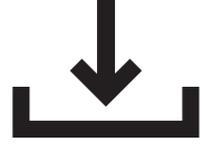


2016 // 2017  
SUSTAINABILITY  
REPORT >





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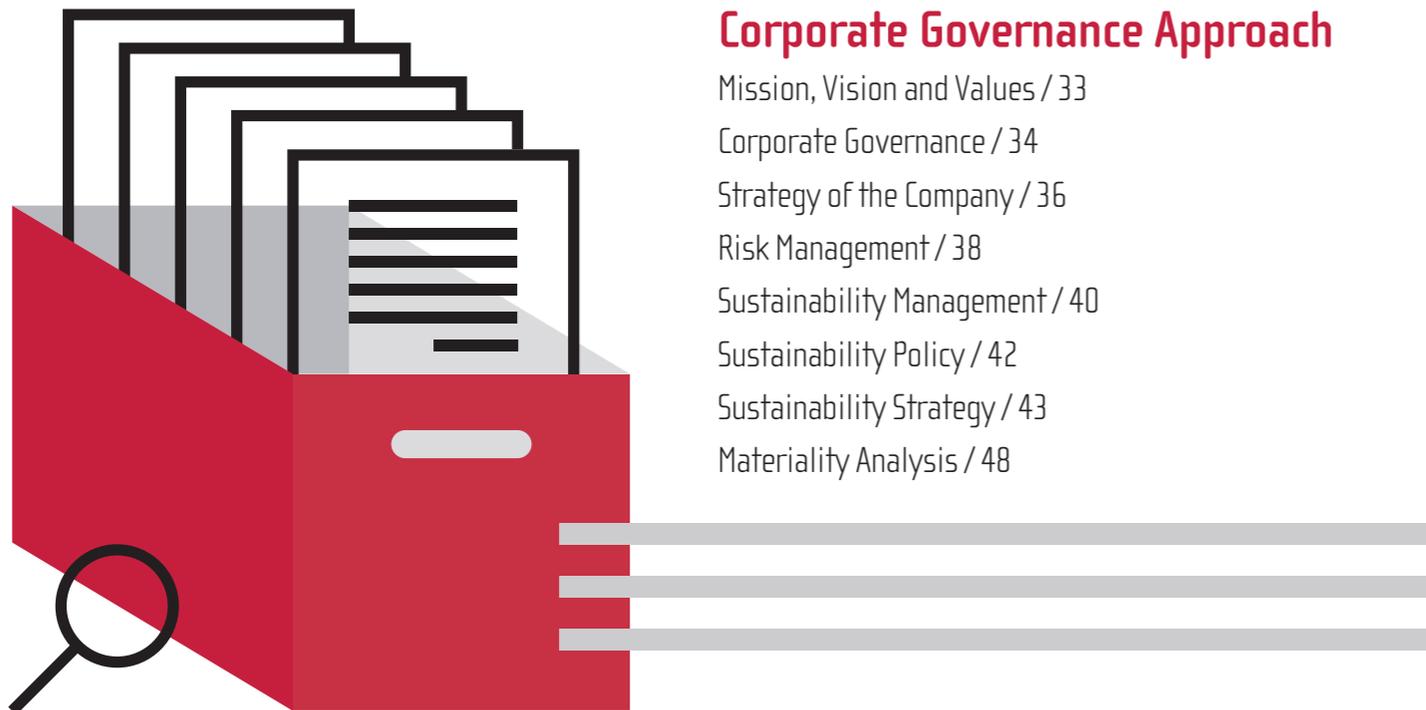
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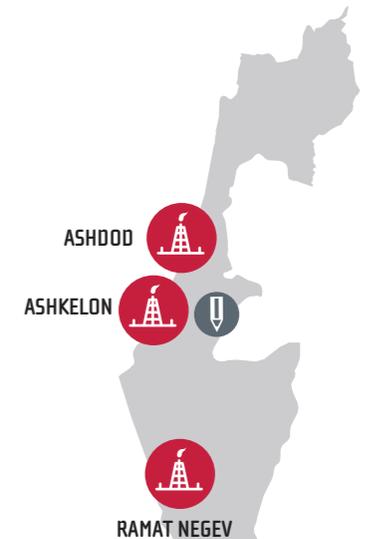
# ZORLU ENERJİ

## > Domestic Investments

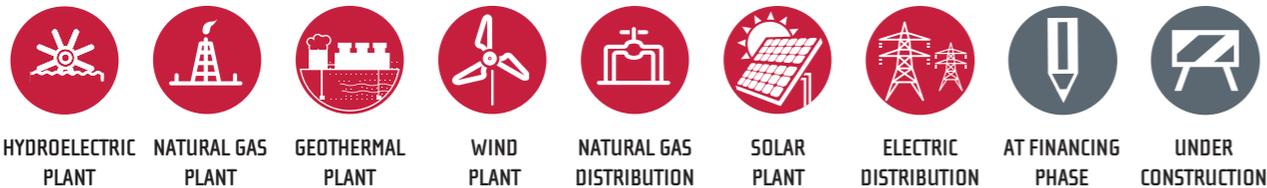
## > International Investments



## PAKISTAN



## ISRAEL



> We have always aimed for the top in the business world. We have told our story to the world that began with our first power plant and now we are passing it on to future generations that will shape our tomorrow. We have kept growing by adding experience to our excitement from Day 1 and by sustaining the competitive advantage we have attained from our robust value chain. <



# MESSAGE FROM THE MANAGEMENT



> SELEN ZORLU MELİK  
Board Member



> SİNAN AK  
CEO

> Knowing that sustainability is not a choice but a responsibility we have towards the present and future generations, we are conducting our activities with a transparent management approach while interacting with all stakeholder groups that have adopted this mentality. <

Dear Stakeholders,

We are pleased to present our Sustainability Report, prepared in line with the internationally recognized GRI Standards, which includes our economic, social and environmental practices and performance according to our sustainability framework throughout 2016 and 2017.

With our fifth Sustainability Report, we aim to contribute to raising awareness, monitoring, and evaluating our sustainability performance in order to set sustainable improvement targets for the future, continue to combat climate change and ensure sustainable development.

As a Company, we have set our main objective as creating value for all our stakeholders with a profitable business model that respects humankind and nature. Therefore, meeting the social, economic and environmental expectations in the decision-making processes of our investment, generation and distribution activities is of equal importance to our financial performance.

Knowing that sustainability is not a choice but a responsibility we have towards the present and future

generations, we are conducting our activities with a transparent management approach while interacting with all stakeholder groups that have adopted this mentality.

**“We are moving forward by integrating sustainability into our growth-oriented strategy”**

2016-2017 was a period in which we closely monitored and managed the environmental and social impacts of our investments and projects, improved our dialogue with stakeholders, and identified our priorities in line with our Sustainability Strategy and Policy while taking into account local, national and global developments. We also conducted a Materiality Assessment in which we also incorporated stakeholder feedback from surveys and the opinions of the Sustainability Board and Senior Management.

Fully aware of the responsibility that comes from being a pioneer in our sector, we have made our sustainability approach one of the main factors that determines our business strategy. Within this framework, we have integrated our sustainability mentality into

## > MESSAGE FROM THE MANAGEMENT

our activities to form a sustainable growth model. During the reporting period we have started reassessing our Sustainability Strategy in the light of our “Vision 2022” which incorporates our future-oriented development goals as well as changing necessities, and we are planning on completing and communicating the updated version with all our stakeholders in 2018.

**Economically and politically,** 2016 to 2017 was a rather active period for both Turkey and the global markets, where monetary policies that aimed at economic expansion and high liquidity supported the world economy as developed countries recorded high growth.

**In 2017, the energy sector experienced significant development.** The announcement of the United States, one of the world’s major fossil fuel consumers that it would be pulling out of the Paris Agreement was met by a backlash from many countries. Despite this news, the transition to a low-carbon economy in the private sector and efforts to combat climate change have recently been gaining more momentum. In our country, The National Energy and Mining Policy stands out in 2017, which aims to maximize the use of renewable energy resources, thus minimizing external dependence and the current account deficit. The Policy is due to be published in the near future and is critical for determining trend analyses, long-term scenario outlooks and a roadmap. Implementation of the Policy is expected to benefit the integration of energy strategies in efforts to combat climate change, and to be one of the important steps that contributes to the development of en-

ergy efficiency and the evaluation of renewable energy potential in Turkey.

### **“We have created our sustainability-based value chain with collective effort”**

**Through our successful performance** and effective strategy and decision-making, we have greatly increased technological advances and human resource development in our sector and have also made strategic investments.

**As a Company that regards sustainability** as a guide for all its activities, we consistently keep shaping our Sustainability Policy in line with combatting climate change, managing greenhouse gas emissions, energy efficiency, responsible stakeholder dialogue and conservation of natural resources. Knowing that global climate change is one of the greatest risks and threats of our time, we are continuing our efforts and investments to monitor and evaluate the adverse effects of climate change while reducing our greenhouse gas emissions. Consistent with this mentality, we are carrying out power plant projects in our country using advanced clean technologies with low emissions. In 2017, our renewable energy power plants constituted 76% of our domestic installed capacity.

**One of the main indicators of our contributions to the transition** of a low-carbon economy is the increase of our renewable energy installed capacity from 444 MW in 2015 to 568 MW by the end of 2017. 76% of

our 744 MW total domestic capacity in 2017 is based on renewables. At the same time, the Company’s net electricity generation from renewables in Turkey accounted for 77% of its total electricity generation in 2016, which reached 82% in 2017.

**The sustainability journey we devoted ourselves to as a Company,** has resulted in success stories during the reporting period with our increasing investments. For example, Zorlu Enerji and Zorlu Doğal were awarded the “Climate Leadership” award in the “2017 CDP Climate Change Program”, while Zorlu Enerji also qualified for the BIST Sustainability Index on a voluntary basis in 2016 and 2017. In addition, we have increased our social investments more than three times compared to the previous reporting period. The “Energy for Our Children” Project received national and international awards, including the “Low Carbon Hero” Award. We are increasingly contributing to Turkey’s future every year through the benefits we bring communities to all our investment locations as we generate energy from local and renewable sources with our innovative approach.

**Utilizing clean and renewable energy resources,** we began our solar energy projects through Zorlu Solar with a vision of **“making Turkey the center of solar in our region”** and made our first investment during the reporting period for this purpose. Zorlu Solar became the distributor of the American company First Solar Inc., which develops solar energy technologies, in 26 countries. As a result, we aim to

combine our experience in renewable energy with advanced technologies and become the focal point that expands from our region and meets the solar energy needs of a larger area.

In terms of geothermal energy, one of our strongest areas in renewable energy, the first unit of Kızıldere III became operational in August 2017 with an installed capacity of 99.5 MW, being our fourth geothermal energy project in Turkey. Construction of this power plant began in 2016 with a total investment that amounted to USD 320 million.

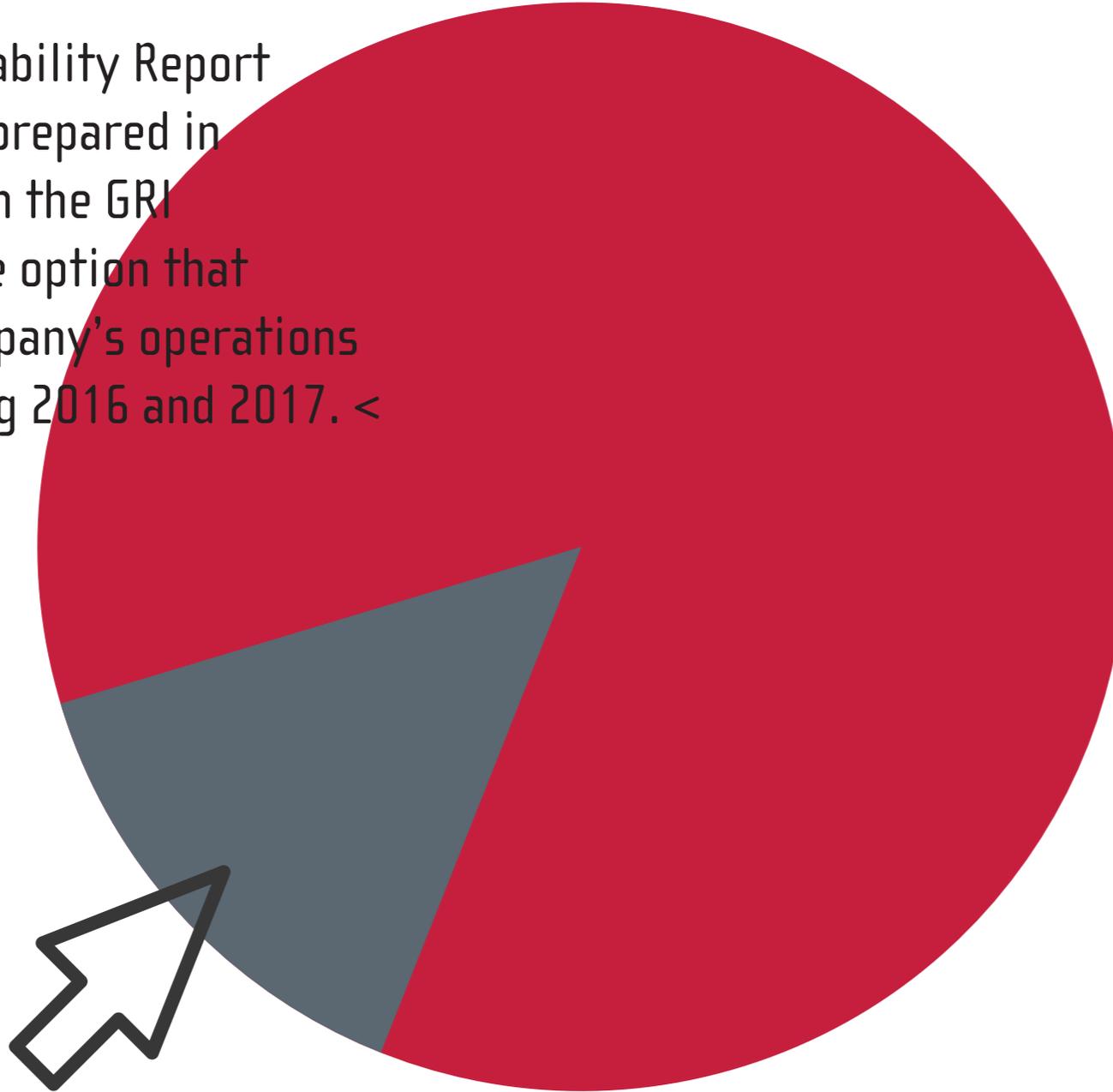
**We continued to add to our current investments abroad throughout the reporting period. These projects have included our first solar power plants we’re planning in various regions of Pakistan and Palestine for enhancing electricity supply.**

As Zorlu Enerji, we will continue to benefit our economy and the energy sector through utilizing our local and renewable resources with the vision of a mindful, responsible and pioneer company, while adding value to our country and working towards building its future. We would like to thank our employees, customers and stakeholders who support us on this path, and we wish our report will contribute to further developing the sustainability mindset.

Respectfully,

# ABOUT THE REPORT

> Fifth Sustainability Report of Zorlu Enerji prepared in accordance with the GRI Standards: Core option that covers the Company's operations in Turkey during 2016 and 2017. <



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GRI 102-53

**Zorlu Enerji Elektrik Üretim AŞ ("Zorlu Enerji")** was founded in 1993 to provide services across the energy sector. Following its fourth Sustainability Report, published on July 12, 2016, the Company presents its fifth Sustainability Report that reflects economic, environmental and social performance to stakeholders covering the period between January 1, 2016 and December 31, 2017.

**Through sustainability reporting**, the Company communicates its activities and performance transparently every two years.

**The next Zorlu Enerji Sustainability Report** is due to be published in the first half of 2020 and will consist of our sustainability performance in 2018 and 2019.

**Through our Materiality Assessment**, which was carried out to identify and prioritize the material issues to report, a survey was conducted to capture the opinions of a range of internal and external stakeholders. The resulting Materiality Matrix was finalized in the Sustainability Committee workshop, where stakeholder opinions were evaluated.

**The Fifth Sustainability Report** of Zorlu Enerji has been prepared in accordance with the GRI Standards: Core option and covers the Company's operations in Turkey during 2016 and 2017.

**Although general information about the Company's investments abroad is included**, the environmental and social data of overseas locations has been excluded. In addition, as per legal regulations, any type of disclosure on companies within Zorlu Enerji that are engaged in the electricity and natural gas trading and distribution activities has also been excluded.

**Sustainability experts from EY Turkey** provided support to Zorlu Enerji in preparing its fifth Sustainability Report.

GRI 102-1, 102-46, 102-50, 102-51, 102-54

> The information presented in our Report expresses much more than just numbers. We have come to where we are today thanks to our work ethic to be consistent, to have a visionary approach and the ability to foresee social and environmental problems through our analysis. As Zorlu Enerji, we have reached our current status by “attentively listening” to our stakeholders in every region we operate. <



# ZORLU ENERJİ

## > Corporate Profile

The main operations of Zorlu Enerji Elektrik Üretim AŞ ("Zorlu Enerji", "Company"), its affiliates and associates are generating and selling electricity and steam, distributing and trading electricity, and supplying solar panels. The Company, its affiliates and associates are also engaged in the establishment, construction, operation and maintenance of electricity and steam generation plants.

Zorlu Enerji was founded in 1993 by Zorlu Holding AŞ ("Zorlu Holding") and Korteks Mensucat Sanayi ve Ticaret AŞ ("Korteks"). The Company is currently managed by Zorlu Holding and has been active in the energy sector for a quarter of a century.

Shareholders	Nominal Share Amount (Thousand TL)	Share (%)	TABLE 1 <i>Zorlu Enerji's shareholding structure and capital allocation as of December 31, 2017</i>
Zorlu Holding AŞ	914,665	45.7	
Korteks Mensucat San. ve Tic. AŞ	350,949	17.5	
Publicly Held (*)	639,623	32.0	
Other	94,763	4.8	
<b>TOTAL</b>	<b>2,000,000</b>	<b>100.0</b>	

(\*) TL 329,207 thousand and the portion equivalent to 16.46% of the total capital represent the shares that belong to Zorlu Holding.

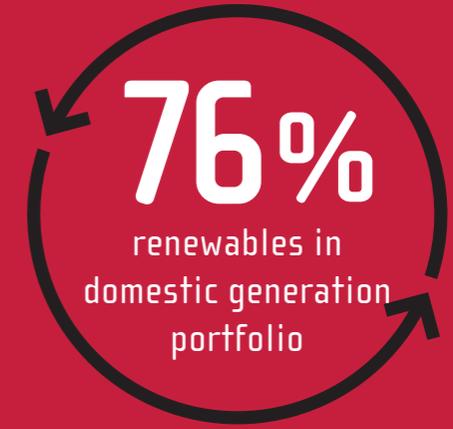
Zorlu Enerji is currently one of the leading companies in the Turkish energy sector with its balanced generation portfolio that values resource diversity with domestic and international power plants; integrated structure with electricity and steam generation and sales, electricity trading & distribution, natural gas trading and distribution, and solar panel supply; industry-specific experience and strong market position. Headquartered in Istanbul, the Company has recently increased its international investments. Along with other major activities in 2016-2017, respective international investments are included in the "Significant Developments during the Reporting Period" chapter. Data on sustainability performance presented in this report only covers Zorlu Enerji's operations in Turkey and excludes its electricity distribution and natural gas trading and distribution operations.

GRI 102-2, 102-3, 102-5, 102-6

DOMESTIC INSTALLED CAPACITY

744  
MW

at the end of 2017



The only authorized distributor of First Solar's PV panels in



26 countries  
upon signed contract

CDP Turkey Climate  
Leadership Award to  
Zorlu Enerji and Zorlu  
Doğal upon receiving  
"A-" in 2017 CDP  
Climate Change Program



Zorlu Enerji is  
included in the  
BIST Sustainability  
Index on a  
voluntary basis two  
years in a row

We took over the shares of Zorlu Osmangazi Enerji Sanayi ve Ticaret AŞ ("Zorlu Osmangazi"), Osmangazi Elektrik Dağıtım AŞ ("OEDAŞ") and Osmangazi Elektrik Perakende Satış AŞ ("OEPSAŞ")

## > Companies and Fields of Operation

> As of the 2017 year end, Zorlu Enerji has a domestic and international total installed capacity of 1,091 MW. <

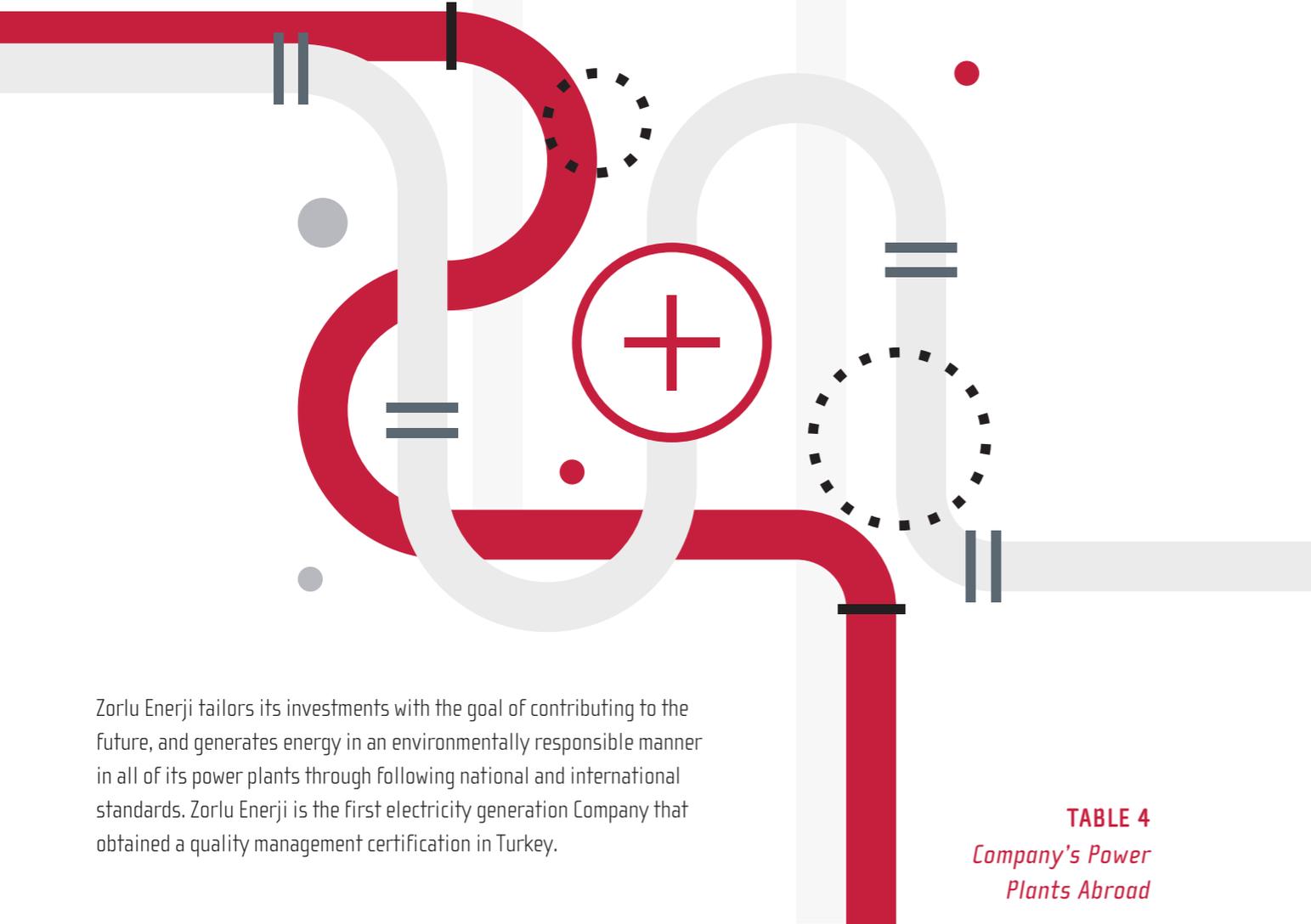
TABLE 2 Affiliates and associates of the Company

Affiliates	Nature of Business	Country
Rotor Elektrik Üretim AŞ	Electricity generation	Turkey
Zorlu Hidroelektrik Enerji Üretim AŞ	Electricity generation	Turkey
Zorlu Jeotermal Enerji Elektrik Üretimi AŞ	Electricity generation	Turkey
Zorlu Enerji Pakistan Ltd.	Electricity generation	Pakistan
Zorlu Wind Pakistan (Private) Ltd.	Electricity generation	Pakistan
Zorlu Solar Pakistan (Private) Ltd.	Electricity generation	Pakistan
Zorlu Rüzgar Enerjisi Elektrik Üretimi AŞ	Electricity generation	Turkey
Zorlu Doğal Elektrik Üretimi AŞ	Electricity generation	Turkey
Nemrut Jeotermal Elektrik Üretimi AŞ	Electricity generation	Turkey
Zorlu Solar Enerji Tedarik ve Ticaret AŞ	Electricity generation and panel trade	Turkey
Zorlu Elektrik Enerjisi İthalat İhracat ve Toptan Ticaret AŞ	Electricity trade	Turkey
Zorlu Osmangazi Enerji Sanayi ve Ticaret AŞ	Electricity distribution and retail sale	Turkey
Zorlu Enerji İsrail Ltd.	Electricity generation	Israel
Zorlu Renewable Pakistan (Private) Ltd.	Electricity generation	Pakistan
Zorlu Sun Power (Private) Ltd.	Electricity generation	Pakistan
Associates	Nature of Business	Country
Solad Energy Ltd.	Electricity generation	Israel
Dorad Energy Ltd.	Electricity generation	Israel
Ezotech Electric Ltd.	Electricity generation	Israel

TABLE 3 Company's installed capacity in operational power plants in Turkey

Power Plant	Location	Type	Electricity Generation Capacity (MW)	Steam Generation Capacity (Tonnes/Hour)	Direct or Indirect Stake (%)
<b>Natural Gas</b>			<b>176.1</b>	<b>159.5</b>	
Lüleburgaz	Lüleburgaz, Kırklareli	Cogeneration Natural Gas	125.9	129.5	100
Bursa	Bursa Organized Industrial Zone	Combined-Cycle Natural Gas	34.3	-	100
Yalova	Altınova, Yalova	Cogeneration Natural Gas	15.9	30	100
<b>Wind</b>			<b>215.3</b>	<b>-</b>	
Gökçedağ (Rotor)	Osmaniye	Wind	135	-	100
Sarıtepe	Osmaniye	Wind	57	-	100
Demirciler	Osmaniye	Wind	23.3	-	100
<b>Hydroelectric</b>			<b>112.6</b>	<b>-</b>	
Tercan	Erzincan	Hydroelectric (Reservoir)	15	-	100
Kuzgun	Erzurum	Hydroelectric (Reservoir)	20.9	-	100
Ataköy	Tokat	Hydroelectric (Reservoir)	5.5	-	100
Mercan	Tunceli	Hydroelectric (Run-of-the-river)	20.4	-	100
Çıldır	Kars	Hydroelectric (Reservoir)	15.4	-	100
İkizdere	Rize	Hydroelectric (Run-of-the-river)	18.6	-	100
Beyköy	Eskişehir	Hydroelectric (Run-of-the-river)	16.8	-	100
<b>Geothermal</b>			<b>239.5</b>	<b>-</b>	
Kızıldere I	Denizli	Geothermal	15	-	100
Kızıldere II	Denizli	Geothermal	80	-	100
Kızıldere III-Unit 1 (*)	Denizli-Aydın	Geothermal	99.5	-	100
Alaşehir 1	Manisa	Geothermal	45	-	100
<b>TOTAL</b>			<b>744</b>	<b>159.5</b>	

(\*) The announcement by the Company on March 15, 2018 states that the Ministry of Energy and Natural Resources has temporarily accepted Unit II (65.5 MW) of the Kızıldere III Geothermal Power Plant, constructed by Zorlu Doğal Elektrik Üretim AŞ with a total installed capacity of 165 MW, located at the Kızıldere-Gökgedik district within both Denizli and Aydın provinces. The Power Plant started operating in full capacity on 16.03.2018.



Zorlu Enerji tailors its investments with the goal of contributing to the future, and generates energy in an environmentally responsible manner in all of its power plants through following national and international standards. Zorlu Enerji is the first electricity generation Company that obtained a quality management certification in Turkey.

**TABLE 4**  
Company's Power Plants Abroad

Plant (*)	Location	Type	Electricity Generation Capacity (MW)	Direct or Indirect Stake (%)
<b>Natural Gas</b>			<b>1,030.9</b>	
Dorad	Ashkelon	Combined-Cycle Natural Gas	840	25
Ashdod	Ashdod	Cogeneration Natural Gas	64.54	42.15
Ramat-Negev	Ramat-Negev	Cogeneration Natural Gas	126.4	42.15
<b>Wind</b>			<b>56.4</b>	
Jhimpir	Sindh	Wind	56.4	100
<b>TOTAL</b>			<b>1,087.3</b>	

(\*) Total installed capacity is calculated on the basis of Zorlu Enerji's ownership stakes in the power plants in Israel.

GRI 102-6

GRI 102-6

## > Customers

Zorlu Enerji offers a variety of services in the energy sector and correspondingly has a wide range of customers. Providing integrated services in the retail, food, health, energy, industry and tourism sectors, the Company's customer portfolio includes residences, apartment complexes, hospitals, shopping centers, supermarkets, hotels, schools and industrial establishments. While Zorlu Elektrik Toptan mainly sells electricity to eligible consumers, companies generating electricity from renewable resources (Zorlu Doğal, Zorlu Jeotermal, Rotor, Zorlu Rüzgar) are selling to the Day Ahead Market operated by Energy Markets Management Corp. (EPIAŞ) at a price guaranteed by the government; and no sales take place to the distribution companies.



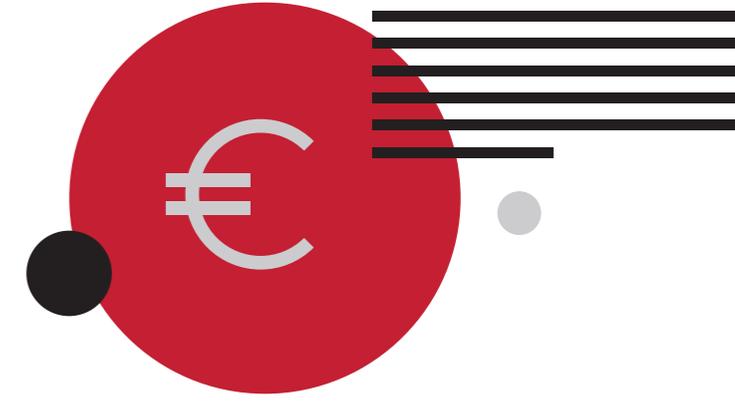
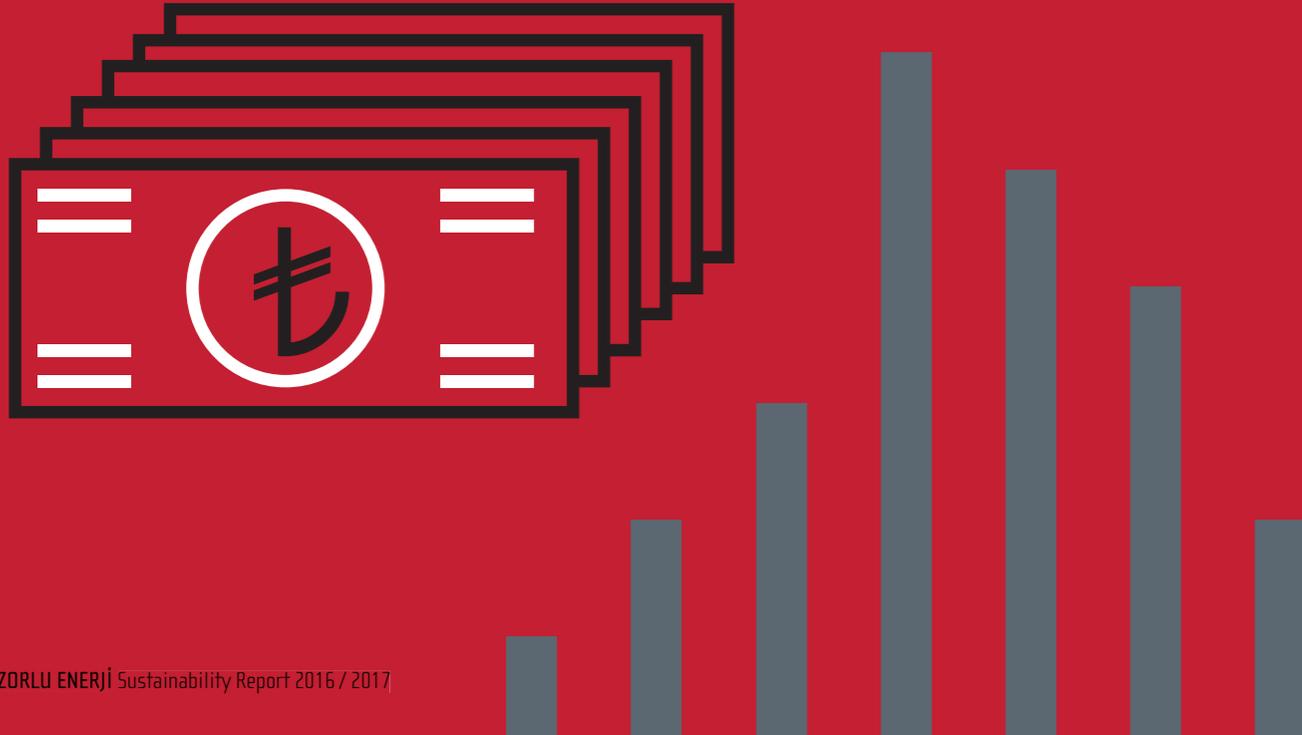
## > Organisation

As of **December 31, 2016**, Zorlu Enerji had a total of **643** employees.

The number of employees was recorded as **673** on **December 31, 2017**.

## > Economic Performance

> We are among the biggest companies in our sector in Turkey. Thus, we believe a strong economic performance is key to provide services such as supplying energy, renewable energy investments and energy efficiency. <



In 2016 and 2017, we recorded a steady increase in our revenue by continuing to achieve business growth. The total investment amount by our Company was TL 529 million in 2016, where most of it was channeled to Rotor II (SarDem) Wind Power Plant (WPP) as well as Alaşehir I and Kızıldere III Geothermal Power Plants (GPP). Investments in 2017 amounted to TL 1,730 million, where TL 1,295 million was spent on Kızıldere III and Alaşehir II Geothermal Power Plants, İkizdere Hydroelectric Power Plant (HPP) and Bahawalpur Solar Power Plant (SPP), and the remaining TL

435 million was invested in the distribution network by OEDAŞ.

We had targeted an EBITDA of between TL 375 and 425 million for 2016 and realized TL 412 million. In 2017, actual EBITDA was TL 879 million, exceeding the targeted amount of TL 500 to 600 million. The main reason behind this successful performance is the positive impact of acquiring OEDAŞ and OEPSAŞ while the existing power plants increased their profitability.

	2016	2017
<b>Direct Economic Value Generated (Revenue)</b>	<b>1,223,594</b>	<b>3,871,190</b>
<b>Total Economic Value Distributed</b>	<b>420,196</b>	<b>713,815</b>
Operating Costs	54,540	232,993
Payments to Government	7,491	27,771
Payments to Investors and Shareholders	-	-
Payments to Financial Institutions	340,769	425,837
Community Investments (Donations)	1,419	2,804
Employee Wages	15,977	24,410
<b>Economic Value Retained</b>	<b>803,398</b>	<b>3,157,375</b>

**TABLE 5**  
*Economic Value Generated as a Result of Zorlu Enerji's Activities in 2016 and 2017\* (Thousand TL)*

(\* ) The consolidated financial statements, independent audit reports, annual reports and material disclosures that belong to the reporting periods of 2016 and 2017 were published in the Public Disclosure Platform (KAP) and [www.zorluenerji.com.tr](http://www.zorluenerji.com.tr) website.

## > The Impact of Climate Change on Economic Performance and Operations



**We define Climate Change Risks** as the potential damage extreme weather events pose on Zorlu Enerji. We evaluate this issue under “Climate Change and Geographical Location” in our “Sustainability Risks Survey”, prepared as an agenda for Zorlu Enerji Sustainability Committee.

In general, when climate change risks actually materialize, they tend to be defined as a “disaster”. In other words, when excessive rainfall is a risk related to climate change, landslides due to excessive rainfall are considered a disaster. Some disasters due to climate change are flash floods, heat waves, forest fires, infestation, landslides and avalanches. Hydrometeorological disasters stand out when the impacts of sector-specific disasters are considered.

### Some examples are:

- > Negative impacts of extreme weather events on power plants
- > Damaging of solar panels due to heavy snow or hail fall etc.

Within the energy sector, the geographical locations of power plants also increase the negative impacts of disasters caused by climate change. Water resources are decreasing due to climate change and distance to water resources based on geographical location increases the level of risk. As water is an essential resource to generate energy in the vast majority of power plants, access to water is of great importance while assessing new investment areas.

**It is advised to follow these steps** while managing climate change risks or opportunities; “climate analysis”, “identification of risks and impacts”, “decision analysis and support”, “institutional and policy research” and “capacity building”. We manage the impacts of climate change in a comprehensive manner in our Company with this approach. For instance, in Zorlu Enerji Sustainability Committee, we evaluate the impacts of climate change on the Company through Corporate Risk Management presentations. In addition, through on-site risk-benefit analysis and following up on feedback from the field and as part of Combatting Climate Change, we monitor energy efficiency by investing in Advanced Technology and closely keep track of the latest practices in order to continuously improve our reporting and certification processes.

### These are mainly:

- > Preparing Environmental and Social Impact Assessment Reports
- > Reporting to the Carbon Disclosure Project (CDP) Climate Change and Water Management Programs
- > Calculating greenhouse gas emissions according to the ISO 14064-1 Greenhouse Gas Inventory Standard
- > Certificate of “Gold Standard” in Renewable Energy Power Plants, accredited in Voluntary Carbon Markets
- > Zero Carbon Footprint Forests Project
- > Continuous Emissions Measurement System
- > Being a signatory to the 2°C Challenge Communique and a founding member of the Climate Platform - Turkish Corporate Leaders Group on Climate Change

## > Significant Developments during the Reporting Period

> In our 2016 and 2017 Annual Reports, we shared the significant changes during the reporting period in detail. Key highlights from the reporting period are as follows;

> **In 2016**, we started generation with full capacity in Sarıtepe (57 MW) and Demirciler (23.3 MW) WPPs of which the construction in Osmaniye started in 2015 with an installed capacity of 80.3 MW.

> **Transactions to pay the full TL 750 million** issued capital of the Company in cash and raise it to TL 2 billion were completed in 2017.

> **In 2017**, our application to the Energy Market Regulatory Authority (EPDK) on amending the pre-license installed capacity of the planned Kızıldere IV GPP Project, located in Savcilli Village of the Buharkent District of Aydın, from 24.9 MW to 60 MW was approved.

> **We took over the shares of Zorlu Osmangazi Enerji Sanayi ve Ticaret AŞ** ("Zorlu Osmangazi"), Osmangazi Elektrik Dağıtım AŞ ("OEDAŞ") and Osmangazi Elektrik Perakende Satış AŞ ("OEPSAŞ") on February 2, 2017. OEDAŞ carries out electricity distribution operations in Eskişehir, Afyon, Bi-

lecik, Kütahya and Uşak region. OEPSAŞ serves as the responsible retail Company of the same region.

> **We have commissioned** the second and final phase of 11.27 MW of Alaşehir I GPP in 2016, which has a total installed capacity of 45 MW in Manisa. We obtained a 22-year production license from EPDK in 2017 for the planned 24.9 MW Alaşehir II GPP project.

> **Installed capacity of the Bursa Combined Cycle Natural Gas Plant** was reduced from 90 MW to 34.3 MW in 2017 due to the increase in natural gas costs and the end of economic life of the power plant.

> **Rehabilitation efforts that started in July 2016** to increase the installed capacity of Zorlu Doğal's İkizdere Regulator and Hydroelectric Power Plant in İkizdere district of Rize, from 18.6 MW to 24.94 MW, was completed in the first half of 2018.

## Kızıldere III won "Best Energy Infrastructure Financing" Award



> The first unit of Kızıldere III GPP (99.5 MW), installed by Zorlu Doğal with a total investment of USD 320 million and with planned total capacity of 165 MW, has come online in 2017 and started commercial electricity sales. The second unit with a 65.5 MW installed capacity was temporarily admitted by the Ministry of Energy and Natural Resources and will begin operating in full capacity in 2018. EMEA Finance, one of the leading financial publications in Europe, Middle East and Africa, has given the Kızıldere III Project "Best Energy Infrastructure Financing" Award. <

Financing of Kızıldere III GPP was awarded by the EMEA Finance magazine in the competition of best financing structures of sustainable energy projects worldwide. The "Best Energy Infrastructure Financing" Award was given for the project with an USD 815 million loan that was provided by Akbank, Turkey Garanti Bank and Industrial Development Bank of Turkey in November 2015.

Elif Yener - Zorlu Enerji CFO and Erdinç Çetin - Zorlu Holding Structured Finance Manager were in attendance at the awards ceremony in London to personally receive the award. We hope to collectively carry out more projects that are deserving of awards...

## ZORLU ENERJİ > Significant Developments during the Reporting Period

> In February 2017, we signed a five-year contract with First Solar, Inc. that includes the distribution of high-performance thin-film photovoltaic (PV) modules in 26 countries. Zorlu Holding companies became the exclusive distributor of First Solar modules in 26 countries including Turkey, Albania, Bosnia and Herzegovina, Bulgaria, Cyprus, Georgia, Kosovo, Libya, Macedonia, Pakistan, Romania, Serbia, Turkmenistan, Ukraine and the Commonwealth of Independent States. In addition, our Company will use First Solar's solar PV modules in its own projects. As of the second quarter of 2017, Zorlu Solar Enerji Tedarik ve Ticaret AŞ started its distribution and sales operations of panels.

> We are working on the first hybrid project of Pakistan that will generate electricity from both wind and solar energy. We have obtained a pre-license for the 30 MW SPP which we plan to develop next to the 56.4 MW WPP project in

the Sindh region of Jhimpir, the first Gold Standard Certified WPP project in Pakistan. We will make use of two renewable energy resources at the same time with this innovative hybrid project.

> We are installing a 100 MW solar park in Pakistan. The "Quaid-e-Azam" Project is the first and biggest renewable energy project application that was granted approval by the Government of Pakistan in 3 years. With this project, we aim to reach an installed capacity of 300 MW SPP investments in Pakistan's Punjab province.

> We qualified to be included in the BIST Sustainability Index on a voluntary basis two years in a row during our reporting period. We are included in the Index between November 2017 and October 2018 as we have maintained our operations in compliance with the Index criteria.

### We are in Palestine with the energy we get from the sun!

> Our investments in solar energy continue to grow. After we increased our investments in Pakistan to 300 MW, we signed a goodwill agreement with JDECO, which supplies 25% of Palestine's electricity. <

As the largest partner and exclusive distributor of First Solar in 26 countries spanning Eastern Europe, Eurasia and Eastern Mediterranean, which develops new generation of solar energy technologies, we are now undertaking the construction and operation of new solar energy plants that supply electricity to Palestine.

With these agreements, we are taking an important and big step towards our goal of leading the development of solar energy in our region, and we are very happy to invest in Palestine and the future of solar energy.

### Zorlu Enerji has signed an important agreement for Mediterranean natural gas!

> We have signed a new agreement with the Greek energy company Energean to supply natural gas from the Karish and Tanin reservoirs in the Mediterranean with our partner Israel energy companies Dorad Ashdod and Ramat Negev. <

According to the agreement that will last for at least 14 years, a supply of up to 6.75 billion cubic meters of natural gas from the Karish and Tanin reservoirs to Israel's largest Power Plants Dorad, and a total of 2.65 billion cubic meters of natural gas to the Ramat Negev and Ashdod power plants will be provided.

We are very pleased to have taken one of the first steps to utilize the Karish and Tanin reservoirs, which are two of the most important fields of the Mediterranean.

> Zorlu Enerji and Zorlu Doğal received the CDP Turkey 2017 Climate Leadership Award upon scoring "A-" in the 2017 CDP Climate Change Program.

> We have received the "Golden Voltage" Award at the 7th and 8th Turkey Energy Summit's Achievement Awards, organized with the support of The Ministry of Energy and Natural Resources, and the "Electricity Supply" Award at the 2016 ISTRADE Energy Trading and Supply Summit.

> Our Kızıldere-II GPP received the "Geothermal" Award in the Renewable Energy Power Plants category at the ICCI (International Energy and Environment Fair and Conference) Energy Awards. Generated energy at the plant, besides electricity, provides heating to households and greenhouses, carbon dioxide to industrial gas plants and geothermal water to thermal hotels. The facility also stands out with its

own tailor-made technology, integrated facilities and efficiency.

> Our executives have contributed to the future of energy by emphasizing the importance of a low-carbon economy for sustainable development at the G-20Y and G-20B Summits. In September 2016, the Summit took place in Switzerland with the participation of leaders in politics and business to address global issues.

> We added to our efforts towards sustainability by providing financial and technical support to Turkish Industry and Business Association's (TÜSİAD) "Addressing Climate Change from an Economic Policy Perspective Report".

> Zorlu Enerji and Zorlu Doğal have reported their water footprint for the first time through CDP Water Program.

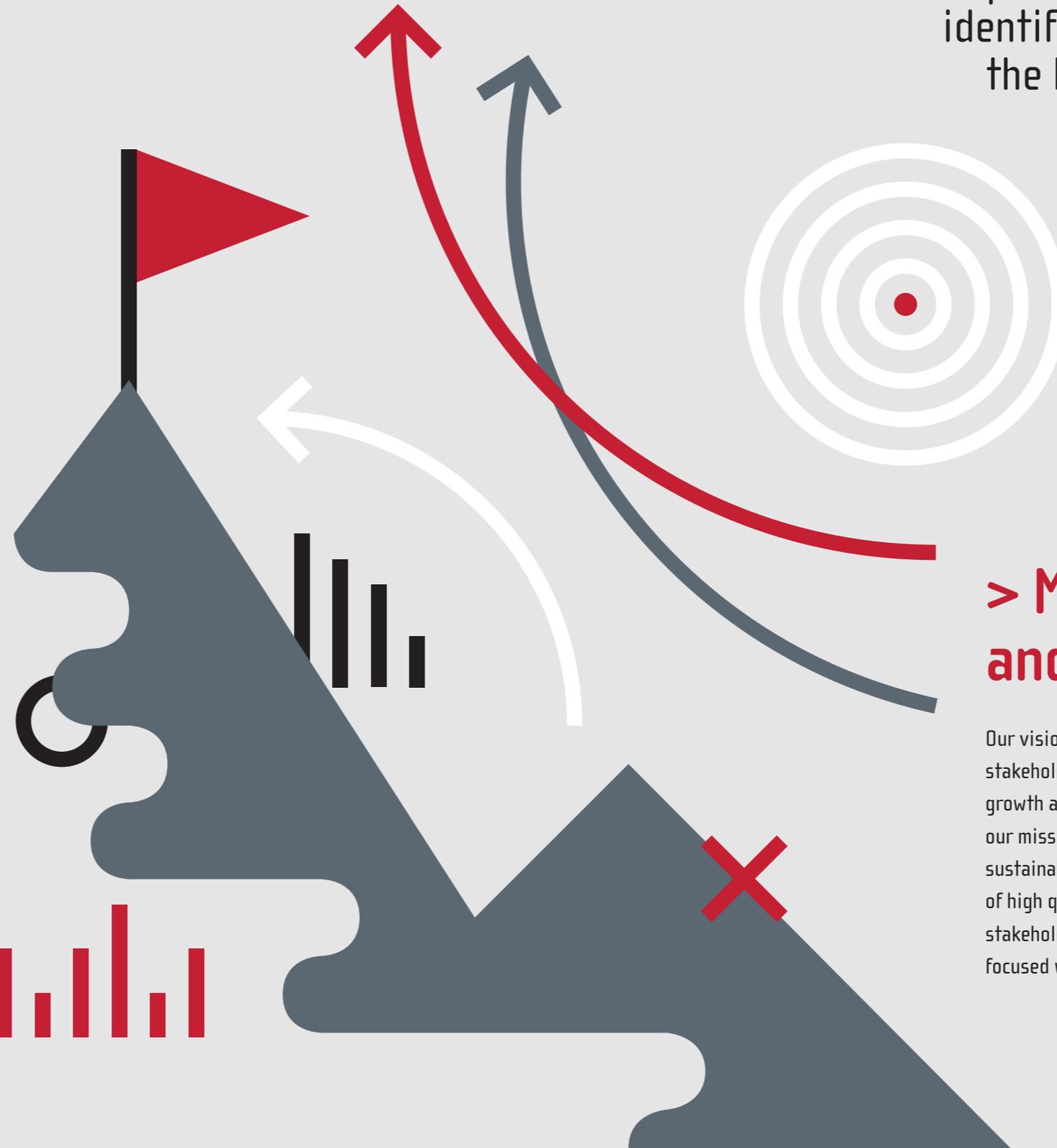
> We never retreat from taking risks, we manage risks through thorough observation and analysis. Consequently, we are able to properly identify obstacles that may arise on the way to success. We never avoid stepping out of our comfort zones. The successful results we have gained have given us the strength to take the next step and the experience we have gained as a result of challenging ourselves have given us confidence. <



# CORPORATE GOVERNANCE APPROACH

> Zorlu Enerji is updating its Sustainability Strategy so that it aligns with Zorlu Holding around seven focus areas. This work will be completed in 2018 and will be communicated to all stakeholder groups. <

> The new material issues which form the basis of the Report for the Company were identified from the results of the Materiality Analysis. <



## > Mission, Vision and Values

Our vision is to “create sustainable value for all stakeholders through operational effectiveness, growth and regulatory compliance,” and our mission is “to generate and distribute sustainable energy that is eco-friendly, safe, of high quality and to create value for all stakeholders with effective market and customer focused work”.

# > Corporate Governance

> As Zorlu Enerji, the foundation of our corporate governance mentality is based on; transparency, fairness and accountability. As a result, we provide reassurance to all stakeholders that are in contact with our Company's management <

We made changes to our Company's articles of association in order to provide a structure based on principles of transparency and equality to our shareholders as part of the corporate governance studies we started in 2015. Following these changes, we continued to implement corporate governance practices in an integrated manner by establishing corporate governance mechanisms within the Company. We aimed to increase the effectiveness of the Board of Directors with independent members and consolidate them through the committees attached to the Board of Directors.

We carry out all of our activities in compliance with the related legal regulations and Capital Markets Board ("CMB") "Corporate Governance Principles" within the Company. In this context, we also voluntarily adopt most of the Corporate Governance Principles which are non-mandatory as described in the annex of the Corporate Governance Principles numbered II-17.1 of the SPK, in addition to the mandatory ones. Aware that these adopted principles directly contribute to our activities, we aim to increase our adherence to the Corporate Governance Principles constantly, and reach the highest standards in management.

Our Board of Directors is responsible for corporate governance practices in parallel with our economic, environmental

and social performance, and the Chairman and Chief Executive Officer positions are fulfilled by different people. Zorlu Enerji Chief Executive Officer (CEO) is fully authorized and responsible in the broadest sense from the management and coordination of day-to-day activities. The executive role and execution duties were assigned to the CEO because the Chairman of the Board of Directors is also the co-chairman of Zorlu Holding Board of Directors. The Chairman does not have an executive role. For management of critical issues, the written and verbal opinions of the General Manager and Assistant General Managers are collated and forwarded to the CEO.

Independent members who meet the independence criteria set out in the CMB Corporate Governance Principles Communiqué are selected from the experienced members of the business world in order to provide an independent and impartial view of the decisions made about the Company. In parallel with the Remuneration Policy determined by the Company, the responsibilities, experience level, knowledge and skills are also taken into consideration for remuneration of Board Members. Our Company's long-term goals are also taken into consideration when determining the basis and criteria for remuneration.

GRI 102-22, 102-33

In our 2016 Ordinary General Assembly Meeting dated 16.05.2017, it was determined that the number of Board of Directors would be 9 and Mr. Zeki Zorlu, Mr. Ahmet Nazif Zorlu, Mr. Olgun Zorlu, Ms. Selen Zorlu Melik, Mr. Mehmet Emre Zorlu, Mr. Bekir Cem Köksal and Mr. Burak İsmail Oktay were selected as Board Members, Mr. Ali Akin Tari and Mr. Hacı Ahmet Kılıçoğlu were selected as Independent Board Members until the 2017 General Assembly Meeting.

### OTHER SENIOR MANAGEMENT MEMBERS OF THE COMPANY;

**İbrahim Sinan AK** Sector President - CEO

**Fuat CELEPCI** General Manager responsible for Electricity and Gas Distribution Operations

**Aydın AKAT** General Manager responsible for Industrial Projects and Applications

**Ali KINDAP** General Manager responsible for Investments, Operations and Maintenance

**Ahmet Yağmur ÖZDEMİR** Director of Foreign Investments

**İnanç SALMAN** Director for Trading

**Öniz Sayit SABAN** Human Resources Director

**Servet BAHADIR** Government Affairs Director

**Elif YENER** Financial Affairs Director - CFO

**Evren EVCİT** Director of Zorlu Solar

**Nihat TÜRKSEVER** Deputy General Manager Responsible for Investments, Planning & Business Development

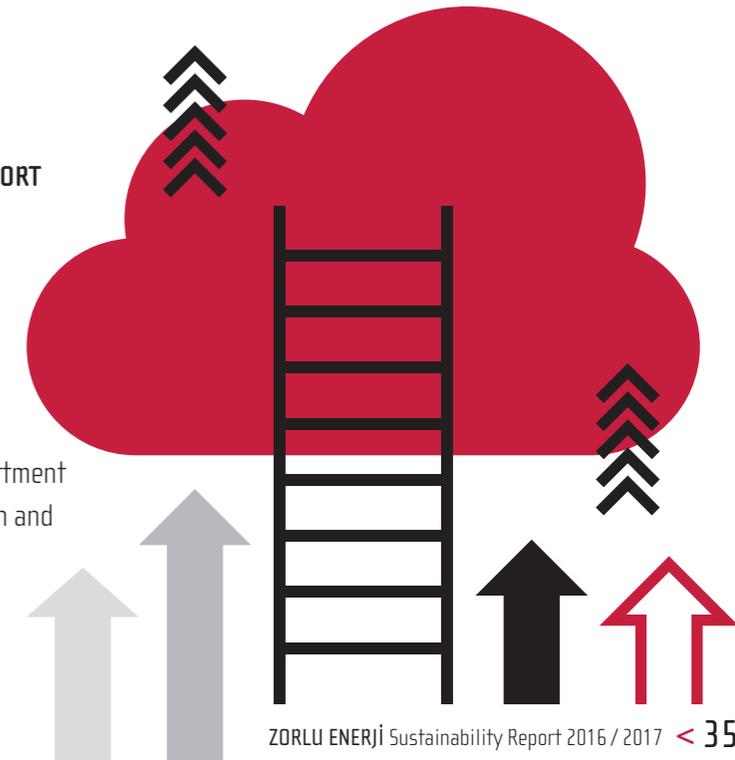
**Abdurrahman YAŞAR** Deputy General Manager Responsible for Drilling & Geothermal Resource Management

**Ömer Harun ÖRGE** Deputy General Manager Responsible for Operations and Maintenance

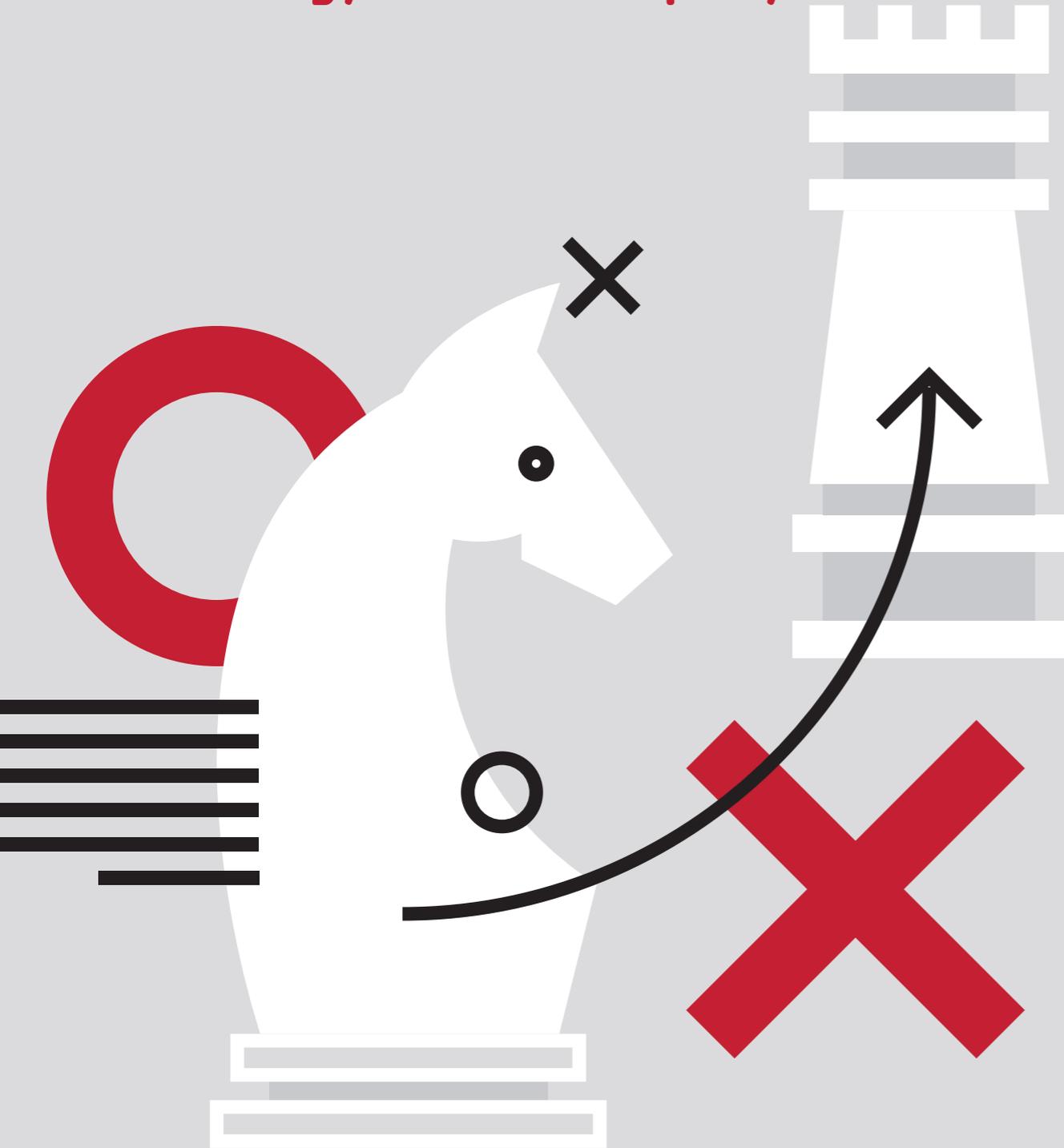
### THE FOLLOWING PERSONS AND COMMITTEES REPORT THEIR JOINT ACTIVITIES TO TOP MANAGEMENT REGARDING ECONOMIC, ENVIRONMENTAL AND SOCIAL IMPACTS IN OUR COMPANY:

- > Zorlu Enerji Sustainability Committee
- > Zorlu Holding Sustainability Committee
- > Zorlu Enerji Corporate Communications Department
- > Zorlu Enerji Environment, Occupational Health and Safety and Quality Manager

GRI 102-18



## > Strategy of the Company



The goals of the Strategic Plan prepared by the Ministry of Energy and Natural Resources in 2014 for the 2015 - 2019 period, which take into consideration the principle of energy diversification with constant, sustainable, eco-friendly, high quality, safe and minimum cost supply to end consumers, are as follows;

- > **Maximum utilization of local and renewable energy sources,**
- > **Supporting the reduction of energy intensity,**
- > **Minimizing environmental and social impacts of waste and energy, and**
- > **Reaching a competitive energy system that strengthens our country's strategic position in international energy trade.**

As Zorlu Enerji, we take into consideration the strategic priorities announced by the Ministry when determining our strategy and act by focusing on meeting stakeholder expectations.

## > Risk Management

> The Corporate Risk Management Department of Zorlu Holding ensures that internal and external risks that may endanger the existence, development and sustainability of the its Companies, are detected early, necessary precautions related to the identified risks are taken and the risks are managed from a centralized structure, valid in all Companies including Zorlu Enerji. <



**The implemented Corporate Risk Management** is defined as a set of rules that enable the identification, evaluation, and consistent, comprehensive and economic management of every event that will cause Zorlu Companies to deviate from their objectives.

**With the “Institutional Risk Management”**, a set of rules that we have developed based on the COSO (Committee of Sponsoring Organizations) and ISO 31000 Risk Management Standard, we help our Company reach its goals and targets by managing the risks at a level of risk tolerance (risk appetite) that is based on taking a portfolio approach. During the assessment, we evaluate and measure risks based on estimating their probabilities and potential impacts. The fact that Corporate Risk Management is independent and dynamic is important in order to understand and measure these risks that may cause our Company to miss its targets.

**We established the “Early Detection of Risk Committee”** with the aim of early detection of risks that may jeopardize our Company’s existence, development and continuity, and for the implementation of necessary measures and to manage the identified risks. As part of the duties stated in the Working Principles by the Corporate Risk Management Department, 12 risk reports were prepared for the sector in 2016 and 2017, six times each year, and presented to the Early Detection of Risk Committee. In line with the decisions that the Committee has taken as a result of the reviews, the reports were presented to the Board of Directors.

**In the risk management process**, a risk inventory is created which primarily assesses the economic, environmental and social impacts of our Company’s activities with the corporate risk management approach. Later on, a SWOT analysis is carried out to check the consistency of this inventory work, to identify the topics that can be seen as opportunities, and to be versatile. As new strengths and opportunities emerge as a result of the SWOT analysis, the emerging weaknesses and threats reveal new areas that should attract our Company’s attention. As geopolitical risks and uncertainty of reg-

ulation appeared to threaten long-term strategic planning, changing customer demands and possible cyber attacks on the increasingly digitalized energy market have been identified as essential elements for our Company to prepare itself against. We foresee that the potential increase in Renewable Energy Investments in Turkey and the anticipated Carbon Mechanisms will create many opportunities. As a result, our activities in battery and energy storage will shape the sector and play a major role for us to strongly position ourselves in terms of strategy and finances.

**As a result of the “Energy Risks Survey”** we conducted following the “Energy Sector Risks” report we presented to the Board of Directors in 2017, the three most important risks of the Company were determined as Currency Risk, Interest Rate Risk and Geopolitical Risks.

**Our Company** does not have any activity that specifically assesses corruption-related risks. We plan to include corruption in the regulation of ethical issues included in the Sustainability Strategy and Corporate Governance Principles in line with the “Ethical Principles” study to be published by our Holding in 2018. However, we shared information e-mails with our managers and employees on April 29, 2015, September 1, 2015 and May 29, 2017 under the “Obligation to Report Misconduct and Fraud” as part of our Anti-corruption Policy. We plan to organize training for Ethical Principles in the form of classroom trainings for field employees and through the online platform for white-collar employees in 2018 following the update and publication of the Zorlu Holding Code of Ethics.

**As part of the activities being carried out within our Company**, we identified only one case against work ethics in 2016-2017 period. The case, confirmed in 2016, involved an employee who was working in the Department of Energy Trade and caused the Company’s private information to be leaked. The contract of the aforementioned employee was terminated.

## > Sustainability Management

> With many firsts in sustainability practices, Zorlu Enerji is proud that its main Company, Zorlu Enerji Elektrik Üretim AŞ, which is the first energy company to calculate its carbon footprint and publish a Sustainability Report in Turkey, has been selected for the BIST Sustainability Index for the second time for the November 2017-October 2018 period. <

**Sustainability management activities** are carried out under the leadership of the Sustainability Committee. Within the framework of the regularly conducted activities of the Sustainability Committee established in 2015, our Company's Sustainability Strategy is updated on an annual basis and related action plans are developed. As part of the Sustainability Strategy and Action Plan determined by the Committee, we carry out measurement, monitoring and improvement activities to manage the consequences of our activities. As Zorlu Enerji, under the guidance of the Sustainability Committee, we define our sustainability approach as "guiding the management of risks involving economic, environmental and social factors with the goal of generating long-term value."

**Wanting to work in harmony with all stakeholders**, we aim to contribute to Turkey's development of a sustainable economy, to manage our environmental and social risks and, by doing so, we aim to contribute to society. Our Company

produces products that are compatible with our sustainable energy policy and keeps a focus on people and nature during investment decision-making.

**We are the first energy company** to share its environmental, social and economic performance with all of its stakeholder groups through our first Sustainability Report, published in 2011, which describes sustainability as the way we do business. With the second Sustainability Report, published in 2012, we reported the success of the first report of our sector, that which achieved an A Grade from the Global Reporting Initiative (GRI). Our Company, now publishing its fifth Sustainability Report in line with the GRI Standards framework, is carrying out studies in which its existing applications are evaluated in order to further develop its Sustainability Strategy. As part of this process, gap analyses are conducted, strategies and targets are determined and improvement actions are defined.

GRI 102-12



As Zorlu Enerji, we define our basic sustainability principles as follows:

- > Doing business by adhering to corporate governance principles
- > Ensuring happiness, health and safety of our employees
- > Protecting the environment and natural resources
- > Establishing open and regular dialogue with stakeholders and contributing to social and cultural life



At the same time, we continue our work to raise awareness and create value for the United Nations Global Compact, to which we have been a supporter and signatory since the foundation of our Company, as well as the UN WEPs (Women's Empowerment Principles) and the "2°C Declaration".

Our cooperation on sustainability with NGOs includes the following collaborations;

Particularly Tohum Autism Foundation, Turkey Spastic Children's Foundation, TOÇEV (Tuvana Education Foundation for Children Eager to Study), KAÇUV (Foundation for Children with Cancer), ÖSGD, TUSIAD (Turkish Industry and Business Association), TEGV (Turkish Education Volunteers Foundation) and LÖSEV (Foundation for Children with Leukemia).

GRI 102-12

## > Sustainability Policy

We strive to carry out all our operations throughout the Company in a sustainable manner while respecting the environment, accounting for the needs of our stakeholders, and driving our country forward while growing as a global brand. In line with our vision, our Sustainability Policy is as follows:

- > In addition to contributing to reducing the country's external energy dependence by investing in local, renewable and clean energy, to provide continuity and security in the energy supply process with a balanced portfolio,
- > To invest in the establishment and operation of smart systems through sector-oriented innovation and R&D studies,
- > To carry out all activities in accordance with ethical rules and in accordance with the laws and regulations in force and with a holistic approach of corporate governance and a perspective of continuous improvement,
- > To pay attention to stakeholder participation; with the containment strategy taking into account the expectations of stakeholders, reducing risks and establishing long-lasting relationships. To inform local people, civil society and all relevant stakeholders about the investments made, to participate in the work,
- > To contribute to local development by giving priority to local employment as well as supporting the needs of the region,
- > To provide employees, which we consider as top priority stakeholders, with a decent working environment and equal opportunities, to invest in their development by ensuring their health and safety,
- > To measure and evaluate the environmental and social impacts of our investments on natural and cultural heritage; taking measures to reduce the consequences resulting from activities,
- > To invest in advanced technology and renewable energies in the combat against climate change, to improve processes by considering energy efficiency, to develop projects and to report performance in a transparent manner,
- > To provide customers with access to electricity, natural gas and support services by keeping customer satisfaction as a priority,
- > To provide solutions to customers to ensure sustainable energy use. Continuously following the Sustainability Policy by ensuring communication with relevant stakeholders.

## > Sustainability Strategy

As Zorlu Enerji, we updated our Sustainability Strategy in the reporting period in order to be consistent with the Zorlu Holding Sustainability Strategy and for it to be simple and sustainable by re-evaluating the requirements of today and the changing conditions of the sector. We re-addressed our Strategy under seven focus areas. We aim to complete our new Sustainability Strategy in 2018 and communicate it with all stakeholders.

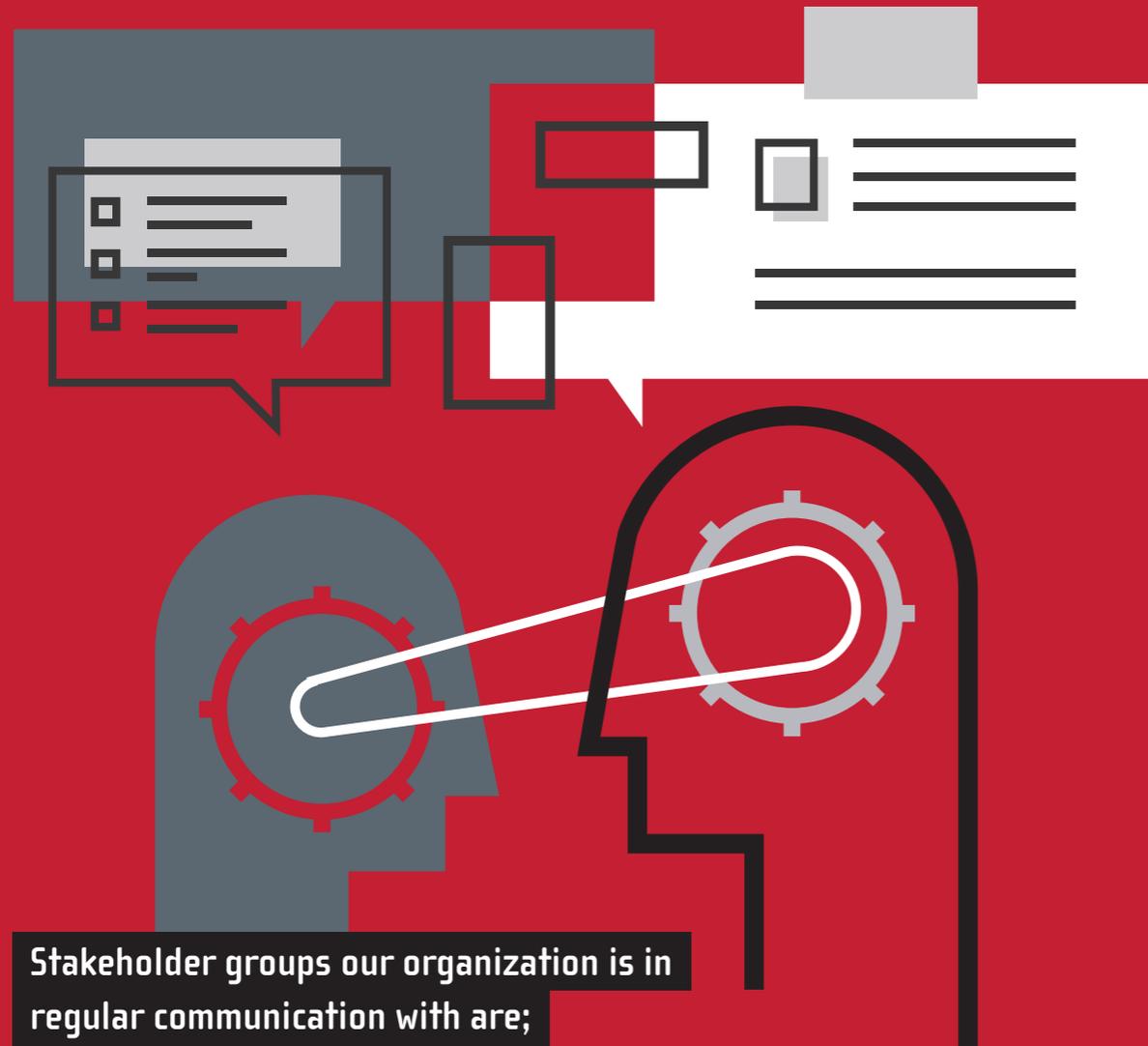
We take initiatives in order to better manage our direct and indirect environmental and social impacts and keep them at the lowest level, and undertake comprehensive projects. We address our sustainability goals and the actions we set out to pass these goals under the seven focus areas given below.



We consider sustainable energy generation to be an important element of sustainable development, concentrating on the production of electricity with safe and sustainable energy supply, local and renewable energy sources in our investments. In addition to energy efficiency at the forefront of strategic issues for our Company, some of the sustainability issues we prioritize amongst our activities are; stakeholder participation, economic performance, safe and sustainable energy supply, water management, occupational health and safety, risk management and environmental protection investments with local and renewable resources. We believe that these priorities will set an example for the whole sector for adopting a true understanding of sustainability.

## > Sustainability Strategy

## > Stakeholder Communication



**Stakeholder groups our organization is in regular communication with are;**

- > Local Communities and Local Governments
- > Clients
- > Shareholders and Investors
- > Employees
- > Public and Regulatory Agencies
- > Non-governmental Organizations
- > Suppliers
- > Financial Institutions
- > Media Members
- > Students/Potential Employees
- > Academia

GRI 102-40

> We conduct ongoing communication with our stakeholders by using tools that include the following; employee satisfaction survey, sustainability prioritization survey, customer satisfaction survey, reputation survey, project-based stakeholder participation and information meetings, environmental impact assessment studies, public participation meetings, materiality workshops and individual visits. As Zorlu Enerji, we define our stakeholders as individuals and organizations who are influenced by our activities and are also influential in the success of our Company. To achieve sustainable growth, we aim to maintain and enhance our relationships with our key stakeholders. <

**In 2016**, we communicated our Materiality Analysis with our stakeholders in our 2014-2015 Sustainability Report, and we included the process in our Fourth Sustainability Report together with the results. As part of the 2016-2017 Sustainability Report, we enhanced our materiality analysis with an online questionnaire we sent to our stakeholders in 2017 in order to help identify and prioritize the material issues to be included in this Report. As part of the Survey we conducted, we asked our stakeholders to evaluate sustainability issues relating to our Company with a comprehensive list. As a result of the questionnaire, the material issues that scored more than 80% in terms of importance level constituted the Materiality Matrix that we created for this reporting period.

**The most important change observed** in the Company's material issues during the reporting period is that the "Ethics and Compliance" issue identified in the period 2014-2015 was expanded to include "Compliance with Legislation

and Public Policies" due to the fact that OEDAŞ joined our organization in 2017 and the importance of acting in compliance with the competition rules that are very important both from a commercial and legal standpoint. In the 2016-2017 period, our Company's new material issues that were included in the Materiality Matrix are; brand equity, strategy management, supply chain management, innovation and smart systems, and social investments.

**We have platforms where we can exchange ideas** and information with all key stakeholder groups at least once a year. Moreover, we regularly conduct customer satisfaction surveys within our organization and conduct biennial Reputation Surveys to reach a wide range of stakeholder groups including local public, university students, shareholders and investors, customers, suppliers, non-governmental organizations, academics, media, opinion leaders and our employees.

GRI 102-40, 102-42, 102-44

CORPORATE GOVERNANCE APPROACH

> Sustainability Strategy  
 > Current Communication Methods with Key Stakeholder Groups



<b>Employees</b>	Employee satisfaction survey (annual) Intranet section "I Have an Idea" (continuous) Sustainability survey (annual) Coordination meetings (monthly) Employee suggestion and complaint reporting mechanism (continuous) Communication expectations and satisfaction survey (annual)
<b>Customers</b>	Reputation survey (every three years) Customer satisfaction surveys (biennial) Website (continuous) Call Center (continuous) Market Surveys (when necessary)
<b>Public and Regulatory Bodies</b>	Consultation meetings (several times a year) Conferences/Panel Discussions/Projects (several times a year) Collaborations for legal regulations (continuous) Reputation survey (every three years)
<b>Shareholders and Investors</b>	PDP Statements (continuous) General Meeting of Shareholders (annual) Investor Relations e-mails (permanent) Information exchange meetings (annual) Board of Directors Meeting (monthly)
<b>Local Communities and Local Administrations</b>	Informational meetings (several times a year) Stakeholder engagement activities (several times a year) Visits (several times a year) Social responsibility projects (continuous) Stakeholder suggestion and complaint reporting mechanism (continuous) Reputation survey (every three years)

<b>Press Members</b>	Press meetings and press releases Special interviews and briefings Press tours Reputation survey (every three years)
<b>Financial Institutions</b>	Discussions with the management and relevant departments (continuous) Informational meetings (several times a year) Reputation survey (every three years) Investment observation visits (biannual)
<b>Non-Governmental Organizations</b>	Social responsibility projects (continuous) Meetings (several times a year) Reputation survey (every three years)
<b>Suppliers</b>	Face-to-face interviews (continuous) Audits (several times a year) Trade fairs (several times a year) E-mails (continuous)
<b>Students/Potential Employees</b>	Scientific organizations (several times a year) R&D projects and technical tours (several times a year) Visits to universities (several times a year)
<b>Academics</b>	Scientific organizations (several times a year) R&D projects and technical tours (several times a year) Visits to universities (several times a year)

GRI 102-43

GRI 102-43

# > Materiality Analysis

2016-2017 was a period in which we made our Sustainability Strategy more comprehensive, starting from project planning, taking into account environmental and social impacts, developing stakeholder dialogue, and identifying and analyzing priorities.

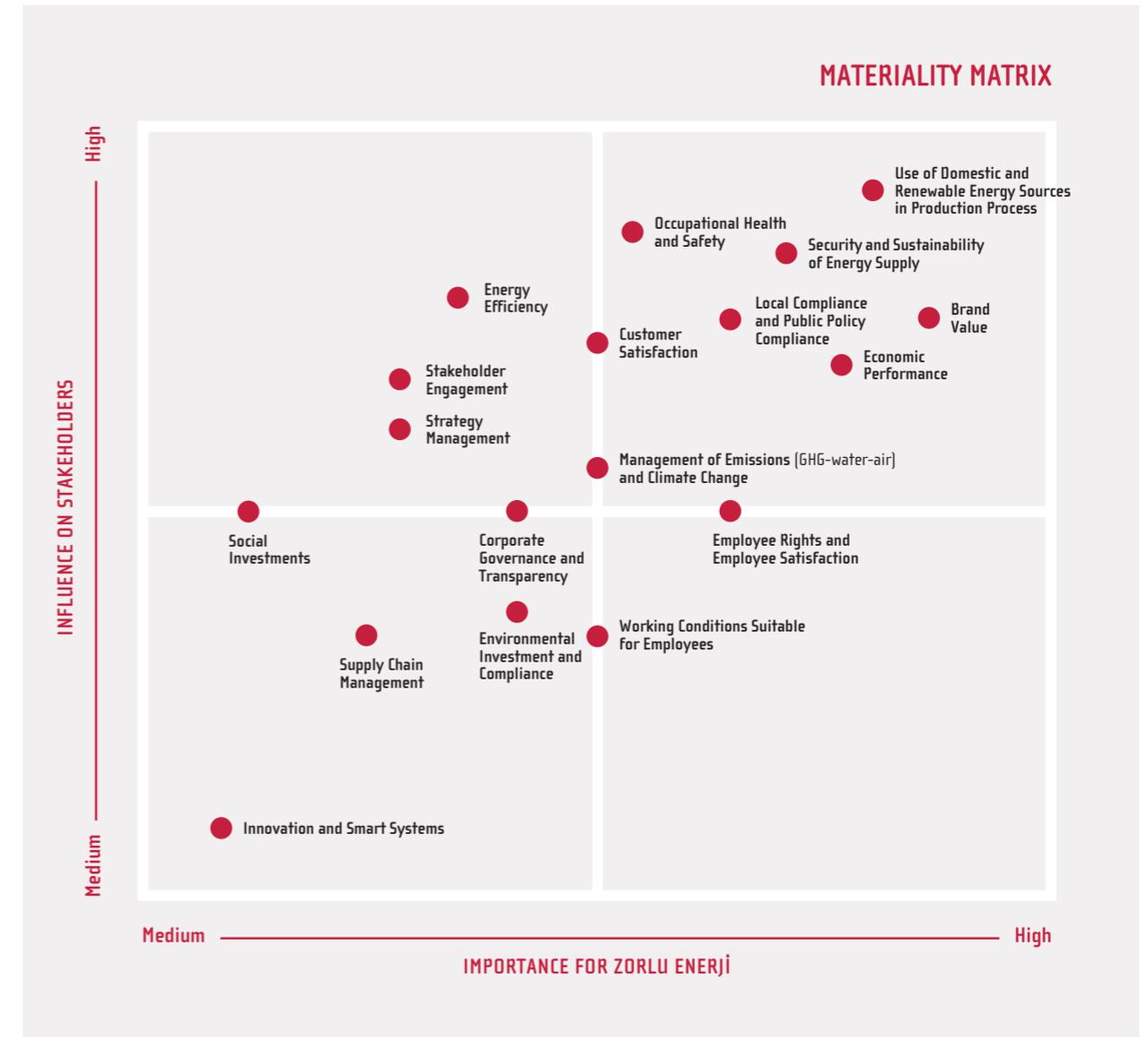
By determining our Sustainability Report publishing period as biennial, we are able to undertake a comprehensive stakeholder workshop in the first year in order to accurately define the material sustainability issues going forward. The following year, we conduct an online survey study to check and update our material issues. At this point, we aim to fully define our material issues and keep them up-to-date according to today's changing business conditions.

The results of the surveys we conducted within the framework of the Materiality Analysis provide the basis

for the content in our Report and help shape our Sustainability Strategy and future plans. Our Materiality Analysis began with by considering the topics in the main publicly available sustainability guidelines including the GRI Standards. As a result, many issues were identified that our Company could address from the economic, social and environmental impact areas.

In 2017, we evaluated our Materiality Matrix by considering the feedback and opinions we received from our internal and external stakeholder groups. As one example, 116 participants completed our Materiality Assessment Survey and their responses were used to help determine the material issues that are strategically important.

The identified material sustainability issues are shown in the Materiality Matrix.



The horizontal axis of the matrix represents the impact of Zorlu Enerji on each material issue, and the vertical axis represents the importance of this issue for stakeholders. In the workshops and surveys conducted with the stakeholders, the issues with high scores in both axes are located at the top right section of the Matrix.

The materiality work on the 2016-2017 Sustainability Reporting period was conducted by analyzing questionnaires and internal and external stakeholder views.

Material issues that differ from the previous reporting period can be seen below, regardless of their importance.

- > Innovation and Intelligent Systems
- > Strategy Management
- > Corporate Governance and Transparency
- > Brand Value
- > Supply Chain Management
- > Community Investment

> We place the principle of “creating value for society and environment” at the center of our work. The relations we have established in different geographies have shown us that the needs of the environment and society are global rather than regional. Our sustainability efforts take shape by focusing on our stakeholders including the society and people as a part of our brand that transcends boundaries. We have combined our sustainability efforts with our solution based approach on the way to the future. <

> “*Helitrophium thermophilum*”  
(Sarı Bambul)  
> Photo / Rasim ÇETİNER



# ENVIRONMENTAL RESPONSIBILITY

ISO 14046 Water Footprint Certification for Natural Gas and Geothermal Power Plants for the first time in 2017.

Zorlu Enerji and Zorlu Doğal reported their water footprints to the CDP Water Program for the first time in 2017



We transplanted 1,600 fig and olive trees, without any damage or loss, from our Kızıldere III GPP site to another location.

> At Zorlu Enerji, we manage our environmental impacts with a vision of building a sustainable future and leaving behind a habitable world for future generations. We are currently identifying our 2022 Environmental Targets and formulating relevant action plans as a part of our Sustainability Strategy. Our Company is meticulously approaching the issues of instilling and developing environmental awareness and conservation of natural resources. In order to protect the environment during energy generation and reduce negative impacts on people and the environment due to global climate change, we carry out all activities and investments in line with the principles of Zorlu Enerji Environmental Policy which is kept as a living document. <

## Accordingly, in all our activities;

- We choose materials and technologies that will minimize negative environmental impacts.
- We make sure to enable the most efficient use of energy and natural resources.
- We develop systems to prevent pollution before it occurs.
- Our wastes (solid, liquid, gas) are processed under control so as not to harm the environment.
- We comply with national and international legal regulations related to the environment.
- We train our employees and subcontractors to increase their environmental awareness.
- We make environmental impact analyses for new investments, use technologies that will minimize potential impacts, and prepare and implement environmental management plans diligently.
- We transparently monitor, report and manage our greenhouse gas emissions to mitigate the impacts of global climate change.
- We report our sustainability performance every two years in accordance with the Global Reporting Initiative (GRI) Standards.
- We share our performance with our stakeholders transparently on an annual basis under the supervision of Senior Management as part of the United Nations Global Compact, which we are a signatory of at the Zorlu Holding level.

## ENVIRONMENTAL RESPONSIBILITY

Zorlu Enerji is the first domestic energy company to obtain quality certification in Turkey and has implemented the TS / EN ISO 9001-2000 Quality Management System, OHSAS 18001 Occupational Health and Safety Management Systems, ISO 14001 Environmental Management System, ISO 27001 Information Security Management System standards. The establishment, implementation and performance of the Integrated Management System is regularly reported to Senior Management by the Quality Occupational Health & Safety-Environmental Manager. We implement the necessary internal and external audit processes to ensure efficient operation of these systems, and we conduct employee trainings annually. Our internal audits of the Quality Management System are carried out by internal auditors. Audit results are reported to the audited department's manager and director, respectively. The follow-up actions of these audits are monitored via the in-house portal. Senior Management is also included in the process by conducting progress follow-ups and evaluations through the Management's Oversight (YGG) meetings.

> Being the first energy company in Turkey to obtain ISO 14064-1 certification, (specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals) we have also completed the certification for ISO 14046 Water Footprint standard as a part of our good practices in this area. <

We publicly communicate our performance in a transparent manner via CDP Climate Change and Water Security platforms.

The importance we give to the environment goes beyond legal requirements. As we continue our operations, we act on the basis of our Sustainability Strategy and Environmental

Policy when it comes to efficient use of energy, management of greenhouse gas emissions, prevention of waste generation, protection of biodiversity and natural heritage.

We consider the risks and opportunities in the framework of environmental impact management and assess the impacts at the levels set in international standards both at the local and global level by examining potential investments in a multifaceted way in terms of economic, social and environmental impacts prior to making a decision. We analyze the sustainability risks and according to the evaluation results, we make investment decisions by planning the management and reduction of potential negative environmental and social impacts by carrying out SWOT analyses. In the investment planning process, we manage environmental and social impacts mainly in the following stages:

- Determining investment location,
- Assessing the environmental and social impact,
- Determining the investment technology,
- Assessing feasibility,
- Making the investment decision and starting the investment,
- Keeping the impacts of the investment below the limits set in national and international regulations,
- Developing an environmental and social management plan with the aim of minimizing the impacts and implementing additional projects when necessary,
- Continuous monitoring and evaluation of the impacts throughout the lifespan of the investment,

Apart from our investment processes, we also manage our environmental performance with high precision in our current power plants and projects, and report all mandatory issues within applicable legal frameworks.

As a result of the audits carried out during the reporting period, we have not observed any major issues or significant environmental violations.

## Technology transfer from the World giant Toshiba

> Alaşehir GEPP



### We provide approximately 28% of the installed geothermal power in Turkey

and with the agreement we signed with Toshiba, we declared in good faith that we will use Toshiba Steam Generator Turbine Technology in our future GPP projects to the extent permitted by the reservoir and resource conditions. Thus, as the market leader in Turkey, Zorlu Enerji has signed a powerful agreement with Toshiba that dominates the global geothermal market with a share of 23%. Through utilizing the combined cycle power plant technology that Toshiba offers in Alaşehir I, Kızıldere III Unit 1 and Unit 2 plants, we are able to utilize natural resources with a higher efficiency compared to other plants around the world.

## > Energy Management

We are a pioneer in the sector by raising awareness and creating added value in the areas of conscious energy consumption, use of renewable energy resources and energy efficiency. We plan our activities with an approach of contributing to energy efficiency, energy management and combatting climate change.

Recognizing energy efficiency as one of the most important focus areas to achieve the goal of “keeping global warming below 2°C” as per the Paris Agreement, our energy management approach aims to maximize productivity in generation by using the best available technologies in our plants. Accordingly, our aim is to carry out generation with an approach of “minimum energy, maximum performance”.

We realize that efficient use of energy contributes to the development of the local economy in addition to its impact on corporate performance. In addition, we utilize domestic and renewable energy resources at the highest level and keep our Sustainability Policy as a living docu-

TABLE 6 Total Energy Consumption (GJ)

	2016	2017
<b>Direct Energy Consumption</b> Natural gas, Diesel, Gasoline, LPG, Coal	4,675,788	3,884,051
<b>Indirect Energy Consumption</b> Electricity	69,751	2,294
<b>Renewable Energy Consumption</b> Electricity	1,578	1,432,188

ment with a focus on energy supply security, competition and environmental protection issues.

A large part of our Company’s energy consumption results from generating electricity. Direct and non-renewable energy resources consumed through our activities are natural gas, diesel, gasoline, LPG and coal; while only electricity is consumed as an indirect and non-renewable resource. Our energy consumption from renewable resources takes place in geothermal and wind energy plants.

Total energy consumption in our Company was 4,747,118 GJ in 2016 and 5,318,533 GJ in 2017, while energy intensity decreased by 12% to 0.58. This change was mainly due to the increase in the generation rate of renewable resources with the adoption of Kızıldere III Geothermal Power Plant during the reporting period. In addition, at the Lüleburgaz Natural Gas Power Plant, a direct reduction in overall energy consumption was observed despite a coal boiler being activated in the last quarter of 2017. Energy intensity calculations included all the energy sources consumed per unit of generation at the power plants. Future improvements are planned as a part of these efforts by observing reductions in electricity consumption that occurred in 2016 and 2017.

Heating, cooling and steam purchase did not occur within Zorlu Enerji during the reporting period.

By using the best available generation technologies at all our Natural Gas Power Plants, we have increased our generation efficiencies during the reporting period.

TABLE 7 Energy Intensity

	2016	2017
Energy Intensity (Total energy consumption/ Total energy generation MWh)	0.66	0.58



TABLE 8 Generation Efficiency of Thermal Power Plants

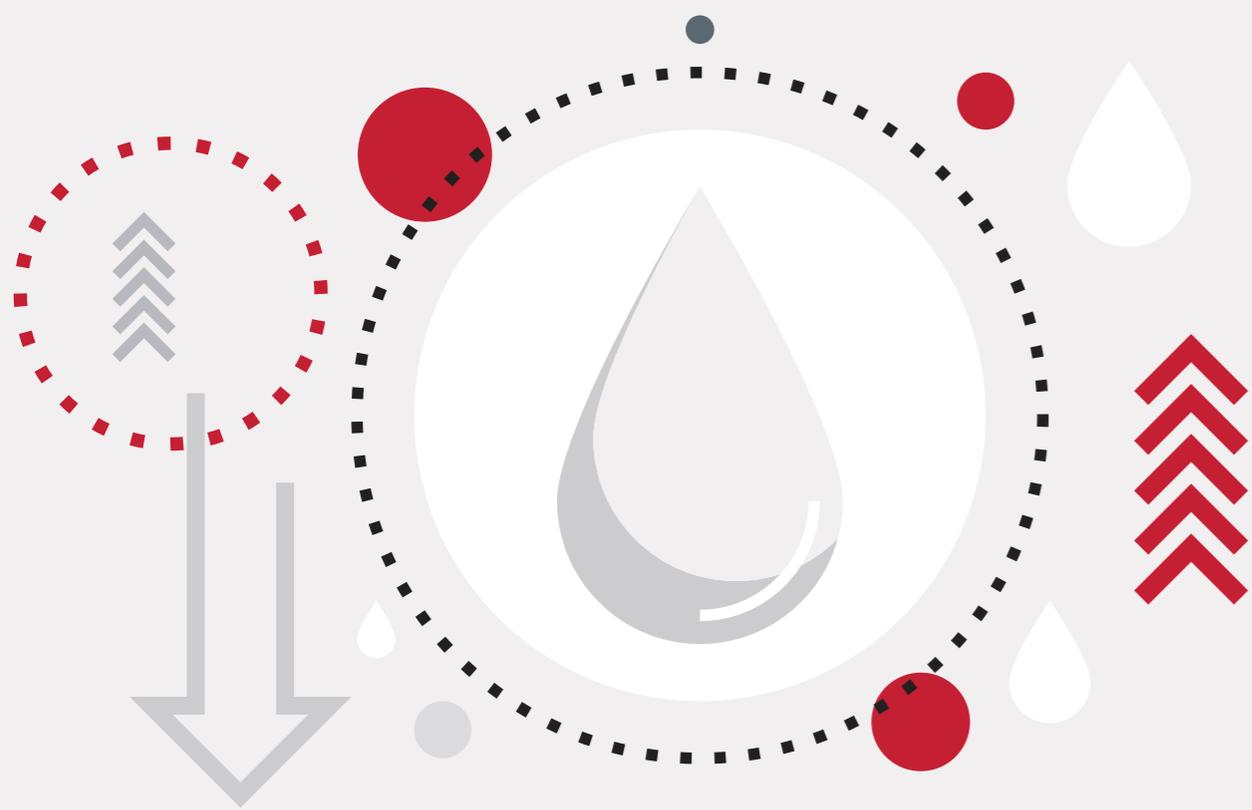
Power Plant	2016 Efficiency	2017 Efficiency
Lüleburgaz	74%	75%
Bursa	41%	43%
Yalova	71%	72%

## Transmission and Distribution Losses

On average, losses between 2.5 to 5% may occur during electricity transmission from the power plant to consumers. Non-technical energy losses are not included in this rate. Since the Kızıldere Geothermal Power Plant is close to the connection to the national grid, energy losses associated with transmission and distribution are negligible.

## > Water Management

> Directed by their transparency policies, Zorlu Enerji and Zorlu Doğal shared their water management practices, risks, objectives and performance with all stakeholders by reporting to the CDP Water Security Program for the first time in 2017. <



In the 2018 publication of the Global Risk Report, updated annually by the World Economic Forum, water risks are defined as one of the top 5 global risks in terms of impact. Water risks, which have been among the top 5 global risks with the highest impacts since 2012, were assessed within environ-

mental risks until 2015. Due to the increase of its impact in recent years, it has been classified under social risks since then. Water is the source of life while being at the forefront of the most valuable natural resources, so accordingly, we maintain our water management activities with great determination.

Water is one of the fundamental raw materials of energy generation and an indispensable natural resource in order to continue generation processes in our natural gas, geothermal and hydroelectric power plants. Water is also used in steam generation and cooling systems as well as being one of the essential raw materials for electricity generation in natural gas power plants. Steam, which is sold as a by-product, is also utilized in steam turbines and to generate additional energy. Because of its important role in the steam cycle, water consumption is directly reflected in costs. Therefore, with the vision of creating integrated systems and solutions, the water obtained from Zorlutek's wastewater treatment plant is purified in Lüleburgaz Natural Gas Plant and the resulting clean water is used in the operations.

Placing “water management” under the “Environment” category in our Sustainability Strategy, we reported our water performance for the first time with 2016 data in accordance with the ISO 14046 Water Footprint standard as described in our strategic actions. Furthermore in 2017, we started to plan the independent audit process and kicked off our efforts towards certification.

According to our Company sources, the total amount of water consumption was 30,377,186 m<sup>3</sup> in 2016, while it increased by 18% to 36,361,313 m<sup>3</sup> in 2017. The increase in water consumption was observed as a natural result of the increase in the number of plants and installed power in line with our growth policy.

TABLE 9

Water Consumption by Source (m<sup>3</sup>)

	2016	2017
Surface Water	68,276	212,968
Ground Water	30,627,318	36,071,552
Municipal Water	51,592	31,793
<b>TOTAL</b>	<b>30,747,186</b>	<b>36,316,313</b>

Our main objectives at Zorlu Enerji are; to keep the amount of water we withdraw from natural resources at a minimum level, monitor water consumption at the corporate level annually, and provide support for the conservation of water resources. As a result, we are making continuous improvements through water efficiency projects. Our main goal with these projects along with water consumption reduction is to recycle and reuse the water we consume as much as possible.

The geothermal fluid used in generation at the Geothermal Power Plants is injected back into the ground after being processed. The amount of re-injected fluid was observed as 88.4% of the total withdrawn fluid in 2016, while it was 85.1% in 2017.

We are currently investigating new technologies for water efficiency during electricity generation, and carrying out studies to integrate innovative technologies that increase the amount of water recovered.

Zorlu Tekstil, with a recently established advanced treatment facility with a 110 ton/hour capacity through our joint project, treats the wastewater from the factory into purified water. The purified water is then used in the cooling towers of Zorlu Enerji and provides both wastewater recycling and reduction in natural resource consumption.

## > Greenhouse Gas Emissions Management

> We became the first energy utilities company in Turkey to obtain the ISO 14064-1 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals) certification for its natural gas and geothermal power plants. <



> We have received the “Gold Standard” certificate for our Gökçedağ, Sarıtepe and Demirciler Wind Energy Power Plants.



**Fossil fuel use**, deforestation and industrialization, greenhouse gas emissions and the resulting global warming and climate change directly affects the life on Earth and have started to rise to the top of the global agenda. In this context, conferences and seminars are organized, notably the Paris Agreement and international cooperation to combat climate change and to reduce greenhouse gas emissions.

**In line with our Sustainability Strategy**, we carry out retrospective studies to determine our greenhouse gas emission reduction targets. It is also our Company's goal to calculate greenhouse gas emissions and communicate them publicly through our Sustainability Report as well as other channels. In addition, we participate in carbon trading on voluntary markets with the aim of reducing greenhouse gas emissions that are not subject to any mandatory carbon trading mechanism. We have received the “Gold Standard” certificate for our Gökçedağ, Sarıtepe and Demirciler Wind Energy Power Plants. The Gold Standard is known as the most prestigious international program that is awarded by evaluating renewable energy projects according to different criteria such as avoided greenhouse gas emissions, respecting nature, contribution to social development. The certificate plays an important role in the creation of high-quality carbon credits through renewable energy projects and contributes to sustainable development. In addition, we plan to transparently disclose detailed information regarding the latest VERs that are currently in the approval process in the upcoming reporting period.

> The amount of “Voluntary Emission Reduction” (VER) we have achieved during the reporting period through electricity generation from renewable energy resources equals to 1,583,783 tons CO<sub>2</sub> VER. This amount is equal to the CO<sub>2</sub> reduction of 5,127,500 trees, which would constitute a 2,930 hectare-forest, considering a 100-year tree life. <

**We are committed to reporting**, monitoring and managing greenhouse gas emissions in a transparent manner to mitigate the effects of global climate change.

> We became the first energy utilities company in Turkey to obtain the ISO 14064-1 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals) certification for its natural gas and geothermal power plants. <

**Our Company's greenhouse gas emission calculations include** CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and HFC greenhouse gases while biogenic CO<sub>2</sub> emissions are measured as 0. Base year for Scope 1 and Scope 2 greenhouse gas emissions was identified as 2015. As directed by the ISO 14064 standard, IPCC Guidelines for 2006 National Greenhouse Gas Inventories, IPCC 2<sup>nd</sup> Assessment Report (100-year), 2015 IEA- Turkey Statistics (Tier 2 Country-specific Emission Factors) and the “GHG Protocol” were used as calculation methodology sources.

**Scope 3 emission calculations** consist of fuel-related activities not included in Scope 1 and Scope 2, waste generation, business travel, and employee service buses.

**TABLE 10**  
*Greenhouse Gas Emissions (tCO<sub>2</sub>e)*

	2016	2017
Direct GHG Emissions (Scope 1)	1,069,009	953,942
Energy Indirect GHG Emissions (Scope 2)	5,532	3,469
Other Indirect GHG Emissions (Scope 3)	43,398	37,621

**TABLE 11**  
*GHG Emissions Intensity (tCO<sub>2</sub>e/MWh)*

	2016	2017
Greenhouse Gas Emissions Intensity	0.44	0.42

**TABLE 12**  
*GHG Emissions Intensity of Generation from Thermal Resources (tCO<sub>2</sub>e/MWh)*

Zorlu Enerji		
Power Plant	2016	2017
Lüleburgaz	0.66	0.56
Bursa	0.43	0.46
Yalova	0.54	0.55

While the preferred consolidation approach in greenhouse gas emissions calculations is “operational control”, there has not been any significant changes in our Company’s activities that would result in recalculation of the base year emissions during the reporting period. However, for Zorlu Doğal, the method of base year emissions calculations from geothermal power plants has changed, leading to a lower and more accurate uncertainty level. Accordingly, Scope 1 emissions reported as 1,069,009 tCO<sub>2</sub>e in 2016 were calculated as 953,942 tCO<sub>2</sub>e in 2017 with an 11% reduction.

Zorlu Enerji’s Scope 2 emissions of 5,234 tCO<sub>2</sub>e in 2016 decreased to 1,718 tCO<sub>2</sub>e in 2017 resulting from a reduction of electricity consumption from the grid in Lüleburgaz Natural Gas Power Plant due to the activation of the coal boiler as well generation reduction at the Bursa Plant. In Zorlu Doğal, Scope 2 emissions that were 298 tCO<sub>2</sub>e in 2016 has risen to 1,750 tCO<sub>2</sub>e in 2017 due to the increase in electricity consumption after Kizildere III Geothermal Power Plant came online.

Greenhouse gas emissions intensity is calculated on an annual basis as the ratio of Scope 1 emissions to the total electricity generation (MWh) of the same year.

As of 2016, our Geothermal Power Plants were also included in the scope of ISO 14064-1 Greenhouse Gas Emission Inventory audits. Following evaluation, emissions from Zorlu Enerji, Zorlu Doğal and Zorlu geothermal power plants were recalculated for 2015. The recalculated project emissions for Kizildere I, Kizildere II and Alaşehir I Geothermal Power Plants were 73,650 tCO<sub>2</sub>e, 618,236 tCO<sub>2</sub>e and 79,133 tCO<sub>2</sub>e respectively for 2015. Zorlu Doğal’s 2015 Scope 1 emissions have been updated to 776,743 tCO<sub>2</sub>e based on the corrections. With a similar approach, the Scope 2 emissions calculation methodology for Zorlu Enerji has been updated and only electricity consumption resulting from the Company’s operations are included. As part of this amendment, the 2015 Scope 2 emissions of Zorlu Enerji have been updated to 14,770 tCO<sub>2</sub>.

GRI 102-48



> Alaşehir GEPP

We carry out our generation operations in an environmentally conscious way in all our power plants, in accordance with the national and international standards through making all necessary investments in order not to exceed any emissions limits. We conduct air emissions measurements in compliance with legal requirements in all our natural gas power plants. All emissions values observed with flue gas measurements during the reporting period were below the legal limits.

	2016	2017
<b>TABLE 13</b> <i>Air Emissions</i>		
NO <sub>x</sub> emissions (ton)	196	185
Air emissions intensity per net generation (ton/MWh)	0.0004	0.0005
Air emissions intensity per net generation from thermal resources (ton/MWh)	0.0001	0.0002

# > Biodiversity



> Fruit Tree  
Transplantation Area,  
Buharkent-Aydın

> **We continue our activities** with an approach that starts right from the investment planning phase and takes into account our impact on all living species, over all geographies where we operate. During the identification of new investment locations, we conduct comprehensive feasibility studies to identify measures to reduce environmental risks during the investment process and we carry out relevant environmental protection activities from the beginning phase of an investment. In this context, we carry out environmental impact analyses, monitoring studies, biodiversity surveys and biodiversity monitoring-conservation programs, mammalogy and ornithology surveys, ecosystem assessments,

habitat restorations, landscape restoration plans and practices, forestation and planting practices and tree transplantation in order to measure, monitor, evaluate and reduce environmental impacts.

> **During the reporting period**, we prepared a Biodiversity Action Plan (BAP) for our Kızıldere location, where we carried out the necessary studies in line with national legislation and the standards determined by the leading international financing institutions. As a part of these efforts, we are considering international standards to develop our own biodiversity policy.

> **We carried out transplantation operations to transport approximately 1,600 fig and olive trees** from the location we picked for our Kızıldere III GPP in the Buharkent district of Aydın to another location without any loss or damage. The project started in October 2015 and was completed in 2017. As a responsible investor, we are still taking care of the fruit trees which are in our investment area.

> **Some of the habitat management and biodiversity projects** that our Company actively pursues include; bat and bird monitoring practices approved by the Ministry of Forestry and Water Affairs in our WPP sites in Osmaniye and Helitrophium Thermophilum Conservation Program that is carried out in cooperation with Ege University in Kızıldere GPP in Denizli. Rize İkizdere and Tunceli Mercan Hydroelectric Power Plants (HPPs) of Zorlu Doğal stand out with their biodiversity conservation efforts due to their locations.

> **Our İkizdere HPP site** is located in the border of the İkizdere district of Rize province in the Eastern Black Sea Region. İkizdere is located in the western part of the "Lesser Caucasus" area at the "Caucasus" hot spot. The İkizdere water basin and its surroundings, which form the boundaries of our area of operation, house a wide population in terms of species diversity and is a very important region in terms of biodiversity.

> **Mercan HPP** is located in Munzur Valley National Park in the Ovacık district of Tunceli in Eastern Anatolia. Natural resources such as rivers and springs in this region include vegetation, unique wild and local animals and endemic plant species. We operate in an area of 8.65 Ha (0.0865 km<sup>2</sup>) as part of our activities in İkizdere & Mercan HPP.

> **No negative impacts** that could affect biological diversity have been identified in our power plants, which continue generating electricity as channel type HPPs. In addition, no invasive species, insects or pathogens were observed.

> **Through our flora and fauna studies** at İkizdere HPP for the detection of rare and threatened species on a global, European and local scale, we performed land studies for a year mainly in the growing season.

> **Among our methods** for the identification of endangered and rare species based on the IUCN endangered levels and CITES, Bern and international agreements/local regulations, we followed various procedures; the collection of plant samples for important species with correct methods, transforming collected plant samples to a herbarium and/or recording in a way that would be possible to identify with digital cameras.

> **At Zorlu Enerji**, we care about passing on Turkey's natural and cultural heritage to future generations by preserving them. For this reason, we have started monitoring the living species in our power plant locations. Since the beginning of our operations, we have been monitoring the change in the number of species that are valuable and threatened in terms of biodiversity in the region, especially red-spotted trout in our facilities that do not possess fish passages. We have determined that it is possible to reverse these changes through implementing fish migration practices as well as online sap water monitoring systems and biological monitoring systems, and we are doing the related implementation planning of these measures.

## ENVIRONMENTAL RESPONSIBILITY

# > Environmental Investment and Compliance

> Our Company has spent a total of TL 3,416,583 as part of environmental investment during the reporting period. <

At Zorlu Enerji, maximum effort is exerted to make investments to reduce the adverse impacts of climate change. In order to support Turkey's resource diversity, we aim to realize sustainable projects which prioritize the use of renewable energy sources until 2018 as well as create added value and provide employment opportunities. Our Company has spent a total of TL 3,416,583 as part of environmental investment during the reporting period. We are investing in our operations to maintain sustainable and international standards, including waste management systems in our sites, consultancy & assurance services, ISO certifications and Environmental Impact Assessment reports.

The majority of the investment expenditures of Zorlu Enerji in 2017 were made within the scope of the Kizildere III Geothermal Power Plant project which started its operations in August 2017. The project has been developed through EBRD financing support and within the framework

**TABLE 14**  
*Environmental Investments (TL)*

	2016	2017
Environmental Investments	2,001,470	1,415,113

of international standards and regulations that require comprehensive studies including Environmental Impact Assessment Reports, Stakeholder Participation Plans and Environmental and Social Management Plans.

**We handle potential sustainability investments** within Zorlu Enerji according to the Zorlu Enerji Code of Conduct. According to both our Code of Conduct and the related paragraphs of Article 20 of the Environmental Law No. 2872, no monetary fines or non-monetary sanctions were issued against the Company during the reporting period.

**As part of the judicial process**, there are two cases in which Zorlu Doğal is involved. The lawsuit regarding the suspension and cancellation of the production license EÜ / 1723-40 / 1245, dated 01.09.2008, which concerns the Mercan Hydroelectric Power Plant, in which the defendant is the Energy Market Regulatory Authority (EPDK), has yet to be concluded. In terms of the other case, in addition to the letter dated March 17, 2011 and numbered 44991 of the General Directorate of Nature Conservation and National Parks, where the defendant is the Ministry of Forestry and Water Affairs, the cancellation of the "confirmation" decision of the MoEU dated 18.04.2011 and the termination of the executive order has not yet been concluded.

**In the case of conflicts concerning environmental issues** involving more than one ministry and organization for our thermal power plants, the Higher Board of Environment makes the final decision. In this context, a conflict was not detected in our plants. At the same time, our HPPs are audited by relevant organizations every two months. During the reporting period, violations of regulations or laws were not found in the power plants of our Company and there were no negative incidents.

# > Generation with Local and Renewable Resources

Our Company works toward a sustainable future by using natural resources efficiently to support the development of the Turkish economy and achieved a 76% domestic and renewable energy production portfolio in Turkey as at the end of 2017. In the future periods, we plan to increase our investments in wind, hydro, solar, and especially in geothermal energy sources. Amongst our renewable power plants that will be online in the near future is Alaşehir II Geothermal Power Plant, located in the Manisa province, with 24.9 MW installed capacity and has received a production license for 22 years in November of 2017.

The use of renewable energy sources cause lower greenhouse gas emissions and is considered as one of the most important solutions to combatting climate change. We combine diversity of renewable energy sources in Turkey with our experience and our technological know-how, while also providing a major contribution to reducing the dependence on foreign energy sources.



> Alaşehir GEPP

**Through our supply security and sustainability approach we make difference;**

- > We base our portfolio on secure energy supply,
- > In all our investments, we act responsibly on a global scale and comply with legislations and international standards,
- > We aim to minimize the negative impact of our activities on the environment and the society.

# OUR CONTRIBUTION TO THE SUSTAINABLE ENERGY REVOLUTION



> Renewable energy is a new concept in Turkey, yet it has been a rising trend around the world over the last decade. Therefore, it offers valuable opportunities for Turkey into the near future. <

As Zorlu Enerji, we are one of the biggest companies in terms of renewable energy portfolio in Turkey. We consider the concept of “Sustainability” as a starting point for our approach to conduct business in our sector. We are also aware that this concept is also one of the most important ones globally and pursue our activities accordingly.

From this perspective, the most important problem regarding sustainability appears to be resource security. Namely, resource sustainability stands out. For instance, resources such as oil, natural gas, and coal are based on external supplies and limited to a certain capacity. This opens up a discussion about their sustainability.

In addition, many geopolitical risks exist for our country with respect to these resources. It is evident that natural gas and oil resources are under significant risk. Importing

these resources with limited reserves around the world always takes a robust and long-term planning process. Given our geopolitical situation and dependence on various external conditions, this process planning is not easy.

Sustainability means preserving natural resources and therefore being able to efficiently use them for future generations. We perceive Turkey as a very fortunate country from this standpoint. Renewable energy has the potential to be the biggest resource for our Country due to the abundance of wind, solar and geothermal sources. Our belief in sustainability is why we continuously develop and invest in

advanced technologies. Our initiatives in this area are new, however our targets are ambitious.

Apart from our target to make Zorlu Solar widely recognized in 26 countries as part of our vision, we also aim to become a leader in the solar field. This goal will be achieved by ensuring collaboration with First Solar, positioning Turkey as a hub for solar energy, while fully utilizing Zorlu Enerji’s experience. While doing so, our priority will be Turkey. We aim to become the most preferred solution provider in this region by taking advantage of First Solar’s technology and Zorlu Enerji’s experience.

## > Solar energy as the most efficient sustainable technology

Our Company has been closely associated with solar energy, however many Turkish companies have entered into this field in recent years. While working on this field, our plan for reaching overseas was moderate. However, this plan was brought forward with the agreement we signed with First Solar. From this perspective, **we have gained the opportunity to enter a wide market that includes 26 countries from Eastern Europe to the Commonwealth of Independent States.** To utilize these opportunities effectively, it is necessary to have good command over this geography and organize human resources properly.

However, development of energy storage technology in the solar field is an essential issue which will completely alter all paradigms. For instance, when the phone lines went off wire, the new name of the business became “mobile phones”. However, a revolution was necessary to disconnect from the cable. The name of this revolution was the “battery”. Similarly, the “wireless” operation of our electrical utilities, just like we charge

the batteries of mobile phones periodically, will change the way the world works. Similar sectoral paradigm shifts which occurred due to the mobile communication revolution will be observed when we make our electricity generation and consumption tools independent from transmission and distribution networks. The name of the revolution in the sector will be “battery technologies”.

Cutting edge energy storage technologies will influence the paradigms of all sectors, not just the energy sector. We will be able to live without connecting to the main network, when each household will be able to generate, store and compensate its electricity via solar system. Wherever we are, “mobile life” will be possible to the point where we can meet our energy need. For instance, if we have a solar panel and a battery, we will be able to meet our electricity needs at any location, even while camping. Let’s imagine that storage exists everywhere we go such as chalets, farmhouses, summer resorts etc., and then we disconnect from the cables. A dramatic and permanent change will occur in our daily lives. Serious steps are being taken in this field in Turkey.

# RENEWABLE ENERGY: THE MOST IMPORTANT RESOURCE OF TURKEY

**Energy experts and leading companies** that participated in Turkey's first Solar Roof Workshop, which was held with the sponsorship of Zorlu Enerji in 2016, discussed roof applications as a development area. In this workshop, it was declared that the cost of solar energy in Turkey will be reduced by more than 50% by 2030. The workshop was also held in 2017 and hosted by Zorlu Enerji.

The "Solar Energy Report" was prepared with the collaboration of Zorlu Enerji and BNEF (Bloomberg New Energy Finance) and investigated solar energy potential in Turkey. This report was shared with the representatives of the Ministry of Environment and Urbanization, Ministry of Energy and Natural Resources, Ministry of Finance, EPDK, TEDAŞ (Turkey Electricity Distribution Company), and other sectoral key stakeholders together with the results of both workshops.

> An example of leading sectoral practice to evaluate energy resources is the development of domestic energy generation practice which is expressed with the "micro grid" concept in our Company. Zorlu Solar's distributorship agreement with First Solar is among our new investment examples of renewable energy and solar energy. <



## ENVIRONMENTAL RESPONSIBILITY

### > Secure and Sustainable Energy Supply

> Local power plants that depend on renewable energy resources correspond to 76% of our installed capacity. Moreover, power plants that depend on renewable energy resources correspond to 57% of our total installed capacity including overseas plants <

**According to the World Energy Outlook 2017 Report**, published by the International Energy Agency, the global energy demand will increase by 30% until 2040. To meet this energy demand, there will be an important shift in the energy sector; it is estimated that natural gas will be the most utilized resource in electricity generation followed by renewables.

**The energy sector** is strategically very significant in terms of economic growth, social and sustainable development for every country. In terms of consumption, Turkey is the sixth biggest electricity market and fourth biggest natural gas market in Europe. We have an annual compound growth rate of approximately 5% in both markets, thus these markets are very significant for Turkey.

**The first steps** towards large scale renewable energy projects were started with RERA (Renewable Energy Resource Areas), the first operations to manufacture the domestic Electric Vehicle. Consequently, 4,200 MW, or 5% of total installed capacity of Turkey was reached in distributed production, of which 3,900 MW is solar. This fact along with rapid growth in companies that offer digital solutions in the

energy sector show that Turkey has a higher capacity than expected over the next 10 years in terms of electricity generation from renewable energy sources. For instance, the installed wind energy capacity of Turkey has an economic potential of 38 GW. Existing plans and expectations for 2027 is only 17 GW, representing 44% of the full potential. Similarly, it is anticipated that the economic potential of solar energy will approach 20% in 2030 from its current level of 5%.

**As Zorlu Enerji**, we implement sustainable methods that aim to compensate the growing energy demand and conduct projects that contribute to sustainability in every aspect of the changing renewable energy sector. In our generation portfolio, we aim to increase the share of renewables, especially geothermal and solar, and further increase resource diversity. Local power plants that depend on renewable energy resources correspond to 76% of our installed capacity. Moreover, power plants that depend on renewable energy resources correspond to 57% of our total installed capacity including overseas plants. We aim to maintain capacity increase in renewable energy through new local and international investments together with our pre-licensed installed capacity.

> Apart from recent popular mega trends in the sector, energy trends are gaining importance in terms of "digital", "distributed" and "decarbonized" (3Ds) concepts. The importance of distributed generation, electricity storage technologies, electrical transportation, large data usage, data efficiency, digitization, smart networks, renewable energy and energy efficiency are gradually increasing and this situation offers global innovations and many opportunities for the energy sectors and other (enerchain<sup>1</sup> and productive consumers) areas. Just as they are internationally, the effects of these shifts are clearly observable in Turkey. <

<sup>1</sup> Enerchain is a trading platform that works with "blockchain" technology which enables anonymous electricity trade in the electricity market without participation of third parties.

> Team spirit has always been at the center of our work. We have always recognized our team members who devoted themselves to their jobs and we have never lost sight of our mentality of responsible management. We have also made an effort to ensure our motivation is sustainable along with the way we do business. Ideas, technology and talent are shared throughout the Company. We never give up in the face of adversity and learned a lot from both our stakeholders and each other. <



# OUR EMPLOYEES



> Our Company aims to be like an educational institution that develops its talent from within and supports the personal development of its employees, which it sees as its primary stakeholders and most valuable capital, while creating a participatory business environment. Long-lasting collaborations are established with our employees and their professional developments are prioritized in our projects, published reports, investments and R&D efforts associated with sustainability. <



> Number of employees in our company increased from 643 to 673 between 2016 and 2017.



> We provided our employees 5,309 hours of training in 2016 and 4,475 hours in 2017.

> Zero accident severity rate is targeted at all plant locations while fulfilling the requirements of ISO 9001, OHSAS 18001 and ISO 14001 Standards.

# > Decent Working Conditions

**We consider the establishment of a participatory,** contemporary and decent working environment that is respectful of human rights as our corporate priority. We create a participatory working environment in our human resources, which we consider as our most important capital to reach our goals, and support the personal development of our employees as well as elevating their social and cultural interactions.

**With the publication of our Corporate Principles Guide in 2010,** we are committed to ensure a sustainable business environment, where our employees are safe, healthy, rewarded and supported for continuous development. The guide increases employee loyalty and is a factor of confidence for new candidates, including ethics, fairness and honesty codes of conduct that govern relations between the Company and stakeholders.

**We have adopted an approach based on “valuing people” in our Human Resources Policy,** which we apply in Zorlu Enerji through the strength we get from our qualified employees. We place “people” at the center of our human resources processes, and evaluate new applicants equally and fairly as a reflection of how we value our employees.

**Our Human Resources Policy,** which was published on our website and shared with all stakeholders, consists of a system for recruitment, appointment, promotion, training, layoffs and performance evaluation. The Policy also defines job descriptions and performance criteria and rewards.

**Our greatest responsibility** is to ensure that our employees recognize and adopt our corporate culture. Our management is closely monitoring whether this responsibility is fulfilled, as well as the practices to maintain and increase employee loyalty. We are establishing new systems to keep

our employees motivated and ensure they work effectively and continue to develop throughout their career with us. In the meantime, we also pay attention to developing the existing systems.

**Orientation training is provided to all new employees,** where they receive detailed information about the Company and their role. We are aware that the performance of our employees is one of the most significant factors for our Companies to achieve their goals. Accordingly, we support our employees to participate in trainings for personal and professional development.

**We place importance on hiring new graduates** and present them the most suitable business opportunities in line with their talents. We regularly participate in the career fairs of universities and if needed, we provide internship opportunities to students during the summer in our headquarters or plant locations.

**In addition,** “Employee Loyalty and Satisfaction Survey” is conducted every two years in order to measure the satisfaction and loyalty of our employees. Through the survey, we lay out the employee expectations with comprehensive questions that include the topics of working environment, executives, Company management and added benefits. We share the results of the survey with our executives and prepare action plans after evaluation. 800 employees, who have worked at least 6 months in our Companies, participated in our 2016 Employee Satisfaction Survey. The employee satisfaction index and loyalty index were 81% and 62%, respectively during the reporting period.

**We believe that happy and motivated individuals** are always more productive and permanent. We place importance on motivating our employees through practices such

as awarding employees with service plaques after completing 5 and 10 years of service, birthday reminders on our intranet and exclusive e-mails. We regularly organize Company meals for employees to interact outside of work, and present them with many social platforms.

**The “Open Line” communication platform** has been in use since 2014 to ensure our employees can freely express their views and requests and to increase motivation and loyalty of our employees during their time at the Company. Through the portal, employees can share their opinions about their work life and special requests to an HR representative of their choice.

**We create equal opportunities for all our employees** throughout their time with our Company, independent of their gender, religion, language or race. In addition, we protect the human rights of our employees in all our operations and act in accordance with the International Labor Organization (ILO) and the Turkish Labor Law No. 4857, which include preventing discrimination, child labor, forced labor, and providing freedom of association and collective bargaining. As a signatory of the United Nations Global Compact (UNGC) and Women’s Empowerment Principles (WEPs), we also take into account the requirements of financing institutions like the IFC and EBRD, as well as national legislation, while pro-

tecting human rights along our value chain with employees, suppliers and subcontractors by integrating the necessary clauses in our contracts. In line with our responsible corporate citizen identity, we analyze human rights principles as a part of our risk assessments; conduct all necessary internal and external audits, social impact assessments and trainings to comply with regulations and our international commitments; and inform our global stakeholders and employees through our UNGC Communication on Progress Report and other public disclosures.

**As a Company,** we believe that women played a major role in establishing the Turkish Republic and a business world without them would not be possible. We closely monitor that there is no difference between our male and female employees in terms of wages or additional benefits provided. We are actively contributing to ensure gender equality among our society, and embrace that this is one of the most fundamental parts of being sustainable. We also support the inclusion of women in the economy with practices inside and outside of our Company. We carry out many projects to support women in various topics as our Company operates mostly with male employees mainly due to sector norms. During the reporting period, one of our projects that stand out the most is the one to break the sense of a “glass ceiling” for women to progress in their careers.

> Zorlu Enerji Theater Club was established in 2011 by our employees to enrich the working environment and bring them together outside of work. During the reporting period, many volunteers from the Company and Zorlu Holding participated in the play that was showcased in Denizli, Gaziantep, Lüleburgaz and Istanbul. The play tells the courageous and hopeful story of primary school teacher “Saadet Hanım”, who goes to the bank to withdraw her pension. <

## Raziye Şengün:

We are working to “live”  
equally, instead of “hoping”



Şengün declares that WinG is working to ensure gender equality and reach the maximum potential in their work through uniting the power of men and women.

### Could you tell us a bit about the WinG platform?

Women make up half of the world's population, yet they are having a hard time asserting themselves and demonstrating their capacity in many sectors, where they end up leaving the jobs that are “meant for men”. WinG is a platform that emphasizes the equality of men and women, and sticks up for actually living equally, instead of hoping for it. We aim to work with men in equal conditions. Our goal is to maximize our potential by uniting the power of men and women, instead of asking for positive discrimination or complaining about inequalities.

### What kind of activities do you organize on the platform?

As women, we are aware of the fact that we need to be braver, more educated and stronger to take on major roles at work. Our friends who have technical problems in the sector share them through the e-mail groups, which we try to solve collectively.

We are trying to come out of our shell and to be aware of the sector developments around the world. New information we collect is shared within the sector. Instead of letting the times of crises bring us down, we are trying to convert them into opportunities.

In fact, we are relatively very new in Turkey as we are in the process of collecting members. We had our first meeting in 2016 with the WinG New Zealand representative, in sponsorship of Nalco. In the beginning, we have put up stands at symposiums and fairs in order to introduce WinG. We also talk about WinG to our colleagues and inner circles. At the

same time, we are raising awareness through interviews and social media.

WinG Turkey's 2<sup>nd</sup> Ordinary Meeting was arranged with Zorlu Enerji at their Kızıldere GPP on November 18-19, 2017. We shared our efforts in the previous year with the participants and created a roadmap.

### How many Zorlu Enerji employees are involved in this platform? Can anyone join WinG?

5 employees of Zorlu Enerji are members of WinG and we don't have a male member yet. Anyone in the geothermal energy sector who supports the presence of woman in this industry can become a WinG member.

### How does Zorlu Enerji provide corporate support to the WinG program?

Zorlu Enerji welcomed WinG members at its Kızıldere GPP for WinG Turkey's 2<sup>nd</sup> Ordinary Meeting. Zorlu Enerji has significantly contributed to our platform that is currently in an early stage. Therefore, WinG Turkey appreciates Zorlu Enerji's efforts.

### The energy sector is regarded as one of the male dominant sectors. What do you recommend to ensure gender equality?

Firstly, we need to self-criticize. It is important to encourage women and explain that they can also work in tough conditions without compromising their gender. As we say at WinG, “We need to break the “glass ceiling” that we built”. We cannot walk without taking a step forward.

*During the reporting period, no discrimination cases were recorded in Zorlu Enerji. Our Company and our subcontractors carry out all operations in Turkey in accordance with the Labor Law No. 4857.*

## OUR EMPLOYEES

### > Distribution of Employees

All our employees are on the payroll and full-time employees. There has been no significant changes in the number of employees during the reporting period. In the Companies of Zorlu Enerji, a major part of the operations are carried out by employees on the payroll. As we don't observe a significant increase or decrease of personnel at our plants, employee data are calculated from the numbers reported to Social Security Institution (SGK).

**TABLE 15**  
*Number of Employees  
in Zorlu Enerji, by Gender*

	Women	Men	Total	Women/Men Ratio
2016	96	547	643	18%
2017	98	575	673	17%

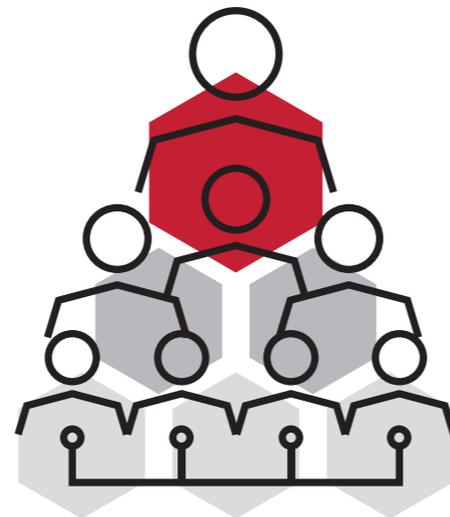


### > Local Employment

We pay attention to benefiting our areas of operation and creating permanent value in line with the Community Relations topic in our Sustainability Strategy. We prioritize local employment in all recruitment processes for our locations outside Istanbul. Except for positions that require special expertise, our Company always prioritizes local employment.

### > Labor/Management Relations

We unconditionally comply with Labor Law No. 4857, and provide the corresponding minimum notice period to employees prior to the implementation of significant operational changes that could substantially affect them. Our Company does not have a collective bargaining agreement and no labor management changes occurred during 2016 to 2017.



### > Social Rights

Our natural gas, wind, hydroelectric, and geothermal power plants in Turkey are defined as significant locations of operation and private health insurance is provided to all our full-time employees. Additionally, we provide special added benefits to our full-time employees such as meal options, shuttle service and employee discount in the products of Zorlu Enerji Companies. At the same time, we have a workplace physician who offers basic health services and maternity leave is provided to all our employees.

In addition to the ones mentioned above, we provide the pension right to our employees that is given by SGK. On the other hand, we don't offer stock ownership to our employees.

### > Trainings

**Experienced and qualified human resources are the most important capital for our company.** Embracing this perspective, we organize various trainings to increase the motivation of our employees and contribute to their performance and personal development in accordance with our principle to work with individuals who are responsible and committed to continuous learning.

**Apart from the comprehensive occupational and technical trainings provided to employees,** which are included in their job description, we also offer trainings on their hobbies and interests to support their personal development. In 2016, we provided a total 5,309 hours of trainings to 212 employees, including technical and personal development trainings. In 2017, a total of 4,475 hours of trainings were given to 219 employees.

**At our Company,** we have structured trainings to support the occupational and personal development of our employees. The Training Portal, which was created to track trainings in parallel with career plans, is being used by all our employees.

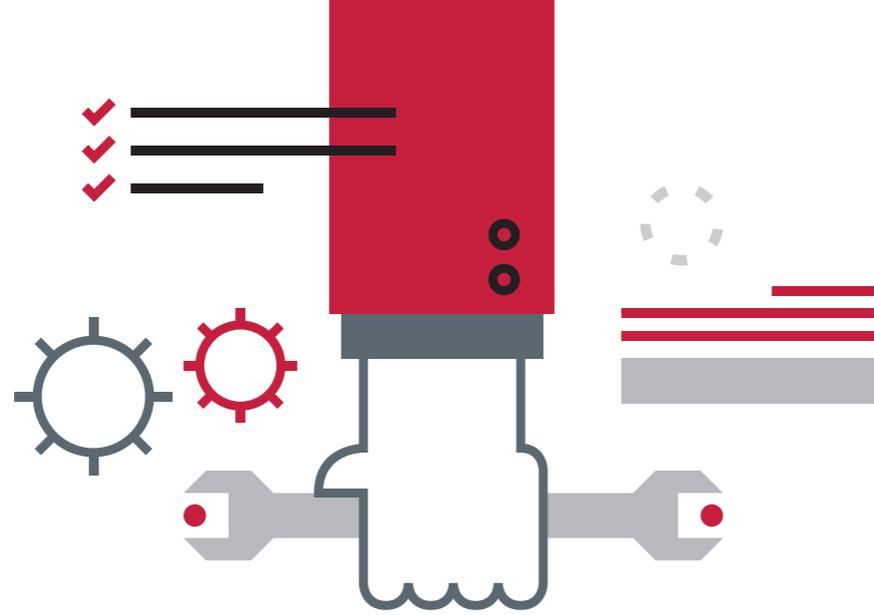


**The extensive power plant investments of our Company brings out the need for a qualified workforce.** Experienced personnel, especially in engineering, stand out as an important necessity in our Company, similar to all branches in the sector. As we carefully select our personnel, the necessary trainings and opportunities are provided for the young employees to develop and gain experience to work at the Company for many years.

GRI 102-8

## OUR EMPLOYEES

# > Occupational Health and Safety



**Occupational health and safety (OHS)** is one of the most important aspects we prioritize at Zorlu Enerji while planning all our operations and investments.

**We carry out our OHS operations with respect to legal regulations and obligations.** We aim to continuously improve and develop in occupational safety and employee health processes by acting proactively and responsibly in all operations. Additionally, we monitor OHS compliance of our operations through performance indicators and regularly inform our field managers about the changes in legislation and how to comply.

**In accordance with the corresponding regulations,** we regularly deliver mandatory OHS trainings to all employees upon recruitment.

**We carry out risk assessment** at all our facilities in line with the Occupational Health and Safety Policy and practices, while paying close attention to the health and safety of our employees. All of Zorlu Enerji employees are represented in the health and safety committees.

**We regularly audit and improve** the practices in our Occupational Health and Safety Management System, and the OHS issues are applied comprehensively in all new projects. Our

**> We have improved our training time per employee from 15 hours in 2015 to at least 16 hours per employee in the reporting period. OHS training programs have been prepared in accordance with the requirements of Occupational Health and Safety Legislation. <**

Company is subject to external audits by independent certification bodies, as well as internal audits for the purpose of quality control and continuous development of practices within the OHS Management System. We put our Occupational Health and Safety Policy into effect with the participation of all our employees. Thus, we raise the awareness of our employees, subcontractors and customers on health and safety by mitigating the negative impacts of our operations on human health

# > Occupational Accidents, Illnesses and Lost Days

**Our electricity generation power plants** are geographically grouped based on their resource type such as natural gas, hydroelectric, geothermal and wind power. For instance, our natural gas power plants are located in the Marmara Region, whereas geothermal power plants in Denizli and Aydın are located in the Aegean Region. The OHS performance indicators we monitor are grouped and presented in parallel.

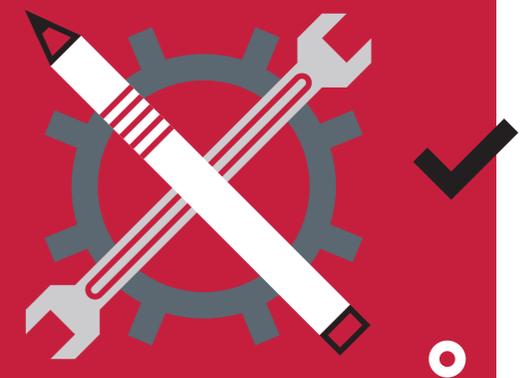
**Although the Company does not prevent its employees to form trade unions,** there are no known unions formed within the organization of Zorlu Enerji.

**The operations at our Company** with high risk and frequency of occupational accidents and significant illnesses are construction and generation. This concept includes both our employees and subcontractors. Therefore, we aim to maintain a zero accident severity rate in the workplace by focusing on occupational safety during our operations. In

order to support our policies and goals, we effectively use the integrated quality, occupational health and safety and environmental management systems that meet the requirements of ISO 9001, OHSAS 18001 and ISO 14001 Standards respectively. Furthermore, we receive Joint Health and Safety Unit (OSGB) services for our operations. The OSGB services of contractors and subcontractors are integrated into the OSGB of the hiring company. Employees of contractors and subcontractors that contribute to our construction, management and maintenance operations work 30 days a month, 360 days a year.

**The total workforce of construction subcontractors** was 1,120 days for Lüleburgaz, Alaşehir, İkizdere and Kızıldere Power Plants in 2016, whereas the workforce was 1,325 days for Lüleburgaz, İkizdere and Kızıldere Power Plants in 2017.

**We handle OHS trainings of subcontractors with the utmost care. All the subcontractors we worked with in the reporting period have received OHS trainings. A subcontractor is not allowed to be in the field unless they have completed the necessary OHS training.**

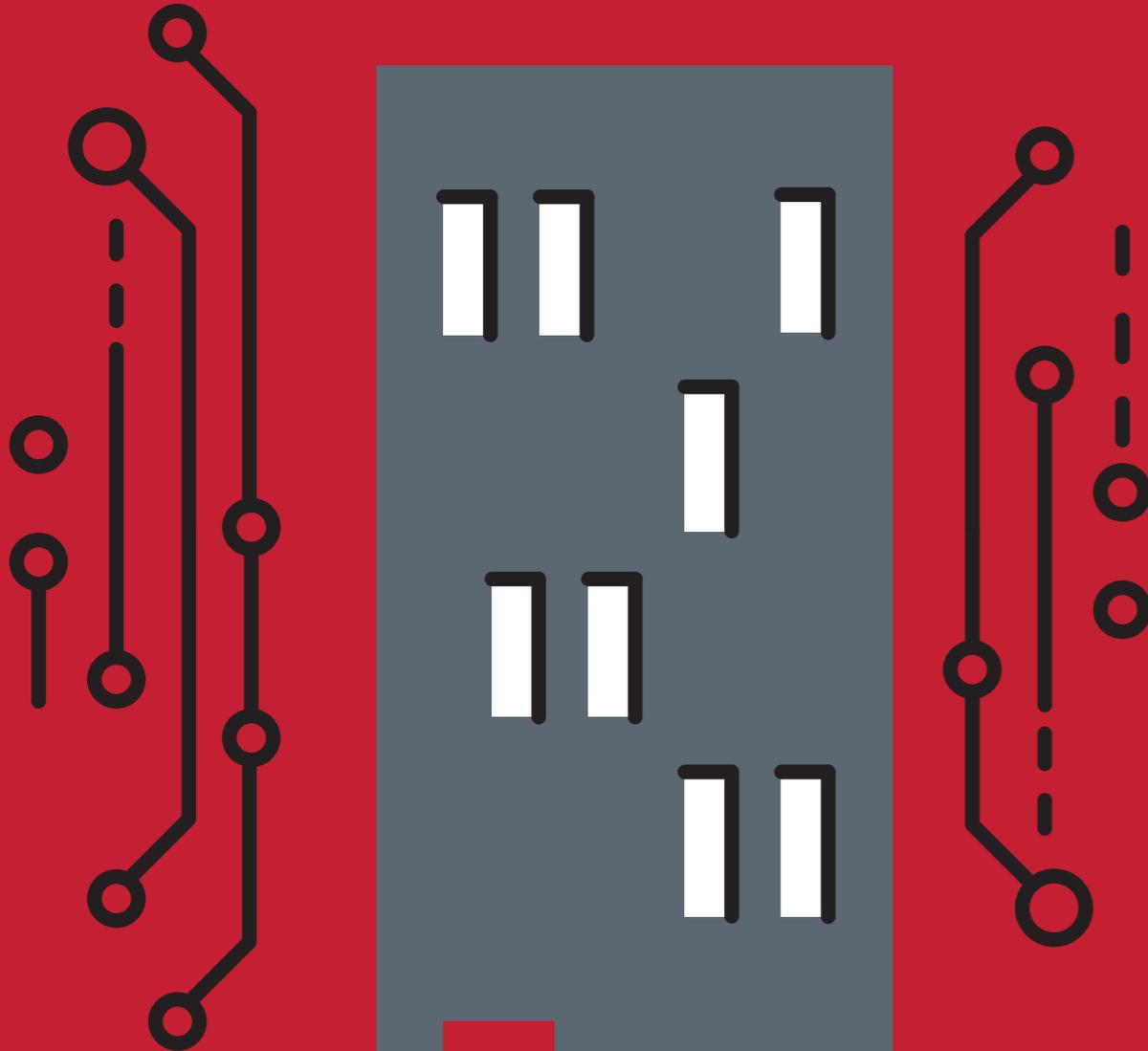


> We are focused on the future and moving forward by looking further ahead than just our targets. We are always in close contact with our stakeholders at a local level, through which we evolve in a global framework with our experience dating back almost a quarter of a century and our working strategy that embraces a culture of cooperation. <



# INNOVATION AND SMART SYSTEMS

> Our company is continuously improving its expertise through its capability to create innovative solutions and our qualified workforce that addresses the needs of our age and resource diversity. <

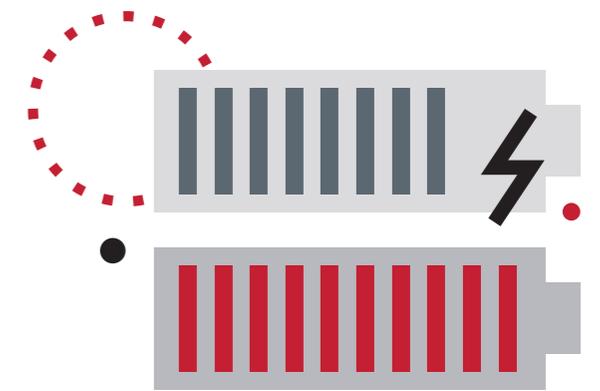


We ensure and closely monitor the adoption of our **innovation based targets**, particularly R&D expenditure intensity, in all our Companies while advancing forward and becoming a world leader in innovation through our revised Sustainability Strategy. We structure our operations and strategies in order to meet the expectations of our stakeholders while continuously improving the way we conduct business, and maintain the highest performance in innovation and in alignment with Zorlu Holding's mission. We are building our business model on sustainability in order to achieve long-term profitable growth as a reflection of our innovative approach that prioritizes sustainability in all our operations. We will share our qualitative and quantitative targets on Innovation and R&D within our Sustainability Strategy that will be published in 2018.

With the EPDK-backed projects of electric charging stations and energy storage, our approach dynamically addresses the emerging needs of our age.

The Smart Systems Department has been established in 2017 with an innovative approach for carrying out operations specifically in electric vehicles.

We always place importance on our innovative approach while managing the environmental and social impacts of our R&D processes and operations. We prioritize innovative operations with multi-dimensional value creation, which helps Turkey keep up-to-date with the latest advanced technology and changes in the energy sector. Our company is continuously improving its expertise through its capability to create innovative solutions and our qualified workforce that addresses the needs of our age and resource diversity.



# > Zorlu Enerji and Smart Systems

> In line with our goal of becoming the energy company of the future, the establishment of the Smart Systems Department at the beginning of 2017 has been the most significant move we have made to address innovation efforts that was identified among the material topics through stakeholder communication and Sustainability Strategy work. <

Projections that concepts such as advanced technologies, storage, smart city and smart home systems will become prominent in the future, the Smart Systems Department focuses its operations on smart information systems. Projects that involve investigating the impact of charging stations and electric vehicles on the grid and optimizing these loads, and testing energy storage systems with lithium-ion batteries for load shifting will be supported to the amount of TL 3.9 million and TL 1.8 million, respectively by the EPDK.

In the near future, a rapid switch to electric vehicles is expected in Turkey, and we're moving forward with the assumption that non-electric cars may not be sold after 2025 as part of low-carbon development. Therefore, spreading the use of electric vehicles in Turkey has become the main goal of the Smart Systems Department, which was established to execute projects on renting electric vehicles, electric charging stations, smart home and energy management systems. In order to initially attain this goal within our company, a platform has been developed during the reporting period that encourages our employees to use electric vehicles. Our goal is to operate this system, which allows hourly electric vehicle rentals, exclusively for our employees in the beginning and make it available for all our stakeholders in the near future.

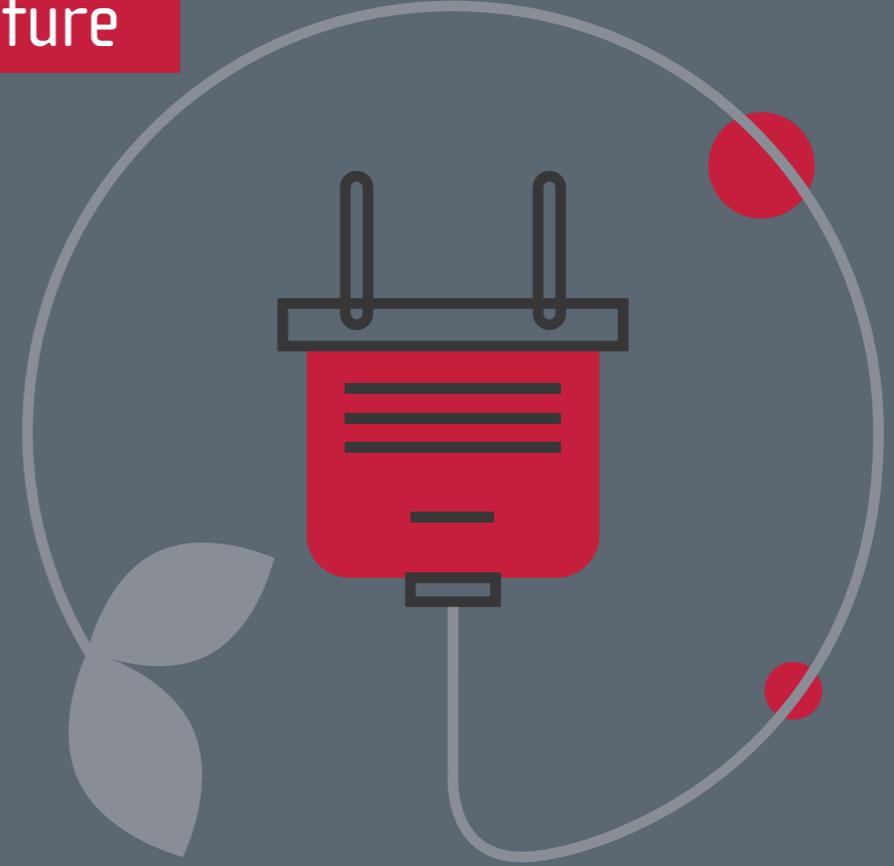
Through the Geothermal Village, Smart Home, Smart City,

Energy Storage and Electric Vehicle Sharing and Charging Station projects that we are planning and carrying out demonstrate the importance we place on our innovative approach as they stand out due to the large size of their investment. Projects we conduct in collaboration with TÜBİTAK have the potential to break new ground in the field of innovation in Turkey.

Our aim with the social innovation and environmental protection efforts within Zorlu Enerji is to maintain and improve our sustainability approach through new projects, which are developed in parallel with the long-term Company strategy. The R&D and innovation investments that we made in our power plants during the reporting period are monitored and reported as part of our operating costs and are not reported separately. As a part of the new Sustainability Strategy that we will publish in 2018, R&D and innovation expenses are defined as performance indicators and will be included in our next Sustainability Report.

Beginning from the project development phase, we manage the environmental and social impacts of our projects with additional investments and an innovative approach that goes beyond the requirements of the legislation. As we supply sustainable, secure and reliable electricity, the society and environment around our power plant locations benefit from our significant investments based on social innovation and environmental protection.

## Energy of the Future



> One of the topics that will shape our future and is becoming widespread around the world is the use of electric vehicles, an area which Zorlu Enerji plans to break new ground in Turkey. <

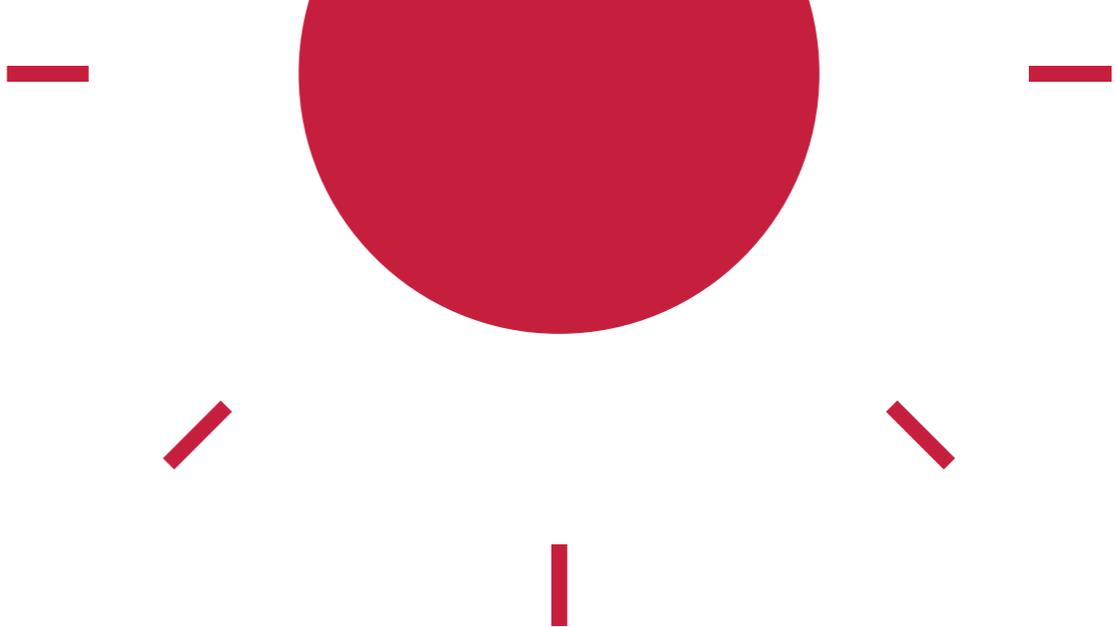
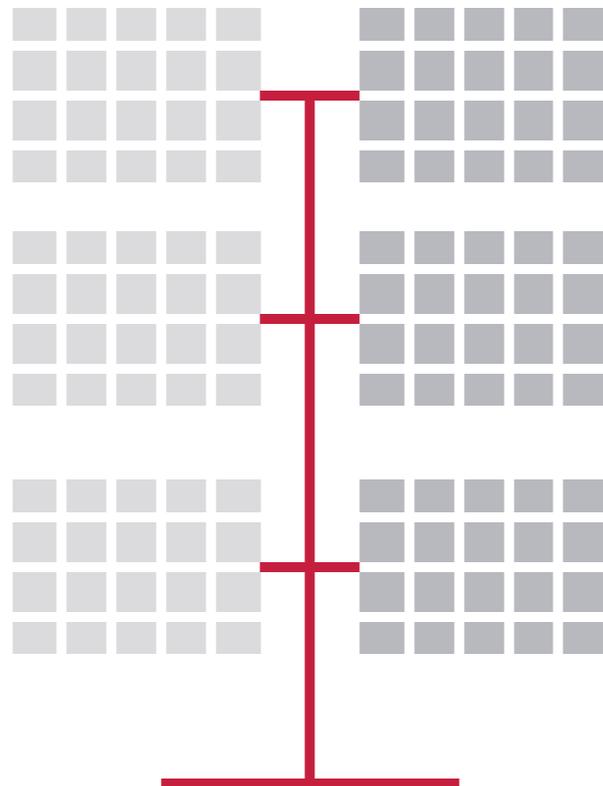
With the contributions of innovation and R&D efforts, electric vehicles have become more common as a result of limitations on the use of fossil fuel resources for a sustainable future. In the near future we are planning to launch projects for a network of electric charging stations and car-sharing services in which we are closely interested and dedicated with extensive R&D efforts.

## > R&D Approach

> In the first quarter of 2016, Zorlu Solar Enerji Tedarik and Ticaret AŞ was founded to generate electricity from solar power in Turkey and abroad, develop solar photovoltaic (PV) panels and offer advisory services to organizations, and it is currently one of the leading companies in the Turkish solar power sector. <

We consider digital transformation as a fundamental aspect that will carry our R&D activities into the future, and believe it plays an important role in producing projects with added value. Therefore, it is in our Company's DNA to execute projects that make a difference to be leader of digitalization in Turkey, to be up to par with global standards and create lasting values in line with the UN Sustainable Development Goals.

Zorlu Solar continues its R&D activities while focusing on spreading the use and applications of solar energy by creating innovative solutions to install solar panels on the roofs of industrial and residential buildings. Our operations are ongoing to spread our solutions within the sector through integration between our Companies.



“Turkey is becoming the center of solar in its region”

> Zorlu Solar is the exclusive distributor of First Solar in 26 countries in the Eastern Europe, Eurasia and the Eastern Mediterranean regions, and aims to make Turkey the “center” of solar energy among the 26 countries. <

As Zorlu Enerji, we adopt the principle of maximizing the use of domestic and renewable energy resources in line with our Sustainability Policy, which was created considering the issues of energy supply reliability, competition and environmental protection.

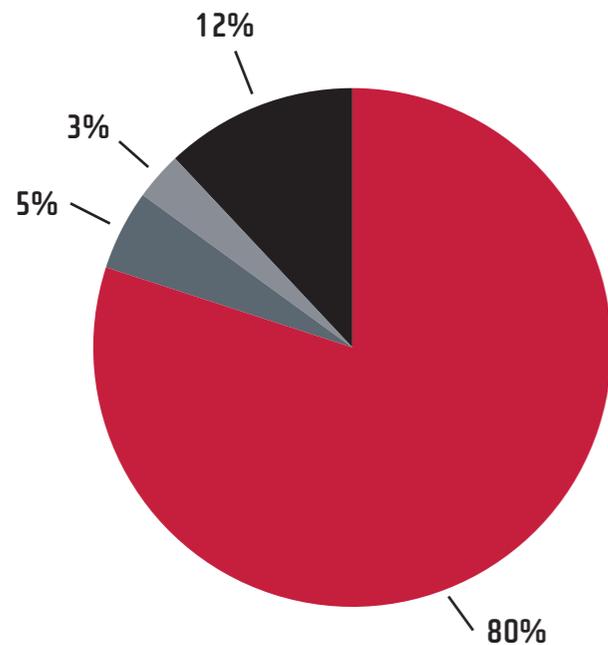
Renewable energy resources constitute 76% of the installed capacity of our Companies in Turkey. The best proof to the importance we place on innovation is Zorlu Solar putting R&D at the center of its business processes for the development and efficiency enhancement of solar energy systems. Senior Management at Zorlu Solar defines sectoral innovation as the public and private sectors coming together to determine an effective R&D strategy and establish a strong ecosystem. Zorlu Solar is the exclusive distributor of First Solar in 26 countries in the Eastern Europe, Eurasia and the Eastern Mediterranean regions, and aims to make Turkey the “center” of solar energy among the 26 countries. Zorlu Solar is ready to drive Turkey forward as it recognizes that Turkey's renewable energy potential is a big opportunity for sustainable development.

> With the strength we get from our sustainability values, we develop new practices to improve our production, sales, and supply processes. In the light of our targets, we help stakeholders in our ecosystem develop as we adopt the culture of “perfection in the supply chain” to achieve successful results. <



# SUPPLY CHAIN RELATIONS

> As a company that shapes its supply chain according to its needs, we place great importance on prioritizing local suppliers for all routine purchases and services. <



GRI 102-9

At Zorlu Enerji, with the aim of managing our Sustainability Strategy as a dynamic system that includes our whole value chain, we consider our supply chain as one of the most important aspects of this value chain and place an increasing importance on it every year. Supply chain relations was not a material topic in the previous reporting period of 2014-2015, however it has become one after re-assessing our material topics in 2016-2017. We conduct our purchasing operations through centralized and local purchasing organizations and evaluate our suppliers in line with our sustainability approach. We pay attention to our suppliers' monitoring of their sustainability criteria and try to raise sustainability awareness across our value chain.

The purchasing processes in all Companies operating

TABLE 16  
Distribution of Our Supply Chain by Location at the end of 2017



Zorlu Doğal's goal to meet the SA8000 requirements in line with its Social Compliance Policy

80% of Zorlu Enerji's supply chain is in Turkey

under Zorlu Enerji work the same way. The needs of Operations Directorates and projects are met through the relevant purchasing organizations. Bids are collected to find the most economical supplier that will fulfill our needs. Suppliers are evaluated based on their commercial conditions, delivery capacities, technical competencies and social impact; and collaboration is made with companies that are adequate in these areas.

There were no official complaints filed in association with our supply chain during the reporting period. No contracts were terminated or orders cancelled due to any practices related to human rights, corruption, or labor and environmental practices.

By the end of our reporting period, we had collabo-

rated with 5,975 local and international suppliers for the provision of goods and services. As a company that shapes its supply chain according to its needs, we place great importance on prioritizing local suppliers for all routine purchases and services.

Provinces in Turkey where we have investments and power plants are our significant locations of operation and are those we define as "local". During the reporting period, the purchases of goods and services from local suppliers operating in our investment and power plant locations constituted 10% of our total purchasing budget. The table below illustrates that the ratio of local suppliers (based on number of suppliers) has increased over the previous years and it exceeded one quarter of the total number of suppliers in the reporting period.

TABLE 17  
Number of Suppliers and Ratio of Local Suppliers

Year	Number of Suppliers	Local Supplier Ratio
2016	5,740	25%
2017	5,975	29%

GRI 102-9

## SUPPLY CHAIN RELATIONS

**Including the selection and termination processes,** there were no significant changes in our supply chain relations during the reporting period.

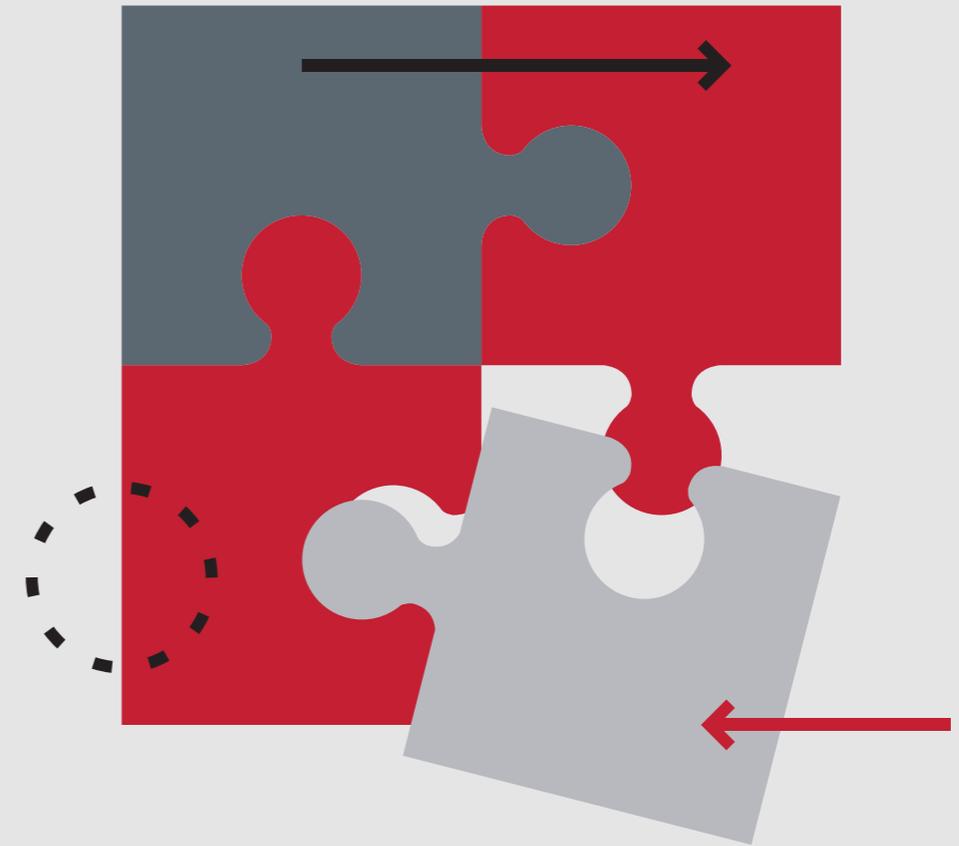
**Social and environmental performance** of suppliers has been periodically evaluated throughout the reporting period. Social and environmental supplier audits will be detailed under Supply Chain Relations (one of the seven focus areas) in the upcoming, and reassessed, version of our Sustainability Strategy, which will be communicated with all stakeholders in 2018. Planned and initiated efforts in this context are being carried out both within Zorlu Enerji Companies and Zorlu Holding.

**In line with our adopted principles** as Zorlu Enerji and the standards of international financing organizations such as IFC and EBRD, all the necessary OHS and environmental commitment clauses based on national legislation and global standards are being added to the suppliers' contracts on top of essential trainings and internal and external audits. Through our Company ZENEN (Zorlu Industrial), who carries out the construction phase of our new power plants, all employees of the subcontractor companies in plant locations are covered by the practices of ISO 14001 Environmental

Management System, principles of national legislation and international requirements together with trainings as well as internal and external audits.

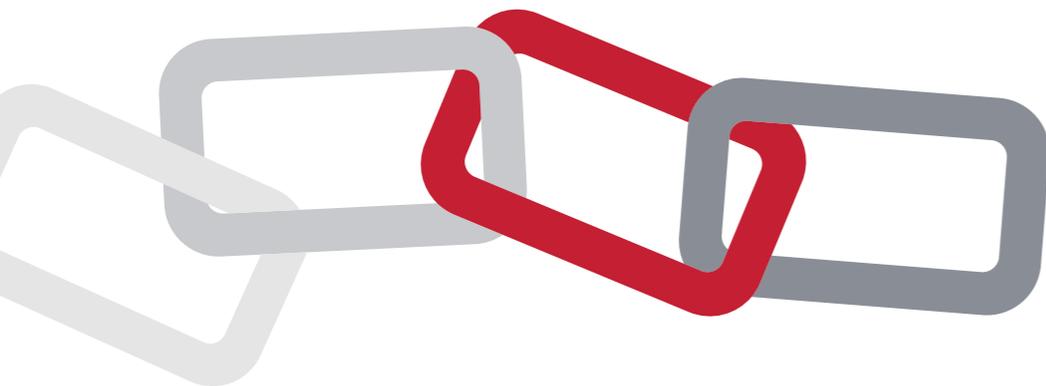
**In 2017,** Zorlu Doğal Elektrik Üretim AŞ (ZOREN) has prepared its Social Compliance Policy, where it commits to fulfill the requirements of SA8000 Standard. This commitment includes obtaining social compliance commitments from suppliers with purchasing transactions, subcontractors and business partners, evaluating each supplier in terms of social compliance, monitoring the reasonable and adequate measures they take based on the evaluation, and providing continuous support as part of the cooperation to improve their level of social compliance. Moreover, the selection of business partners and suppliers is meticulously carried out in terms of a company being competent and qualified enough to represent Zorlu Enerji. Payments are made only when these companies fulfill all criteria listed in their service contracts.

**Since 2017,** our Company been restructuring its Sustainability Strategy in line with Zorlu Holding and updating it with an approach to make supply chain relations sustainable while creating shared value.



**The following are the main goals under supply chain management, one of the seven focus areas of the Sustainability Strategy to be announced in 2018:**

- > Defining sustainable purchasing criteria and integrating them into supplier contracts
- > Implementing the supplier evaluation system that will be developed by Zorlu Holding, and assessing, auditing and categorizing suppliers based on this system
- > Identifying areas of improvement in the sustainability performance of companies in our supply chain and encouraging their implementation



> We carry out a sustainable production that is environmentally friendly and compatible with global standards in order to leave a better world for future generations. We show that a renewable and sustainable life is possible, and make our customers a part of our journey as we spread the good practices with effective results. <



> Tercan Dam and  
Hydroelectric Power Plant

# CUSTOMER RELATIONS

We ensure that our customers can reach our support services by prioritizing customer satisfaction in line with our Sustainability Policy. We offer solutions to customers to provide sustainable energy use and create effective solutions by evaluating the possible improvement areas with corresponding departments. We offer our company's specifically tailored solutions to customers in an easily accessible and sustainable way.

We make our plans based on the fact that the high expectations of customers may not be met with standard applications and existing rules in an era of rapidly evolving technology, and differ from our competitors with our distinct practices in the sector. We focus on meeting customer needs and on paying attention to fully and accurately understanding them as we carry out our operations with the suitable solutions to fulfill these needs.

> In 2017, we sold 2.27 billion kWh electricity to our 50,000 customers. <



## > Customer Relations

Our rapidly growing portfolio of customers includes smaller customers such as households and SMEs as well as large-scale customers such as organized industrial zones, automotive and heavy industry companies, chain stores and hotels.

In line with our business strategy, we always maintain our communication with customers, perform improvements upon receiving and evaluating feedback, and aim to sustain the highest level of customer satisfaction. Our customers voice their opinions and recommendations through our call centers or communication forms on our website, and convey their complaints and suggestions for improvement through the satisfaction surveys every 6 months. We provide services to companies that sell electricity and natural gas, organizations from a variety of sectors, as well as commercial and individual customers. We provide trainings to our employees, branches and authorized dealers and support

their development as they are on the customer-facing side of business,

Our stakeholders are defined as the individuals and organizations that have been, and will be, impacted by our current and future activities and who may have a role in our Company's success. Key stakeholders are the ones with the highest economic, social and environmental interaction with our Company. For sustainable growth, we aim to be continuously beneficial to all our key stakeholders. Therefore, managing good relations with our key stakeholders is of great importance.

Due to our growing number of individual customers, there was a significant increase in the overall number of customers:

TABLE 18 Number of Customers	Household		Other Customers (Industry, Commercial and Institutional)	Total
	2016-2017	19,000	31,000	50,000

TABLE 19 Total Amount of Electricity Sold to Customers (billion kWh)	Purchased Electricity supplied to Customers	
	2016	2017
	2.36	2.27

The inclusive Sustainability Strategy of our Company considers the expectations of customers and focuses on effective risk management and contributes to building lasting relationships.

We have dialogue platforms, which are used to exchange ideas and information with our key stakeholders including customers and take place at least once a year. In addition, we identify stakeholder expectations and improve our communication strategy according to the results of the customer satisfaction survey, which is conducted on a regular basis.

GRI 102-7

> We carry out our operations with the notion that each of us is responsible for our societal development. We develop projects that have a lot of public interest in order to be able to reaching our goal of “making a material and measurable difference”. <



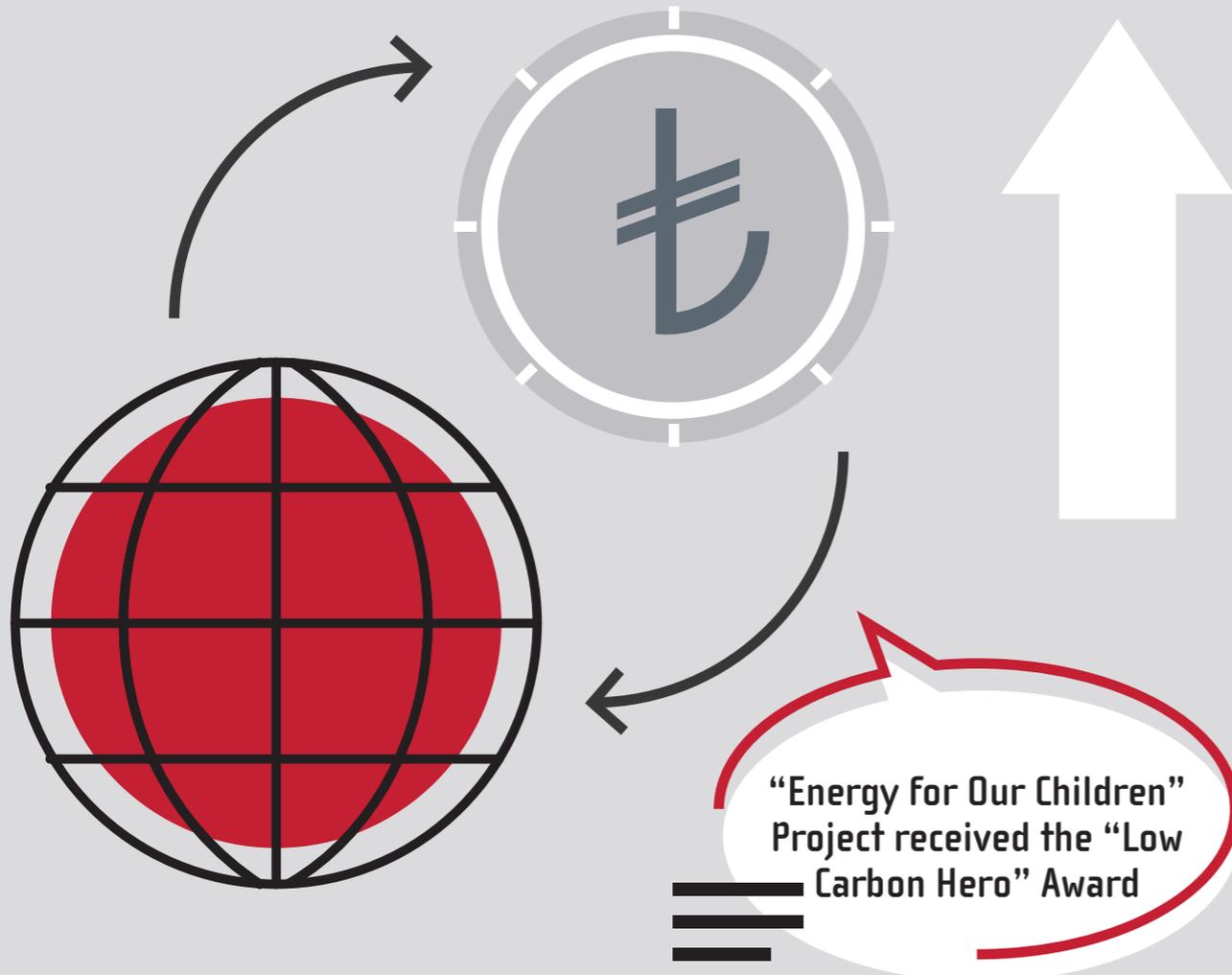
> “A Slam Dunk for Life” Project

# SOCIAL INVESTMENTS

A total of **TL 9,641,381** of social investment in 2016 and 2017 to encourage development in various fields such as education, health and sports



“A Slam Dunk for Life” Project received the “Corporate Social Responsibility Project of the Year” Award by the JCI Culture Young Leaders and Entrepreneurs Association



“Energy for Our Children” Project received the “Low Carbon Hero” Award

## > Relations with Local Community

> In addition to our efforts in stakeholder participation, we pay attention to developing good relations with the local community in all our operations to maintain our reputation as a corporate citizen. Among the diverse solutions we develop towards societal needs are social and infrastructure investments such as road construction, providing access to drinking and irrigation water supply systems, development of shared spaces and restoration of school buildings, as well as providing technology and scholarship support. Our contributions mostly consist of donation initiatives. Stakeholder dialogue is strengthened through local employment and local supply, as well as community support programs. <

## SOCIAL INVESTMENTS > Relations with Local Community

We adopt a communication approach that adds value to our sustainability efforts and benefits our operation while we carry out our activities by interacting with our stakeholders. We believe that financial success will not be meaningful without creating environmental and social value, and conduct our innovative sustainability projects to add socio-economic and cultural value to our operations while raising awareness in society.

Prior to our investments, we carry out environmental and social impact assessments in line with international standards. We determine the environmental and social impacts in project areas, and examine the socio-economic status and societal needs through these assessments. As a result of these studies, we establish management plans to minimize the environmental and social impacts. As a part of our construction projects, we organize informative meetings with local communities to inform them about our projects in detail and receive their opinions and expectations to be included in the management plans.

We pay close attention to minimizing our environmental impacts, and we have not experienced a case of physical or economic relocation of local communities due to our activities during the reporting period.

We make our investment decisions based on environmental, social and economic information. We consider stakeholder participation as a critical factor throughout this process and we enable them to be a part of the investment as well as in the operational plans prior to, during and after the investments by establishing mechanisms for complaints, suggestions and requests. As part of the stakeholder participation process, we carry out community support activities that add value to our operation locations and the society via regular stakeholder visits. As a responsible investor, in our significant locations of operation, we pay attention to our stakeholders' problems and deploy resources in cooperation with local authorities to resolve these issues, especially the ones caused by lack of infrastructure.

**We are increasing our indirect economic impact in the following areas of social investments:**

Contributions to resolve local and national societal issues via **community support programs**

Reducing the current account deficit of our country with a generation portfolio that consists of 76% renewable energy

Benefiting the local markets through purchasing **local goods and services**

 **Employment contribution**



> We support the United Nations Sustainable Development Goals (UN SDGs) through our operations. Accordingly, we contribute to national and international sustainability goals that directly contribute towards the SDGs 1, 7, 8, 9, 12, 13 and 17<sup>2</sup>. <

We carry out local community participation, impact assessments and development programs in all our 17 power plant locations. Among these, environmental and social impact assessments are conducted at 8 power plants and results at 6 operational plants are shared with the public, where official local community complaint mechanisms are in place. OHS committees and consultation groups that include stakeholder participation plans and sensitive groups are in operation at the 8 power plant locations where we conduct impact assessments. No significant negative impacts have been observed due to our operations prior to or during the reporting period.

We have based our sustainability approach on conducting responsible business that ensures employee welfare, health and safety in line with our corporate governance principles,

as well as environmental protection through open and regular communication with our stakeholders.

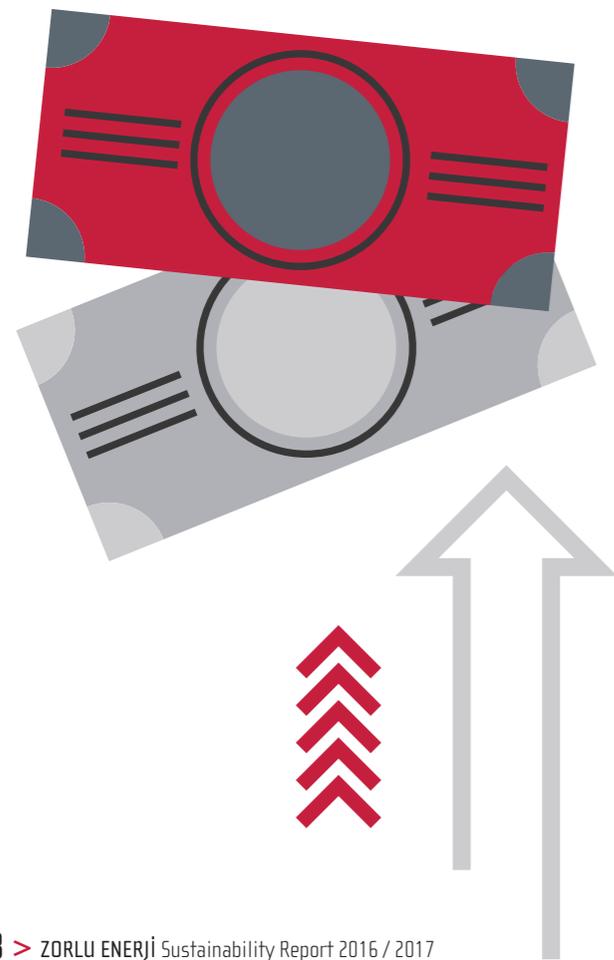
Zorlu Enerji is a responsible leader and a global citizen that is a signatory to the UN Global Compact (UNGC) and Woman's Empowerment Principles (WEPs), as well as the 2°C Declaration of the "Corporate Leaders Network for Climate Action".

As part of our continuous social responsibility projects and stakeholder suggestion and complaint mechanism, we organize informative meetings, stakeholder participation studies and site visits several times a year through our social investments. Subsequently, we calibrate our investments according to the feedback we receive via these contacts as well as the results of the reputation survey we conduct every three years.

<sup>2</sup> A map of the UN SDGs we use as reference within our sustainability approach is presented in Appendix.

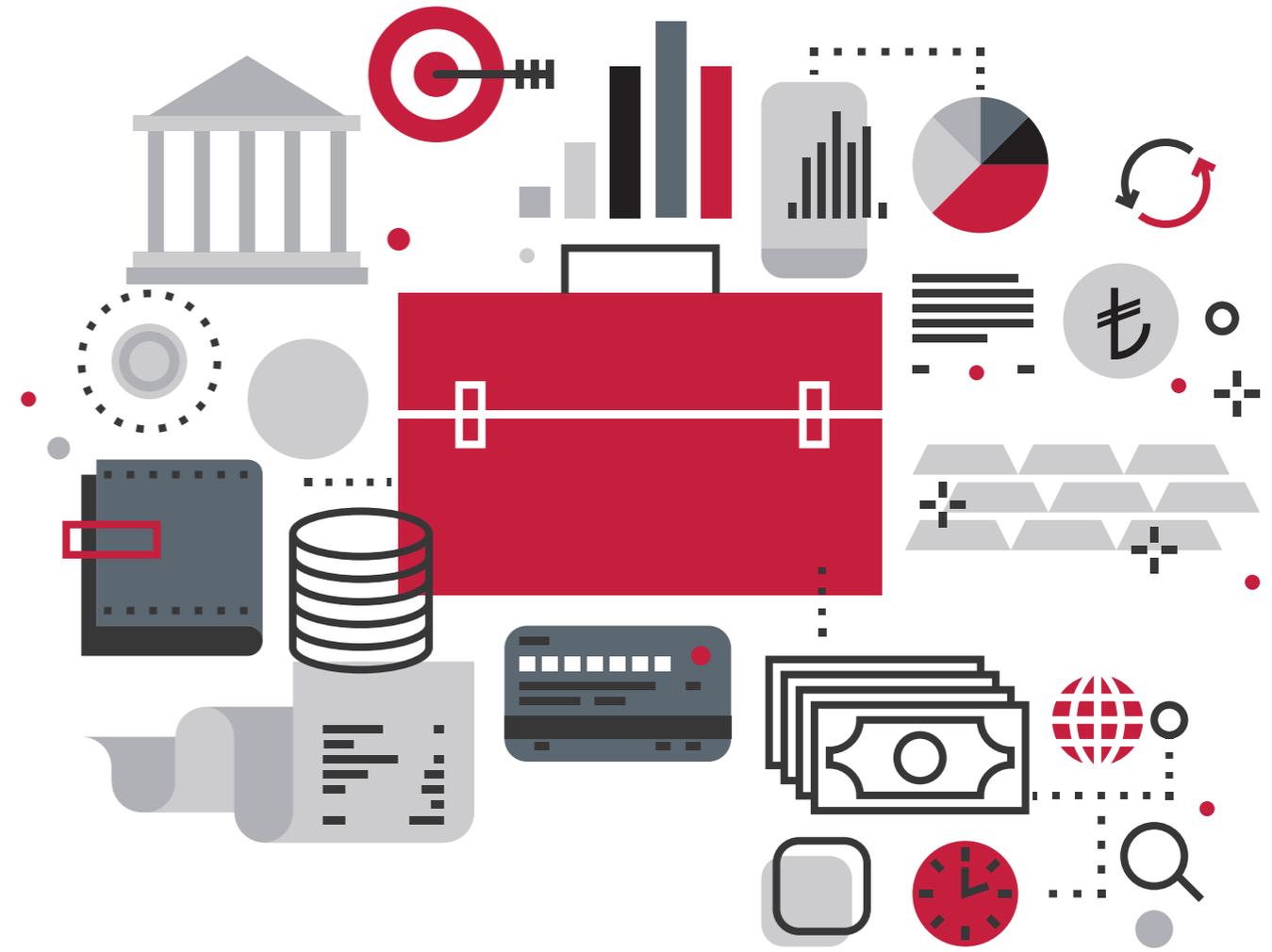
SOCIAL INVESTMENTS

# > Social Investments of Zorlu Enerji



**We believe** our investment approach is reputable and responsible when it comes to social, environmental, and economic issues. The world is shifting towards a new order, where company operations are expected to minimize any adverse issues with local communities. Social and environmental issues are becoming significant responsibilities next to and as part of a company's economic strategy. Our Company is increasingly supporting social development and adding value to society through its social responsibility projects tailored to meet the needs of local communities. The common social issues, needs and priorities in our investment locations are identified through impact assessments. These analyses shape our social and infrastructure investments as a part of our stakeholder dialogue.

**The social dimension of our sustainability approach**, which reflects our efforts in areas such as education, health, sports and the environment, is to; "Consider the concepts of social contribution and volunteering as one" and "Demonstrate a holistic approach to alleviate social problems". In line with this perspective, Zorlu Enerji Volunteers who have been active in social volunteering since 2013, are developing projects in various topics within the framework of corporate social responsibility including health, sports, education and arts. Our volunteers carried out many projects in numerous areas during the reporting period.



**Better tomorrows and social developments** depend on understanding local and global issues well and taking actions rapidly. As shown in Table 20, we focused more on our sustainability efforts in 2016 and 2017, and increased our social investments more than 3 times compared to the previous reporting period.

**We carry out our projects by creating common value in the sharing economy**, as part of Zorlu Holding. Details of some social responsibility projects are presented in the following section.

**TABLE 20**  
*Social Investments (TL)*

	2014-2015	2016-2017
Social Investments	3,106,166	9,641,381

## SOCIAL INVESTMENTS

# > Energy for Our Children

> At the III. and IV. Istanbul Carbon Summits, organized by Sustainable Production and Consumption Association (SPCA), in 2016 and 2017, Zorlu Enerji received the “Low Carbon Hero” Award with this project. We have received the “Low Carbon Hero” Award for three years in a row, also through our efforts in carbon management, sustainability and transition to clean energy systems. <

We support projects in our investment locations with long-term social contribution, as well as economic development. The “Energy for Our Children” Project was launched by Zorlu Enerji in 2010 as the first project of its kind in the energy sector, and has reached 200,000 children in our five investment locations so far with activities held throughout the year. The project aims to raise awareness among children regarding the concepts of energy, energy resources, efficiency, climate change and renewable energy. The 6th edition of “Energy Books” series of the project, “Solar Energy with Zorlu” was published during the reporting period and shared with third and fourth grade students. The book’s hero Green Dragon explains the benefits of solar energy to children, and how important clean and renewable resources are for a sustainable world. “Geothermal Energy with Zorlu”, “Water



Energy with Zorlu”, “Wind Energy with Zorlu”, “Natural Gas with Zorlu” and “Carbon Footprint with Zorlu” have been the other books in the informative series of “Energy Books”. In addition, we have organized Zorlu Children’s Theater for students in Denizli to contribute to their social development.

At the III. and IV. Istanbul Carbon Summits, organized by Sustainable Production and Consumption Association (SPCA), in 2016 and 2017, Zorlu Enerji has received the “Low Carbon Hero” Award with this project. We have received the “Low Carbon Hero” Award for three years in a row, also through our efforts in carbon management, sustainability and transition to clean energy systems.

“Energy for Our Children” Project has also received the “Best Corporate Social Responsibility” Award at the Best Business Awards (BBA) in the UK, where prominent public and private sector practices are awarded. The BBA Jury emphasized Zorlu Enerji’s efforts to raise awareness among the younger generation about renewable energy resources and achieved a 12% increase in the level of knowledge and awareness in 15 thousand students during the reporting period.

> “Energy for Our Children” was also one of the projects selected as “Best Corporate Social Responsibility Project of the Year” by the JCI Culture of Young Leaders and Entrepreneurs Association. In addition, the project received the “CSR Environment Award” at the CSR Marketplace event organized by the Corporate Social Responsibility Association of Turkey. <

## SOCIAL INVESTMENTS

### > “A Slam Dunk for Life” Project

We notice that social responsibility has become one of the most important factors in sustainability to be a responsible and long-term investor. “A Slam Dunk for Life” is a significant project for our Company in the sharing economy as it aims to support the socially disadvantaged youth in Aydın-Buharkent by helping their social integration and adaptation; we have been providing pedagogical counseling, basketball trainings, and social and cultural activities in this regard. “A Slam Dunk for Life” Project was expanded in 2016 and it continues to touch on many young peoples’ lives. The com-

munity and the following local establishments have shown ownership while supporting the project: Buharkent District Governor, District Gendarmerie Command, District Police Department, District National Education Directorate, Buharkent Social Assistance and Solidarity Foundation, and Buharkent Public Education Center Directorate, among others. “A Slam Dunk for Life Project” has received the “Corporate Social Responsibility Projects of the Year” Award at the 2016 International Corporate Social Responsibility Awards organized by JCI Culture Young Leaders and Entrepreneurs Association.



**Mehmet Erol, Mayor of Buharkent:** “Zorlu Enerji has made significant contributions to our community, especially by targeting the development of young people. Besides the “A Slam Dunk for Life” Project, they have also contributed to the needs of Buharkent Vocational High School. I believe that this interaction will continue in Buharkent for many years to come”.

### > “Reach for Life” Project

We have supported the “Reach for Life” Project since 2015 in Osmaniye, one of our first investment locations. In collaboration with the Provincial Health Directorate, the project targets people that live in rural areas who are out of an ambulance access within 20 minutes. By providing first aid training to 102 people in 14 villages, the project aims to save many lives. The purpose of this project is to establish first aid awareness in the society in line with the First Aid Regulation, spread the standard first aid practices, and prevent injuries and deaths due to wrong interventions.

### > Energy for the Education of Children with Autism!

Zorlu Enerji has been meeting the energy needs of Tohum Autism Foundation for four years, which conducts early diagnosis of autism and educates autistic children. We are aware of our responsibility as a corporate citizen and the sensitivity around the issue of providing an inclusive atmosphere for autistic children. We contribute to the bright futures of these children throughout the country by supporting this pioneer NGO.

### > Scholarship Programs

As a company that places great importance on education and genuinely believes that it should be among the basic human rights, we provide scholarship opportunities to support the education of university students in our investment locations, who are successful but have limited financial resources. We are providing scholarships to 334 university students in our six investment locations, with the goal of increasing the number of grantees every year.

## SOCIAL INVESTMENTS

# > Other Social Investment Projects

> We supported sports activities in 2016 and 2017 as a part of Community Support Program in Alaşehir and Osmaniye. Osmaniye Demirspor Women's Football and Alaşehir Belediyesi Spor Women's Volleyball teams we sponsored have both been very successful in their leagues.

> We contributed to forming walnut gardens in Alaşehir by donating saplings to preserve the nature and diversify the local economy.

> Kudbettin Bulut is a bodybuilder that helped keep the youth in Aydın-Buharkent out of bad habits and pick up sports. He came second in the "Masters" category of World Bodybuilding Championship and made our Company proud to have sponsored him.

> Actively providing cultural support, Zorlu Enerji was the main sponsor of the annual "Traditional Çağrankaya Snow Trekking" in 2016 and 2017, which takes place in the tablelands of Rize İkizdere. The event that supports local economy will keep contributing to introduce Rize to the world.

> We have been supporting the Steptember Project with our volunteers for three years in order to contribute to the education and rehabilitation that children with Cerebral Palsy (CP) need for a lifetime. In 2017, we participated to the Project with 81 employees as Zorlu Companies broke the record with 107 teams. The project is organized by the Spastic Children's Foundation of Turkey and we participate from all our domestic and international locations. With the commitment of taking 10,000 steps a day, the project aims to raise

awareness on health and environment for volunteers and contribute to the treatment and education of children with CP. In 2017, the project provided 40 sessions of special education and rehabilitation for the children.

> Our "Energy for Village Schools" Project has been ongoing for seven years and we provided winter clothes to 1,000 students during the reporting period in 3 villages of Tercan district in Erzincan, Kuzgun district in Erzurum and Ovacık district in Tunceli.

> As a part of the Vocational High School Coaching Program organized by the Association of Private Sector Volunteers, five volunteer coaches from our Company will be guiding students for two years and they have started their projects that will be used as models in the future.

> We have supported the construction of "Alternative Energy Laboratory and Conference Center" within the Aydın-Buharkent Vocational High School, as well as the 12th Buharkent Fresh Fig Festival.

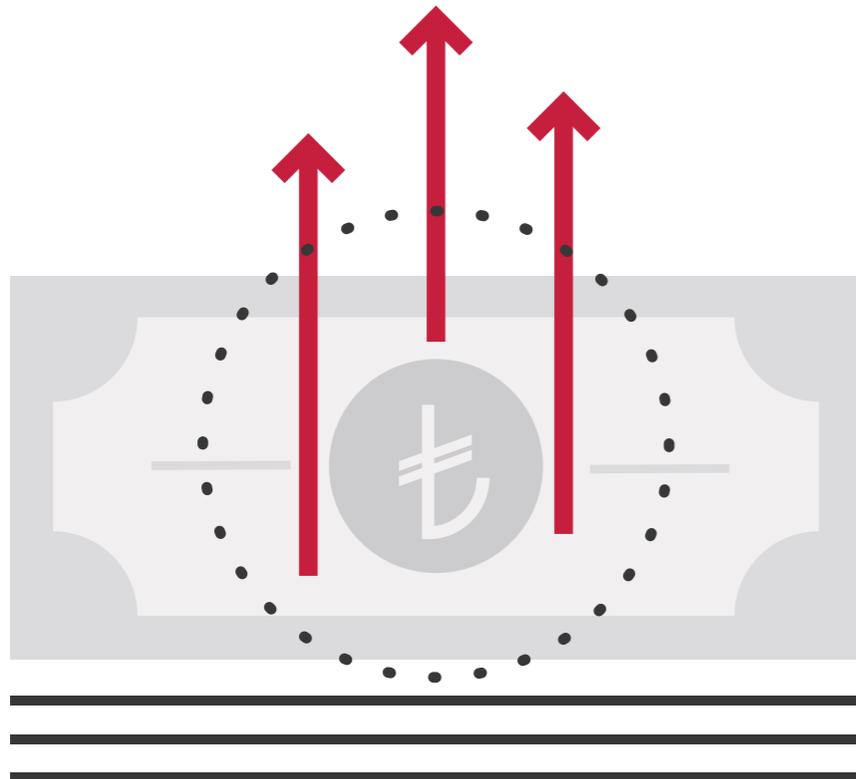
> We support the efforts to meet the qualified personnel necessity in the energy sector. In collaboration with Pamukkale University, we provide internship opportunities to the students of Denizli Sarayköy Vocational High School, which is close to our power plant.

> The İkizdere Search, Rescue and Mountaineering Association (İDAK) was established in February 2017, which consists of volunteers from our Company. The Association is located in our Rize İkizdere investment location and it was formed to intervene when there are natural disasters such as floods, landslides, avalanches and landslides.



In addition, we analyze the social and economic impacts of our planned investments in detail as a part of our social impact assessments. Management plans and programs are developed and implemented in order to mitigate or ameliorate the potential adverse impacts of such projects. The headlines of projects and operations we carried out within these plans and programs are as follows:

- > Projects to increase the standard of living in local communities,
- > Stakeholder participation plans,
- > Events to inform stakeholders and public participation meetings,
- > Internal and external stakeholder complaint mechanisms,
- > Random discovery procedures of historical, cultural and natural heritage,
- > Rural development supports,
- > Scholarship programs,
- > Material and machinery support to local administrations that strengthen the infrastructure,
- > Supporting amateur sports in investment locations,
- > Supporting traditional festivals which have an important place in agricultural, economic and cultural life,
- > The development, implementation and support of projects in cooperation with the local authorities to solve the major problems in investment locations,
- > Various efforts such as supporting access to clean water in the villages.



# APPENDIX

## > Map of Sustainable Development Goals

# SUSTAINABLE DEVELOPMENT GOALS



### CORPORATE GOVERNANCE APPROACH

PAGE 32



### ENVIRONMENTAL RESPONSIBILITY

PAGE 52



### OUR EMPLOYEES

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### INNOVATION AND SMART SYSTEMS

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### SUPPLY CHAIN RELATIONS

PAGE 94



### CUSTOMER RELATIONS

PAGE 100



### SOCIAL INVESTMENTS

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## > Corporate Memberships

We have memberships at many associations and institutions that operate in diverse areas. We aim to represent our Company on various platforms and be a leader in our sector by taking initiatives through these memberships, which are as follows:

AmCham - American Business Forum in Turkey

Association of Roofing Industrialists and Businessmen (ÇATIDER)

Capital CEO Club

Climate Platform Leaders Group

Corporate Communications Association

DEİK African Business Council (Turkey - Kenya Business Council)

DEİK Asia Pacific Business Council (Turkey - Indonesia Business Council)

DEİK Energy Business Council Executive Board Membership

DEİK Foreign Investments Business Council

DEİK Turkey - Israel Business Council Deputy Chair

DEİK Turkey - Japan Business Council Executive Board Membership

DEİK Turkey - Pakistan Business Council Deputy Chair

DEİK Turkey - USA Business Council

Electric Retailers Association

Energy Trade Association Administrative Board Membership

Ethics and Reputation Society (TEİD)

European Geothermal Energy Council (EGEC)

GAZBİR

GENSED

Geothermal Power Plant Investors Association (JESDER) Administrative Board Membership

GÜNDER (International Solar Energy Society - Turkey Section)

GÜYAD - Solar Energy Investors Association

International Competition and Technology Association

INTES

Kalder Quality Association

Middle East Solar Industry Association

Petform (Petrol Platform Association)

Private Sector Volunteers Association Volunteering Emissary

Solarbaba Platform (NGO)

The Turkish Association for Energy Economics

TOBB Energy Council

Turkish Cogeneration and Clean Energy Technologies Association

Turkish Quality Association

Turkish Wind Energy Association (TÜREB)

TÜSİAD Energy Workshop

TÜSİAD Environment Work Group

World Business Council of Sustainable Development (WBCSD)

World Energy Council National Committee of Turkey

# > Performance Indicators

## Economic Performance Indicators

**TABLE 21**  
*Summary Balance Sheet (Thousand TL)*

	December 31, 2016	December 31, 2017
Current Assets	1,297,203	2,346,567
Non-current Assets	5,544,041	8,929,062
Total Assets	6,841,244	11,275,629
Current Liabilities	2,346,632	4,021,878
Non-current Liabilities	4,029,875	5,571,646
Shareholders' Equity	464,737	1,682,105
Total Liabilities & Equity	6,841,244	11,275,629
Gross Financial Debt (*)	5,433,773	7,845,210
Net Financial Debt (*)	5,335,613	7,510,125

**TABLE 22**  
*Summary Income Statement (Thousand TL)*

	December 31, 2016	December 31, 2017
Revenues	1,223,594	3,871,190
Cost of Sales	(954,974)	(3,077,003)
Gross Profit from Trading Activities	268,620	794,187
Operating Income / (Expense) (**)	(55,424)	(212,897)
Amortization and Depreciation Expenses (***)	199,164	237,665
Interest income related to distribution activities	-	60,326
Interest Income (****)	74,571	142,947
EBITDA	412,360	879,281
Net Profit / (Loss) for the Period (*****)	4,034	51,925
Gross Profit Margin	22.0%	20.5%
EBITDA Margin	33.7%	22.7%

\* Since December 31, 2017, short-term and long-term financial debts and other financial debts of the Company are taken into consideration while calculating the gross debt. From this perspective, TL 291,967 of other long-term debt of Zorlu Holding is deducted from total debt (December 31, 2016: TL 567,875). While net debt is calculated, cash and cash equivalents are deducted from gross debt amounts for both periods.

\*\* Includes general management expenses, marketing expenses and profits/losses of investments which are valued with equity management.

\*\*\* TL 237,665 thousand of amortization expense and depletion share is related to the part which includes cost of activities, and it does not contain amortization expense that is classified under the cost of main activities in the financial tables.

\*\*\*\* TL 60,326 of interest income related to distribution activities is accounted as the income of main activities and included in EBITDA calculation. (December 31, 2016: Not available.)

\*\*\*\*\* Net loss represents the profits and losses are associated with the main partnership shares of the company.

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**TABLE 23**  
*Generated and Distributed Economic Value (Thousand TL)*

	2016	2017
Generated Economic Value (Net Sales)	1,223,594	3,871,190

**TABLE 24**  
*Economic Value Distributed to Stakeholders (Thousand TL)*

	2016	2017
Operational Costs (Supplier payments, non-strategic investments, copyrights etc.)	54,540	232,993
Payments to Government (Taxes etc.)	7,491	27,771
Payments to Investors and Shareholders (Dividends, etc.)	-	-
Payments to Financial Institutions (Interests etc.)	340,769	425,837
Employee Wages (Salaries, SGK, etc.)	15,977	24,410
Community Investments (Donations, sponsorship, etc.)	2,804	1,419
<b>Economic Value Retained</b>	<b>803,398</b>	<b>3,157,375</b>
Tax Discounts	-	-

**TABLE 25**  
*Social Investments (TL)*

	2016	2017
Social Investments	3,696,984	5,944,397

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# > Social Performance Indicators

## Employees

	2016	2017
<b>PLANTS</b>	<b>430</b>	<b>438</b>
- Natural gas	112	93
- GPP	197	228
- WPP	42	41
- HPP	79	76
<b>HEADQUARTER</b>	<b>213</b>	<b>235</b>
<b>TOTAL</b>	<b>643</b>	<b>673</b>

**TABLE 26**  
*Total Number of Employees by Region*

	2016		2017	
	Female	Male	Female	Male
Under 30	0	0	0	0
From 30 to 50	2	5	2	7
Above 50	1	1	0	2

**TABLE 27**  
*Number of Employees in Management by Age Group and Gender*

	2016		2017	
	Female	Male	Female	Male
<b>Number of White-collar Employees by Age Group and Gender*</b>				
Under 30	32	127	28	146
From 30 to 50	59	370	66	384
Above 50	5	50	4	45
Number of Disabled Employees	2	9	2	10

(\*)The Company does not have blue-collar employees.

	2016		2017	
	Female	Male	Female	Male
<b>TABLE 29</b> <i>Total Number of Newly Hired Employees</i>				
Under 30	15	68	14	68
From 30 to 50	2	37	10	44
Above 50	0	2	1	4

	2016		2017	
	Female	Male	Female	Male
<b>TABLE 30</b> <i>Total Number of Employees Leaving</i>				
Under 30	9	14	3	17
From 30 to 50	9	40	3	34
Above 50	0	16	2	9

	2016		2017	
	Female	Male	Female	Male
<b>TABLE 31</b> <i>Employee Turnover by Age Group and Gender</i>				
Under 30	1.4%	2.2%	0.4%	2.5%
From 30 to 50	1.4%	6.2%	0.4%	5.1%
Above 50	0%	2.5%	0.3%	1.3%

## > Social Performance Indicators

### Employees

	2016		2017	
	Female	Male	Female	Male
Under 30	955	889	650	512
From 30 to 50	2,061	2,270	3,161	2,158
Above 50	0	5,012	2,617	4,819

**TABLE 32**  
*Time Spent on Payroll of Employees Leaving (day)*

	2016		2017	
	Female	Male	Female	Male
White collar	88%	89%	95%	93%
Senior Management	100%	75%	100%	92%

**TABLE 35**  
*Percentage of Employees Subject to Regular Performance and Career Development Assessments, by Gender and Category*

	2016		2017	
	Female	Male	Female	Male
Number of employees who are eligible for and took maternity leave	6	33	7	21
Number of employees returning to work after maternity leave	6	33	7	21
Number of total employees that returned to work after maternity leave and are still working after twelve months	5	33	6	20
Rate of employees returning to work after maternity leave and staying	83%	100%	86%	95%

**TABLE 33**  
*Rate of Employees Returning After Maternity Leave and Staying, by Gender*

	2016		2017	
	Female	Male	Female	Male
Injury Rate (IR)	0	5.79	0	5.59
Occupational Disease Rate (ODR)	0	0	0	0
Lost Day Rate (LDR)	0	0.16	0	0.054
Work-related fatalities	0	0	0	0

**TABLE 36**  
*Occupational Accident Rates for Total Workforce, by Gender<sup>3</sup>*

	2016		2017	
	Female	Male	Female	Male
White collar	4.3	8.9	5.2	6.9
Senior Management	0	0	0	0

**TABLE 34**  
*Average Training Hours of Employees*

	2016		2017	
	Female	Male	Female	Male
Injury Rate (IR)	0	2.62	0	5.28
Occupational Disease Rate (ODR)	0	0	0	0
Lost Day Rate (LDR)	0	0.022	0	0.03
Work-related fatalities	0	0	0	0

**TABLE 37**  
*Occupational Accident Rates for All Employees employed by Zorlu Enerji, by Gender<sup>3</sup>*

<sup>3</sup> Calculation methodology of Zorlu Enerji's occupational accidents:

Injury Rate: Total Number of Accidents / Total working hours of employees x 1,000,000

Lost day rate: Total number of lost days due to accidents / Total number of annual working days

Total Annual Working Hours: [312 x 7.5 x Total number of employees] - [Total lost days due to occupational accidents x 7.5]

# > Social Performance Indicators

## Employees

TABLE 38

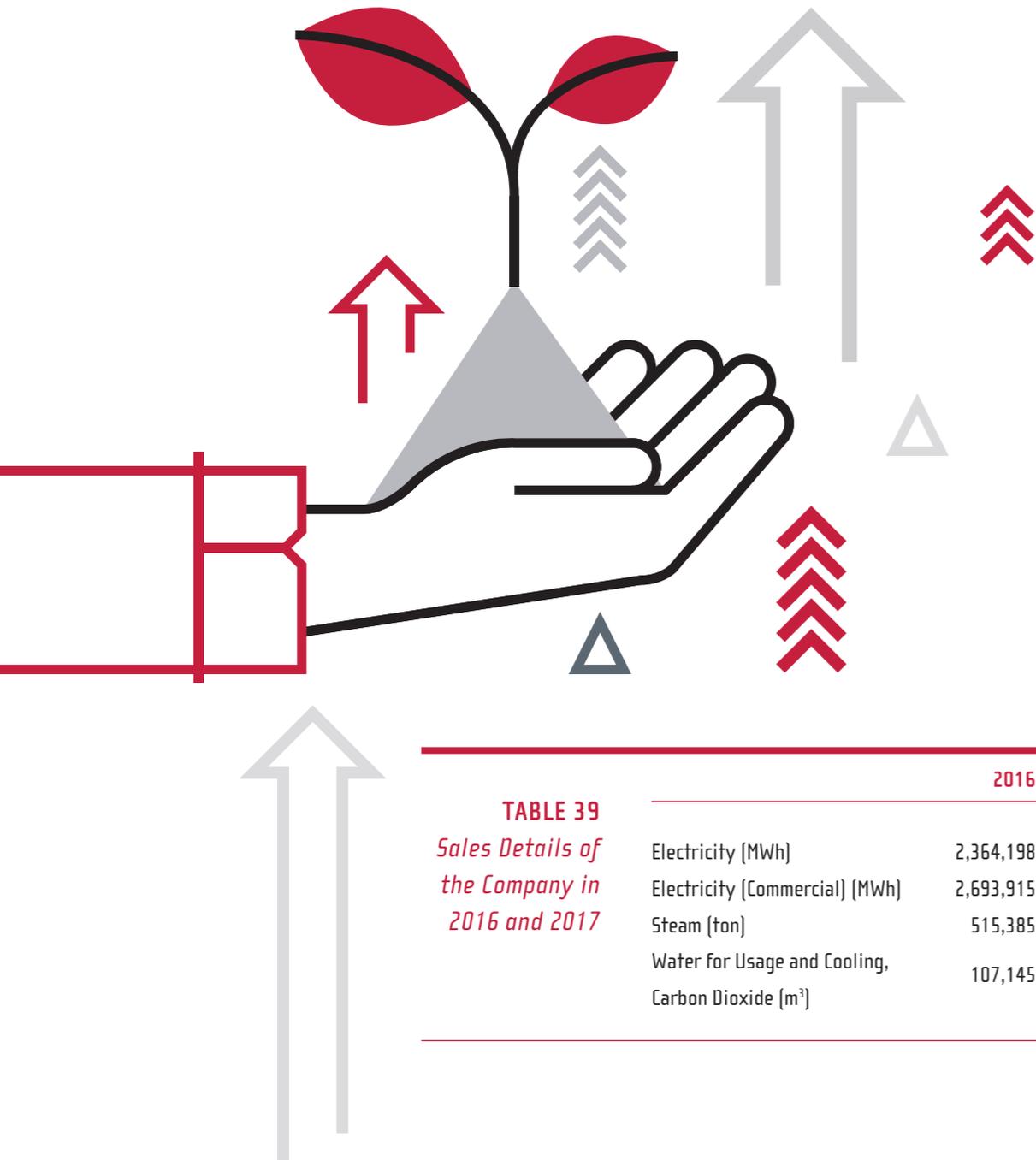
Occupational Accident Rates of Zorlu Enerji and Subcontractors<sup>4</sup>

		Natural Gas				HPP				GPP				WPP				TOTAL			
		2016		2017		2016		2017		2016		2017		2016		2017		2016		2017	
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Zorlu Enerji	Injury Rate (IR)	-	4.75	-	-	-	9.09	-	-	-	12.70	-	12.95	-	-	-	-	-	7.64	-	5.76
	Occupational Disease Rate (ODR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lost Day Rate (LDR)	-	0.06	-	-	-	-	-	-	-	0.08	-	0.03	-	-	-	-	-	0.15	-	0.03
	Absence Rate (AR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Work-related fatalities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subcontractors	Injury Rate (IR)	-	-	-	-	-	-	-	-	-	6.58	-	11.25	-	-	-	-	-	2.62	-	5.28
	Occupational Disease Rate (ODR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lost Day Rate (LDR)	-	-	-	-	-	-	-	-	-	0.02	-	0.03	-	-	-	-	-	0.02	-	0.03
	Absence Rate (AR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Work-related fatalities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>4</sup>Absence Rate (AR) is not calculated in Zorlu Enerji.

The total number of annual working days for Zorlu Enerji personnel was 312 days and for subcontractors 360 days.

# > Environmental Performance Indicators



	2016	2017
<b>TABLE 39</b> <i>Sales Details of the Company in 2016 and 2017</i>		
Electricity (MWh)	2,364,198	2,267,131
Electricity (Commercial) (MWh)	2,693,915	8,065,412
Steam (ton)	515,385	543,999
Water for Usage and Cooling, Carbon Dioxide (m <sup>3</sup> )	107,145	100,873

	2016	2017
<b>TABLE 40</b> <i>Generation Details of the Company in 2016 and 2017*</i>		
Electricity (MWh)	2,558,965	2,467,495
Electricity (Commercial) (MWh)	0	0
Steam (ton)	515,385	543,999
Water for Usage and Cooling, Carbon Dioxide Gas (m <sup>3</sup> )	0	0

	2016	2017
<b>TABLE 41</b> <i>Zorlu Enerji Distribution of Installed Capacity in Turkey (MW)</i>		
Natural gas	232	176
Geothermal	140	240
Wind	215	215
Hydroelectric	113	113
<b>TOTAL</b>	<b>700</b>	<b>744</b>

	2016	2017
<b>TABLE 42</b> <i>Zorlu Enerji Distribution of Net Generation in Turkey (kWh)</i>		
Natural gas	498,800,938	375,907,964
Geothermal	505,046,647	556,627,214
Wind	880,759,687	1,003,758,187
Hydroelectric	324,728,094	180,491,215
<b>TOTAL</b>	<b>2,209,335,366</b>	<b>2,116,784,579</b>

	2016	2017
<b>TABLE 43</b> <i>Waste generation of Zorlu Enerji (tons)</i>		
Solid Waste	117	114
Hazardous Waste	115	27
Recyclable Waste	13	8

\*In 2017, 200,321 MWh of electricity generated at Zorlu Enerji Power Plants (about 2%) was internally consumed by the plants. In 2016, internal consumption was 184,539 MWh.

# > GRI Standards Content Index



GRI STANDARDS	DISCLOSURES / PAGE NUMBER(S) AND EXPLANATIONS
<b>GRI 101: Foundation 2016</b>	
<b>GRI 102: General Disclosures 2016</b>	
<b>Organizational Profile</b>	
102-1 Name of the organization	Zorlu Enerji Elektrik AŞ
102-2 Activities, brands, products, and services	Corporate Profile, p.16 Companies and Fields of Operation, p.18
102-3 Location of headquarters	Istanbul
102-4 Location of operations	Companies and Fields of Operation, p.18
102-5 Ownership and legal form	2017 Annual Report, p.160 Corporate Profile, p.16
102-6 Markets served	Corporate Profile, p.16 Companies and Fields of Operation, pp.18-20
102-7 Scale of the organization	Companies and Fields of Operation, p.18 Zorlu Enerji, p.16 Economic Performance Indicators, pp.120-121 2017 Annual Report, p.7
102-8 Information on employees and other workers	Distribution of Employees, p.80 Social Performance Indicators, p.122
102 -8 EU Module: Information on total Workforce	Occupational Accidents, Illnesses and Lost Days, p.83
102-9 Supply chain	Supply Chain Relations, pp.94-97
102-10 Significant developments about the organization and its supply chain	Significant Developments during the Reporting Period, pp.26-29 Supply Chain Relations, pp.94-97 2016 and 2017 Annual Reports, Reports and Financial Information Chapter
102-11 Precautionary principle or approach	Risk Management, pp.38-39
102-12 External initiatives	Sustainability Management, pp.40-41
102-13 Membership of associations	Corporate Memberships pp.118-119
<b>Strategy</b>	
102-14 Statement from senior decision-maker	Message from Management, pp.8-11
102-15 Explanation of key impacts, risks and opportunities	Risk Management, pp.38-39

**GRI 102-55**

GRI STANDARDS	DISCLOSURES / PAGE NUMBER(S) AND EXPLANATIONS
<b>GRI 101: Foundation 2016</b>	
<b>GRI 102: General Disclosures 2016</b>	
<b>Code of Ethics and Principles</b>	
102-16 Values, principles, standards, and norms of behavior	Sustainability Policy, p.42
<b>Governance</b>	
102-18 Governance structure	Corporate Governance, p.34
102-22 Combination of governance and committees	Corporate Governance, p.34 The Board consists of 9 members, 2 of which are independent members. Governance roles last for 2 years. There is only one female member of the Board. There is no membership of social groups that are underrepresented. Selen Zorlu Melik is the main responsible for environmental and social issues, whereas the main responsible for economic issues is Olgun Zorlu. A. Nazif Zorlu is the main representative before the stakeholders.
102-33 Process related to transfer of critical issues to the highest governance body	Corporate Governance, pp.34-35
<b>Stakeholder Engagement</b>	
102-40 List of stakeholder groups	Stakeholder Communication, pp.44-45
102-41 Collective bargaining agreements	There is no collective bargaining agreement in Zorlu Enerji's operations covered in this Report.
102-42 Identifying and selecting stakeholders	Stakeholder Communication, pp.44-45
102-43 Approach to stakeholder engagement	Current Communication Methods with Key Stakeholders, pp.46-47
102-44 Key topics and concerns raised	Stakeholder Communication, pp.44-45
<b>Reporting Practice</b>	
102-45 Entities included in the consolidated financial statements	Companies and Fields of Operation, p.18
102-46 Defining report content and topic boundaries	About the Report, pp.12-13
102-47 List of material topics	Materiality Analysis, pp.48-49
102-48 Restatements of information	Greenhouse Gas Emissions Managements , p.60

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Reporting Practice	
102-49 Changes in reporting	Materiality Analysis, pp.48-49
102-50 Reporting period	January 1, 2016 – December 31, 2017
102-51 Date of most recent report	July 12, 2016
102-52 Reporting cycle	2 years
102-53 Contact point for questions regarding the report	About the Report, pp.12-13
102-54 Claims of reporting in accordance with the GRI Standards	About the Report, pp.12-13
102-55 GRI content index	GRI Content Index, pp.130-140
102-56 External assurance	Although there have not been any external audits, all information in the report has been subject to rigorous internal scrutiny.

TOPIC-SPECIFIC STANDARDS		
GRI 200 ECONOMIC STANDARDS SERIES 2016		
GRI 201: Economic Performance 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Economic Performance, pp.22-23
	103-2 The management approach and its components	Economic Performance, pp.22-23
	103-3 Evaluation of the management approach	Economic Performance, pp.22-23
	201-1 Direct economic value generated and distributed	Economic Performance, pp.22-23 Economic Performance Indicators, pp.120-121
	201-2 Other risks and opportunities relevant to climate change and its financial effects on the activities of the company	The Impact of Climate Change on Economic Performance and Operations, pp.24-25
	201-3 Scope of the determined company liabilities of the compensation plan	There is no separate fund for the payment of pensions. 2017 Annual Report, pp.216-217

GRI 203: Indirect Economic Impacts 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Relations with Local Community, pp.105-107
	103-2 The management approach and its components	Relations with Local Community, pp.105-107
	103-3 Evaluation of the management approach	Relations with Local Community, pp.105-107
	203-1 Infrastructure investments and services supported	Relations with Local Community, pp.105-107
	203-2 Significant indirect economic impacts	Relations with Local Community, pp.106-107

GRI 204: Procurement Practices 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Supply Chain Relations, p.94
	103-2 The management approach and its components	Supply Chain Relations, pp.96-97
	103-3 Evaluation of the management approach	Supply Chain Relations, pp.94-95
	204-1 Rate of investments over local suppliers in distinctive operational areas	Supply Chain Relations, p.95

GRI 205: Anti-Corruption 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Risk Management, p.38
	103-2 The management approach and its components	Risk Management, p.38
	103-3 Evaluation of the management approach	Risk Management, p.39
	205-1 Operations assessed for risks related to corruption	Risk Management, p.39
	205-2 Communication and training about anti-corruption policies and procedures	Risk Management, p.39
	205-3 Confirmed cases of corruption and measures taken	Risk Management, p.39

GRI 206: Anti-competitive Behavior 2016		
	206-1 Number of legal actions during the reporting period regarding anti-competitive behavior and their outcomes	No identified or suspected incidents of anti-competitive behavior during the reporting period.

GRI 300 ENVIRONMENTAL STANDARDS SERIES 2016		
GRI 302: Energy 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Energy Management, p.56
	103-2 The management approach and its components	Energy Management, p.56
	103-3 Evaluation of the management approach	Energy Management, p.56
	302-1 Energy consumption within the organization	Energy Management, p.56
	302-3 Energy intensity	Energy Management, p.57
	302-4 Reduction of energy consumption	None identified.
	302-5 Reduction of energy demand by goods and services	None identified.
GRI 303: Water 2018		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Water Management, pp.58-59
	103-2 The management approach and its components	Water Management, pp.58-59
	103-3 Evaluation of the management approach	Water Management, pp.58-59
	303-5 Water consumption	Water Management, p.59
GRI 304: Biodiversity 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Biodiversity, pp.64-65
	103-2 The management approach and its components	Biodiversity, pp.64-65
	103-3 Evaluation of the management approach	Biodiversity, pp.64-65
	304-1 Operational areas which have high biodiversity value	Biodiversity, pp.64-65
	304-2 Important impacts of activities, goods and services over biodiversity	Biodiversity, pp.64-65
	304-3 Habitats which are rehabilitated or protected	Biodiversity, p.65
	304-4 Total number of species that are included in red list and international protection list within operational fields according to their risk level	Biodiversity, p.65

GRI 305: Emissions 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Greenhouse Gas Emissions Management, pp.60-62
	103-2 The management approach and its components	Greenhouse Gas Emissions Management, pp.60-62
	103-3 Evaluation of the management approach	Greenhouse Gas Emissions Management, pp.60-62
	305-1 Direct (Scope 1) GHG emissions	Greenhouse Gas Emissions Management, pp.61-62
	305-2 Indirect (Scope 2) GHG emissions	Greenhouse Gas Emissions Management, pp.61-62
	305-3 Other indirect GHG emissions (Scope 3)	Greenhouse Gas Emissions Management, pp.61-62
	305-4 GHG emissions intensity	Greenhouse Gas Emissions Management, p.61-62
	305-4 EU Module: Emissions intensity of generation from thermal (fossil) resources	Greenhouse Gas Emissions Management, p.61
	305-5 Reduction of GHG emissions	Greenhouse Gas Emissions Management, p.61
	305-6 Emission of ozone depleting substances (ODS)	There are no ODS emissions.
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Emissions, p.63
	305-7 EU Module: Air emission intensity of net generation	Air Emissions, p.63
	305-7 EU Module 2: Air emission intensity of net generation from thermal (fossil) resources	Air Emissions, p.63
GRI 307: Environmental Compliance 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Environmental Investment and Compliance, p.66
	103-2 The management approach and its components	Environmental Investment and Compliance, p.66
	103-3 Evaluation of the management approach	Environmental Investment and Compliance, p.66
	307-1 Non-compliance with environmental laws and regulations	Environmental Investment and Compliance, p.66

**GRI 400 SOCIAL STANDARDS SERIES 2016**

**GRI 401: Employment 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Decent Working Conditions, pp.76-79
	103-2 The management approach and its components	Decent Working Conditions, pp.76-79
	103-3 Evaluation of the management approach	Decent Working Conditions, pp.76-79
	401-1 New employee hires and employee turnover	Social Performance Indicators, p.123
	401-1 EU Module: Time Spent on Payroll for Employees who are Leaving	Social Performance Indicators, p.123
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Social Rights, p.81 There is no separate life insurance or disability insurance within the Company.
	401-3 Maternity leave	Social Performance Indicators, p.124

**GRI 402: Labor/Management Relations 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Labor/Management Relations, p.80
	103-2 The management approach and its components	Labor/Management Relations, p.80
	103-3 Evaluation of the management approach	Labor/Management Relations, p.80
	402-1 Minimum warning periods for operational changes	Labor/Management Relations, p.80

**GRI 403: Occupational Health and Safety 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Occupational Health and Safety, p.82
	103-2 The management approach and its components	Occupational Health and Safety, p.82
	103-3 Evaluation of the management approach	Occupational Health and Safety, p.82
	403-1 Workers representation in formal joint management-worker health and safety committees	Occupational Health and Safety, p.82
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Occupational Accidents, Illnesses and Lost Days, p.83 Social Performance Indicators, pp.125-127
	403-3 Workers with high incidence or high risk of diseases related to their occupation	Occupational Accidents, Illnesses and Lost Days, p.83
	403-4 Health and safety topics covered in formal agreements with trade unions	Occupational Accidents, Illnesses and Lost Days, p.83

**GRI 404: Training and Education 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Trainings, p.81
	103-2 The management approach and its components	Trainings, p.81
	103-3 Evaluation of the management approach	Trainings, p.81
	404-1 Average hours of training per year per employee	Trainings, p.81 Social Performance Indicators, p.124
	404-2 Programs for upgrading employee skills and transition assistance program	Trainings, p.81
	404-3 Percentage of employees receiving regular performance and career development reviews	Social Performance Indicators, p.125

**GRI 405: Diversity and Equal Opportunity 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Decent Working Conditions, pp.76-77
	103-2 The management approach and its components	Decent Working Conditions, pp.76-77
	103-3 Evaluation of the management approach	Decent Working Conditions, pp.76-77
	405-1 Diversity of governance bodies and employees	Social Performance Indicators, p.122
	405-2 Ratio of basic salary and remuneration of women to men	Decent Working Conditions, p.77

**GRI 406: Non-Discrimination 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Decent Working Conditions, pp.76-77
	103-2 The management approach and its components	Decent Working Conditions, pp.76-77
	103-3 Evaluation of the management approach	Decent Working Conditions, pp.76-77
	406-1 Incidents of discrimination and corrective actions taken	Decent Working Conditions, p.79

**GRI 409: Forced or Compulsory Labor 2016**

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Decent Working Conditions, pp.76-77
	103-2 The management approach and its components	Decent Working Conditions, pp.76-77
	103-3 Evaluation of the management approach	Decent Working Conditions, pp.76-77
	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Decent Working Conditions, pp.76-79

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GRI 400 SOCIAL STANDARDS SERIES 2016		
GRI 413: Local Communities 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Relations with Local Community, pp.105-107
	103-2 The management approach and its components	Relations with Local Community, pp.105-107
	103-3 Evaluation of the management approach	Relations with Local Community, pp.105-107
	413-1 Operations with local community engagement, impact assessments, and development programs	Relations with Local Community, p.105
	413-2 Operations with significant actual and potential negative impacts on local communities	Relations with Local Community, p.105
GRI 415: Public Policy 2016		
	415-1 Total monetary value of financial and in-kind political contributions by country and recipient/beneficiary.	There hasn't been any political contribution during the reporting period.
GRI 416: Customer Health and Safety 2016		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Customer Relations, pp.100-101
	103-2 The management approach and its components	Customer Relations, pp.100-101
	103-3 Evaluation of the management approach	Customer Relations, pp.100-101
	416-1 Assessment of the health and safety impacts of product and service categories	OHS assessments of all operations are constantly carried out within legal requirements.
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	There were no incidents of non-compliance concerning the health and safety impacts of our operations.
GRI 417: Marketing and Labeling 2016		
	417-2 Incidents of non-compliance concerning product and service information and labeling	There were no incidents of non-compliance concerning service information and labeling in our operations.
	417-3 Incidents of non-compliance concerning marketing communications	There were no incidents of non-compliance concerning our marketing communications, advertising, promotion and sponsorship.
Innovation and Smart Systems		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundary	Innovation and Smart Systems, pp.86-87
	103-2 The management approach and its components	Innovation and Smart Systems, pp.86-87
	103-3 Evaluation of the management approach	Innovation and Smart Systems, pp.86-87

Zorlu Enerji reports in accordance with the GRI Electric Utilities (EU) Sector Disclosures Module besides the GRI Standards. The EU Module indicators defined by the GRI under G4 Reporting Guidelines still maintain their validity. Therefore, some of the indicators below are included with their original GRI G4 names and definitions.

**TABLE 44 Disclosures of GRI Electric Utilities Module**

GRI STANDARD	DISCLOSURES
<b>General Standard Disclosures for the Energy Sector</b>	
<b>General Standard Disclosures</b>	
EU1 - Installed capacity, broken down by primary energy source and by regulatory regime	Environmental Performance Indicators, p.128
EU2 - Net energy output broken down by primary energy source and by regulatory regime	Environmental Performance Indicators, p.128
EU3 - Number of residential, industrial, institutional and commercial customer accounts	Customer Relations, p.101
EU4 - Length of above and underground transmission and distribution lines by regulatory regime	All transmission and distribution lines in Turkey belong to TEİAŞ (Turkish Electricity Transmission Corporation) and TEDAŞ (Turkish Electricity Distribution Corporation) in Turkey.
EU5 - Allocation of CO <sub>2</sub> emissions allowances or equivalent, broken down by carbon trading framework	Greenhouse Gas Emissions Management, pp.60-62
<b>Economic Disclosures</b>	
G4-DMA (Former EU6) - Management approach to ensure short and long-term electricity availability and reliability	Generation with Local and Renewable Resources, p.67
EU10 - Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Secure and Sustainable Energy Supply, p.71
G4-DMA (Former EU8) - Research and development activities, their expenditure and planned relevant investments	Zorlu Enerji and Smart Systems, pp.88-89
EU11 - Average generation efficiency of thermal plants by energy source and by regulatory regime	Energy Management, p.56
EU12 - Transmission and distribution losses as a percentage of total energy	Energy Management, p.56

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GRI STANDARD	DISCLOSURES
<b>General Standard Disclosures for the Energy Sector</b>	
<b>Environmental Disclosures</b>	
EU13 - Biodiversity of offset habitats compared to the biodiversity of the affected areas	Biodiversity, pp.64-65
<b>Social Disclosures</b>	
G4-DMA (Former EU14) - Programs and processes to ensure the availability of a skilled workforce	Decent Working Conditions, pp.76-77
G4-DMA (Former EU16) - Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors	Occupational Accidents, Illnesses and Lost Days, p.83
EU17 - Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	Occupational Accidents, Illnesses and Lost Days, p.83
EU18 - Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	Occupational Accidents, Illnesses and Lost Days, p.83
G4-DMA (Former EU19) - Stakeholder participation in decision making processes related to energy planning and infrastructure development	Relations with Local Community, pp.105-107
G4-DMA (Former EU20) - Approach to managing the impacts of displacement	Relations with Local Community, p.106
EU22 - Number of people physically or economically displaced and compensation, broken down by type of project	Relations with Local Community, p.106
EU25 - Number of injuries and fatalities to the public involving company assets including legal judgments, settlements and pending legal cases of diseases	There have been no injuries or fatalities to the public involving company assets including legal judgments, settlements and pending legal cases of diseases.
G4-DMA (Former EU23) - Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services	The Ministry and EPDK's electricity distribution and retail companies are working together on the call center regulation. We actively collaborate with TEDAŞ on this issue, specifically on the technical efforts.
G4-DMA (Former EU24) - Practices to address language, cultural, low literacy and disability related barriers to access and safely use electricity and customer support services	There are no practices to address barriers to access and safely use electricity and customer support services.



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