

## ZORLU ENERJİ WASTE MANAGEMENT

Recognizing responsible waste management as a priority, Zorlu Enerji places great importance on waste management to enhance environmental sustainability and resource efficiency. The company has developed waste management strategies to minimize the environmental impact of its operations in the energy sector and contribute to a sustainable future. Waste management is a cornerstone of Zorlu Enerji's efforts to improve environmental performance, and in this context, practices are implemented in accordance with international standards such as the Zero Waste approach and ISO 14001 certification.

Zorlu Enerji's Environmental Policy reflects its commitment to protecting natural resources and reducing environmental impacts. Within this policy framework, efficient use of energy and resources is ensured. Monitoring waste and emissions and setting reduction targets are key components of the environmental management approach. Action plans and targets aimed at reducing waste production at the source, increasing recycling rates, and managing waste effectively continuously improve performance in this area.

- **Waste audits to identify opportunities for improving waste performance**



Zorlu Enerji conducts waste audits as part of its ISO 14001 standard audits. These waste audits are designed to identify potential opportunities for improving waste performance within the framework of ISO 14001. The audits aim to ensure the efficient use of resources and effective management of waste by analyzing the effectiveness of current waste

management practices.

During the audit process, all stages of waste management are examined, from the collection of waste at production points to its classification and disposal. The suitability and efficiency of waste management systems are evaluated, and deficiencies and areas for improvement are identified. Additionally, the compliance of existing practices with ISO 14001 standards is reviewed.

Based on the results of these audits, various action plans and strategies are developed to improve waste performance. These strategies may include practices such as reducing waste at the source, increasing recycling rates, and enhancing waste reuse. The findings and recommendations support the company's efforts to minimize its environmental impact and achieve its sustainability goals.

- **Action plans to reduce waste generation**

Zorlu Enerji operates with the goal of minimizing waste and using resources as efficiently as possible, adhering to the principles of a circular economy. Circular economy represents an approach that includes a range of strategies and practices aimed at optimizing resource use, reducing waste generation, and enhancing economic value.

The company develops action plans to reduce waste generation, embracing responsible waste management. To enhance environmental sustainability and resource efficiency, Zorlu Enerji implements strategies that integrate international standards such as zero waste certifications and ISO 14001 certification.

The Environmental Management System (ISO 14001) is an integral part of Zorlu Enerji's business processes. This system supports activities aligned with sustainability principles by reducing environmental impacts and ensuring compliance with environmental regulations. Zorlu Enerji, through its plants certified under ISO 14001, continuously undertakes improvement activities to advance its business processes in line with these standards.

ISO 14001 encourages the development of waste management plans, the continuous improvement of environmental performance, and the achievement of established environmental goals. It also ensures that employees receive training and become more aware of environmental issues. These processes help organizations minimize their environmental impact by developing strategies to reduce waste and increase recycling rates.



The Zero Waste certification provides a management system aimed at minimizing waste production and increasing recycling rates. The Zero Waste approach promotes the reduction, recycling, and reuse of waste at the source.

Through its Zero Waste certifications at its plants, Zorlu Enerji ensures the development of waste management strategies, the segregation of waste, and the effective implementation of recycling processes.

### **OEDAŞ Practices**

At OEDAŞ, as part of waste management, waste bins for staff have been removed at the locations in Afyon, Bilecik, Eskişehir, Kütahya, Uşak, and the General Headquarters, and 5-

compartment waste collection bins have been installed on each floor. (This practice started in 2020 and is still ongoing.) The paper, plastic, metal, glass, and household waste collected in these bins are monitored monthly and recorded in the Zero Waste Information System. Additionally, these six locations have obtained the Basic Level Zero Waste Certificate.

In compliance with the Waste Management Regulation, at OEDAŞ, waste materials generated within operational boundaries are classified, stored under appropriate conditions in warehouses with temporary storage permits obtained from Provincial Environmental Directorates, and delivered to authorized recycling facilities. Some waste materials generated after operations are high-value, and thus, recycling firms are selected annually through a tender process.

### **Duyarlı ol! Project**



The "Duyarlı Ol Project" is an integrated environmental management initiative aimed at resource conservation and increasing awareness. This project focuses on governance, sustainable procurement, energy, water, and waste management, encouraging individual actions and environmentally friendly choices. Implemented by Zorlu Enerji Osmangazi Elektrik Perakende (OEPSAŞ) in collaboration with SKD Turkey, the project has been carried out in offices located in Afyonkarahisar, Bilecik, Eskişehir, Kütahya, and Uşak. Under this project, OEPSAŞ has achieved a gold certificate within the framework of the "Smart Life 2030" vision. The project, in terms of waste management, includes:

- Waste from offices, including paper/cardboard, plastic, and glass, was collected in suitable waste bins and handed over to a licensed recycling company to reduce the amount of waste generated.



- Employee awareness was raised to reduce or minimize paper/cardboard waste in offices. The transition to online processes helped achieve waste reduction.
- Annual per capita consumption amounts of generated waste were tracked.

With these practices, OEPSAŞ offices generated 350 kg less paper and plastic waste in 2023 compared to 2022.

Zorlu Enerji's action plans aim to contribute to a sustainable future by reducing environmental impacts and reflect the company's commitment to an environmentally friendly approach and quality management systems.

- **Quantified targets to minimize waste**

Zorlu Enerji aims to achieve annual reductions in waste generation by setting specific targets and implementing continuous improvements in operations. The company establishes goals to increase recycling rates, determining how much of the waste can be recycled and enhancing the effectiveness of recycling processes. Additionally, Zorlu Enerji strives to increase the proportion of reusable materials, thereby promoting more efficient use of resources. To minimize the disposal amounts of waste, criteria are set to ensure that as much waste as possible is recycled or reused. These goals provide a foundation for measuring the effectiveness of waste management processes and reducing environmental impacts. Zorlu Enerji aims to minimize waste generation and achieve sustainability goals through annual action plans and performance monitoring processes. The waste targets set by the Zorlu Enerji group are as follows:

**Target 1:** Reduce the total amount of disposed waste by 10% compared to the previous year.

**Target 2:** Reduce the amount of hazardous waste disposed of by 10% compared to the previous year.

**Target 3:** Reduce the amount of ash by 10% compared to the previous year.

- **Investment in innovation or R&D to minimize waste**



As a company in the energy sector committed to the effective use of resources and reduction of waste, Zorlu Enerji places significant emphasis on innovation and R&D investments aimed at minimizing waste. The company continuously develops new technologies and solutions to reduce waste generation and improve recycling processes. In this context, Zorlu Enerji focuses on increasing the reusability of waste in energy production processes, reducing waste volumes, and facilitating the recycling and reuse of critical raw materials and equipment used in power plants. R&D investments include projects aimed at optimizing waste management and reducing environmental impacts, particularly in energy production facilities. Through these investments, Zorlu Enerji aims to achieve its sustainability goals and become a pioneer in environmentally friendly practices within the energy sector.

### **JIDEP Project**



Zorlu Enerji views the JIDEP project as a significant step in reinforcing its circular economy vision. Funded under the European Union's Horizon Europe program, the JIDEP project focuses on the recycling of composite materials, aiming to address the reuse of composites used across various sectors, from automotive to maritime, and directly contribute to waste management. Conducted in collaboration with 13 partners from 7 countries, this research and development project creates a database of recycled composite materials. This platform promotes the reuse of materials and the efficient use of resources. Additionally, by sharing experiences related to the recycling of end-of-life wind turbine blades at the Gökçedağ Wind Energy Plant, the project aims to contribute to the sector both environmentally and economically.

## EOLIAN Project



Funded by the Horizon 2020  
Framework Programme of the  
European Union

The EOLIAN project aims to extend the lifespan of both offshore and onshore wind energy systems, facilitate their effective decommissioning, and promote their circular use. The project will pursue an innovative approach by developing a smart wind turbine blade. The blades, made from a platform chemistry fully compliant with circular economy principles and capable of unlimited recycling, will integrate in-mold electronics that allow for early damage detection and intervention before major issues arise. By using vitrimers and a new class of polymers with the processability and logistics advantages of thermoplastics, the project will produce blades that contribute to improving the sustainability and environmental footprint of wind energy systems.

- **Waste reduction training provided to employees**

Zorlu Enerji offers waste management training programs to support environmental sustainability and create a knowledgeable workforce in waste management. In this context, zero waste training is provided through Zorlu Akademi for both blue-collar and white-collar employees, with a total of 159 hours of training conducted in 2023. A total of 697 employees benefited from these training sessions, gaining knowledge about waste reduction and zero waste approaches. These training courses aim to equip employees with the skills to minimize waste production, manage recycling processes effectively, and use resources more efficiently. Zorlu Enerji places high importance on continuously developing the knowledge and skills of all its employees in these areas to reduce environmental impacts and achieve sustainability goals.

- **Integration of recycling programs to reduce the waste sent to landfill**

Zorlu Enerji's operations generate various types of waste, including electrical and electronic waste, packaging waste, and waste contaminated with chemicals. This waste is collected separately and temporarily stored before being disposed of by licensed firms. This ensures that the waste is managed in a controlled manner and recycled appropriately without harming the environment.

In OEDAŞ's activities and during the installation of electric vehicle charging stations, cable and electronic waste are handled with an environmentally friendly approach, reused where possible, and metal waste is processed as scrap, contributing to the economy according to circular economy principles. Recyclable wastes, such as polyethylene pipes and plastic materials, are

collected and directed to recycling facilities, aiding in the reuse of resources. Additionally, Industrial Waste Management Plans created for power plants ensure effective waste management and the implementation of circular economy principles. In this context, ash waste produced at thermal power plants is handed over to third-party firms for evaluation and reintroduction into the economy.

- **Waste diversion from landfill is certified by an independent accredited body**



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