdown of renewable electrical energy share by source:	
Photovoltaic	9%
Wind Farms	12.5%
Hydroelectric	3.3%
Biomass	1.1%
Geothermy	0.1%

¹The share of renewable energy sources corresponds to the National Grid’s sources mix (source: Renewable Energy Sources and Guarantees of Origin Manager - www.dapeep.gr)
²The indicator accounts energy consumption from all TERN ENERGY facilities located in Greece, excluding the office buildings (three buildings in 2020).

In 2021, the BoD of TERN ENERGY committed to use 100% electrical energy from renewable sources in all company’s facilities in Greece, as of 2021, reducing the share of non-renewable energy in its energy mix, and significantly decreasing its global scope 1 and 2 emissions.

Understanding our energy needs and mapping our sources is a fundamental element of our environmental management system. Table 3 illustrates the energy consumption within the facilities of the Group, including data for the following countries: Greece, United States of America, and Poland.

Table 3: TERNAL ENERGY's Greece, USA and Poland facilities: energy consumption 2020 and 2019

	2020	2019
Fuel consumption within the Group from non-renewable sources (in MWh) ¹	2,679	2,195
Electricity consumption within the Group (in MWh)	9,569	5,779
Total energy consumption within the Group (in MWh)	12,248	7,974
Share of electricity consumption on total energy consumed within the Group	78%	72%

¹The significant increase in fuel consumption in Greece in the year 2020 compared to the year 2019 is due to the construction of the new plant in Ioannina and the wind farms in Evia.

Greenhouse gases and other air emissions generation

We have been estimating and monitoring our greenhouse gas emissions related to our direct operations in Greece since 2019 and we are continuously aiming to improve this process. In 2020, we started for the first time to partially estimate Scope 3 emissions, by estimating the emissions from our upstream leased assets. TERNAL ENERGY will further assess its impact on climate change by compiling a value chain carbon footprint inventory, a process that it is expected to be finalized in 2022, following the Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

Table 4 illustrates greenhouse gas and other air pollutant emissions estimations for the activities to which TERNAL ENERGY has the operational and financial control in Greece. The methodology followed for the quantification and compilation of greenhouse gas emissions was based on the ISO 14064-1:2018 standard and the Greenhouse Gas Protocol.



Table 4: TERNAL ENERGY Greek facilities: Greenhouse gas and air pollutants emissions in 2020 and 2019

Indicator	2020	2019
Total direct (Scope 1) GHG emissions in metric tons of CO ₂ e	48.3 ¹	- ²
Biogenic (out of scopes) CO ₂ emissions in metric tons of CO ₂	0	0
Total indirect (scope 2) location based emissions in metric tons of CO ₂ e	3,059.4 ¹	2,121
Total indirect (scope 2) market-based emissions in metric tons of CO ₂ e	3,059.4 ¹	2,121
Gases included in the calculation of the indirect (scope 2) emissions (e.g. CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃ , or all)	CO ₂ , CH ₄ & N ₂ O	CO ₂ , CH ₄ & N ₂ O
Indirect (scope 3) emissions from category 8: Upstream Leased assets in metric tons of CO ₂ e	191.1 ³	-
Emissions of NO _x (include NO and NO ₂ and exclude N ₂ O) in metric tons	5.32	3.28
Emissions of SO _x (include SO ₂ and SO ₃) in metric tons	3.2	1.98
Emissions of non-methane volatile organic compounds (VOCs) in metric tons	5.86	3.97
Emissions of hazardous air pollutants (HAPs) in metric tons	0	0

¹The calculation includes the activities to which TERNAL ENERGY has the operational and financial control in Greece.

²For 2019, Scope 1 emissions were not measured for the activities to which TERNAL ENERGY has the operational and financial control.

³The calculation includes emissions from the operation of assets that are leased by the TERNAL ENERGY in Greece in 2020 and not already included in the Scope 1 or Scope 2 emissions.

Climate change adaptation

At TERNAL ENERGY we recognize that climate change, as manifested in the gradual rise in average global temperature or the increasing frequency of exceptional and extreme weather conditions, constitutes a challenge for the global business community, presenting both opportunities and risks to designing and applying business models.

The Board of Directors of TERNAL ENERGY committed in 2021 to enhance its climate change risk and opportunities assessment, and to further align with the TCFD recommendations. This process will be finalized during 2022, and the report will be publicly disclosed.

Water Stewardship

We ensure the rational use of water in all our facilities, both in the production process, as well as for WASH (Water Sanitation and Hygiene) services for the employees.

In cases where the production process allows it, practices of water recycling and reusing are applied and are part of the design parameters of the installation. One such example is the Municipal Solid Waste Treatment Plant of the Epirus Region.

The unit is connected to the water network of the Municipality and water is consumed in the production process, as well as for WASH services. Part of the water used in the production processes ends up in the biological wastewater treatment of the unit through a drainage network. The wastewater treatment receives wastewater from WASH services. Both streams are treated by the wastewater treatment plant, part of its effluent is being then reused only for production purposes. This scheme achieves the best possible management and reuse of water.

In 2020, the total water withdrawals of global facilities amounted to a total of 5,620m³. In our waste management facility “Municipal Solid Waste Treatment Plant of Epirus Region” we treated 4,790m³ out of which 4,440m³ were reused in the production process, after the biological treatment. This leads to an overall 85.23% water recycle rate (i.e. wastewater that was treated to a sufficient extent for reutilization purposes inside the production process) and a 79% water reuse rate. The total volume of wastewater discharge for 2020 was 100.27m³.

The majority of our water withdrawals is sourced from the Municipal Water Supply and Sewerage Company of Ioannina of the Municipality of Dodoni. The total water consumption came from the Group’s operating facilities in Greece, USA, Poland and Bulgaria. We assessed our facilities locations using the WRI Aqueduct tool and we identified that the water withdrawn from our facilities in Greece is sourced from high baseline water areas, while in the other locations where we operate (USA Texas, Poland and Bulgaria) water is sourced from low to medium baseline water stress. Our water metrics for 2019 and 2020 are illustrated in Table 5.



Table 5: TERNA ENERGY Greece, USA, Poland and Bulgaria facilities: water usage in 2020 and 2019

	2020	2019
WATER WITHDRAWAL BY SOURCE		
Surface water (m ³)	0	0
Groundwater (m ³)	0	0
Seawater (m ³)	0	0
Produced water (m ³)	0	0
Third-party water (m ³)	5,620	4,180
Total water withdrawal (m³)	5,620	4,180
Percentage of water withdrawal from high baseline water stress areas	98%	-
WATER DISCHARGE BY RECEPTOR		
Surface water (m ³)	0	0
Groundwater (m ³)	0	0
Seawater (m ³)	0	0
Produced water (m ³)	0	0
Third-party water (m ³)	100	0
Total water discharge (m³)	100	0
WATER CONSUMPTION		
Total water consumption (m ³)	5,620	4,180
WATER RECYCLING AND REUSE		
	2020	2019
Water recycled (m ³)	4,790	0
Water reused (m ³)	4,440	0
WATER RELATED COMPLIANCE CASES		
Fines due to noncompliance with environmental laws and regulations rendered to water (number of fines)	0	0

The water withdrawn from the facilities in Greece and outside Greece (Poland, Bulgaria, USA) year to date August 2021 is summarized in Table 6.

Table 6: TERNA ENERGY Greece, Poland, Bulgaria, USA facilities: withdrawals by source - 2021 August year-to-date

	2021 Year to date August			
Water withdrawal by source:	Greece	USA	Poland	Bulgaria
Surface water (m ³)	0	0	0	0
Groundwater (m ³)	0	0	0	0
Seawater (m ³)	0	0	0	0
Produced water (m ³)	0	0	0	0
Third-party water (m ³)	3,750	90	130	16

Waste management

In every new installation / activity we develop, we record the volumes and the type of waste generated both during the development and the operation phases, in order to have a complete picture of the overall footprint of our activities and to be able to receive comprehensive decisions for their optimal management.

The volume of waste generated as a result of our activities, is characterized by high variability from year to year, since this is related to our project development activities, but also the very nature of our projects. In this context, we recognize that the comparison of waste volumes from year to year does not reflect the full picture of our performance in this area. All waste volumes quantities are listed in the Electronic Waste Register (EWR) for all companies of the TERN A ENERGY Group. We are closely monitoring these volumes and we will develop relevant targets and KPIs to improve our performance monitoring.



Table 7: TERN A ENERGY Greece, United States of America, Bulgaria, Poland facilities: waste generation and treatment in 2020 and 2019

Waste by composition and treatment method – Hazardous waste						
	2020			2019		
	Waste generated	Waste diverted from disposal	Waste directed to disposal	Waste generated	Waste diverted from disposal	Waste directed to disposal
Lubricants	21,619	21,619	0	15,060	15,060	0
Contaminated absorbent materials	15,694	15,694	0	17,020	17,020	0
Contaminated plastic packaging	11,106	11,106	0	3,826	3,826	0
Oil and gas filters	5,333	5,333	0	3,556	3,556	0
Batteries	911	911	0	25	25	0
E-waste	94	94	0	0	0	0
Waste adhesives and sealants	244.6	244.6	0	0	0	0
Laboratory Waste	40.00	40.00	0	0	0	0
Total	55.04	55.04	0	39.48	39.48	0

Waste by composition and treatment method – Non-Hazardous waste						
	2020			2019		
	Waste generated	Waste diverted from disposal	Waste directed to disposal	Waste generated	Waste diverted from disposal	Waste directed to disposal
Urban waste	12.01	0	12.01	1.88	0	1.88
Recyclable	19.03	19.03	0	17.40	17.40	0
Total	31.04	19.03	12.01	19.28	17.40	1.88

Waste diverted from disposal by recovery operation – Hazardous waste						
	2020			2019		
	Onsite	Offsite	Total	Onsite	Offsite	Total
Preparation for reuse	0	0	0	0	0	0
Recycling	0	55.04	55.04	0	39.48	39.48
Total	0	55.04	55.04	0	39.48	39.48

Waste diverted from disposal by recovery operation – Non-Hazardous waste						
	2020			2019		
	Onsite	Offsite	Total	Onsite	Offsite	Total
Preparation for reuse (biogas production)	0	0	0	0	0	0
Recycling	0	19.03	19.03	0	17.40	17.40
Total	0	19.03	19.03	0	17.40	17.40

Waste directed to disposal by disposal operation - Hazardous waste						
	2020			2019		
	Onsite	Offsite	Total	Onsite	Offsite	Total
Incineration (with energy recovery)	0	0	0	0	0	0
Incineration (without energy recovery)	0	0	0	0	0	0
Landfilling	0	0	0	0	0	0
Total	0	0	0	0	0	0

Waste directed to disposal by disposal operation - Non-hazardous waste						
	2020			2019		
	Onsite	Offsite	Total	Onsite	Offsite	Total
Incineration (with energy recovery)	0	0	0	0	0	0
Incineration (without energy recovery)	0	0	0	0	0	0
Landfilling	0	12.01	12.01	0	1.88	1.88
Fertilizer	0	0	0	0	0	0
Total	0	12.01	12.01	0	1.88	1.88

The hazardous waste generation from the facilities of TERN A ENERGY outside Greece (Poland, Bulgaria, USA) for 2021 is summarized in Table 8.

Table 8: TERN A ENERGY Poland, Bulgaria, USA facilities: Hazardous waste generation for 2021

Year 2021				
Type of waste		Poland	Bulgaria	USA
Lubricants	kg	0	1800	0
Contaminated absorbent materials	kg	2375	900	8776,87
Contaminated plastic packaging	kg	214,5	0	0
Oil and gas filters	kg	1198	0	5548,61
Batteries	kg	29	0	0
E-waste	kg	0	0	160
Total	kg	3816,5	2700	14485,48
	t	3,817	2,7	14,485

Suppliers and subcontractor’s environmental management

As stated in our Integrated Management System policy we encourage our partners (suppliers, subcontractors and customers) to adopt the best environmental practices and reinforce their environmental consciousness.

We expect our partners to implement an environmental management system according to EN ISO 14001, to demonstrate their commitment towards the protection of the environment. For 2021, the 76,56% of our suppliers/subcontractors is certified as per EN ISO 14001 standard.



THANK YOU

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