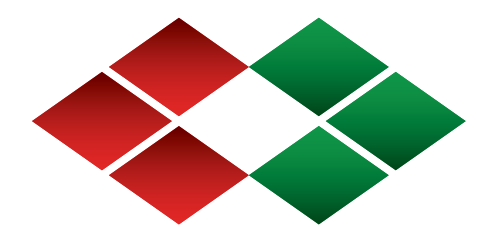











STRENGTH REIMAGINED

SUSTAINABILITY REPORT 2022



DOWAKSA

4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION 
7 AFFORDABLE AND CLEAN ENERGY 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	13 CLIMATE ACTION 	16 PEACE AND JUSTICE STRONG INSTITUTIONS 

DowAksa
takes firm steps towards the future
with the strength it derives from innovation,
sustainability, unity, compassion and
transparency.

CONTENT

<div>> ABOUT THE REPORT</div> <div>> MESSAGE FROM THE CEO</div> <div>> DOWAKSA</div> <div>> DOWAKSA VALUE CHAIN</div> <div>> DOWAKSA IN BRIEF</div> <div>> OPERATION MAP</div> <div>> 2022 DEVELOPMENTS</div> <div>> MISSION AND VISION</div> <div>> MILESTONES</div> <div>> SECTORS AND PRODUCTS</div>	<div>> SUSTAINABILITY</div> <div>> SUSTAINABILITY STRATEGY</div> <div>> MATERIALITY ANALYSIS</div> <div>> MEGA TRENDS AND EXTERNAL FACTORS</div> <div>> ENVIRONMENT</div> <div>> WATER AND WASTEWATER MANAGEMENT</div> <div>> WASTE MANAGEMENT</div> <div>> ENERGY EFFICIENCY</div> <div>> CORPORATE CARBON FOOTPRINT</div>	<div>> SOCIAL</div> <div>> HUMAN RESOURCES</div> <div>> HUMAN RESOURCES PRACTICES</div> <div>> HUMAN RESOURCES INDICATORS (TÜRKİYE)</div> <div>> OCCUPATIONAL HEALTH AND SAFETY</div> <div>> OCCUPATIONAL SAFETY PROCEDURES AND PRACTICES</div> <div>> OCCUPATIONAL SAFETY TRAINING</div> <div>> CORPORATE SOCIAL RESPONSIBILITY</div>	<div>> GOVERNANCE</div> <div>> MANAGEMENT STRATEGY</div> <div>> ORGANIZATION CHART</div> <div>> SUPPLY CHAIN MANAGEMENT</div> <div>> R&D</div> <div>> CUSTOMER RELATIONS MANAGEMENT</div> <div>> ETHICS AND TRANSPARENCY</div> <div>> STAKEHOLDER RELATIONS MANAGEMENT</div> <div>> CORPORATE MEMBERSHIPS</div>	<div>> GRI CONTENT INDEX</div>
--	--	---	---	--



ABOUT THE REPORT

Founded in 2012 as a joint initiative between Aksa Akrilik, the world's leading acrylic fiber producer, and Dow Inc., the most innovative materials science company, DowAksa is one of the world's leading carbon fiber producers. Since its establishment, DowAksa has sensitively considered the balance between economic development, social development and environmental impact. In light of the United Nations Sustainable Development Goals, we continue to make improvements in environmental, social and governance areas and to integrate best practices into all our business processes and our corporate culture.

We are pleased to share with the public our second Sustainability Report, which documents our efforts in this context and shows where we are in our sustainability journey. Our report, prepared in accordance with the Global Reporting Initiative Standards(GRI), the world's leading initiative, covers the period between 1 January and 31 December 2022.

Our Sustainability Report, founded on DowAksa's materiality analysis and sustainability strategy, includes details of our company's strategy, management and performance, and of our systematic and comprehensive projects in different fields from environment to investment, R&D to employment.

With the goals of creating sustainable positive values for all our stakeholders and of maintaining these values into the future, we will continue to carry out our projects and present the steps we take to our stakeholders in future Sustainability Reports.

We aim to maintain not only the scope of our Reports in the coming period, but also the level of implementation of the resulting improvement opportunities. We attach great importance to the opinions of our valuable stakeholders in all our processes. You are welcome to contact us via the e-mail address below with any contributions, suggestions, feedback and questions.

info@dowaksa.com



MESSAGE FROM THE CEO



"I believe that with the support of our employees and external stakeholders, we will achieve our 2030 targets and make a significant contribution to sustainable development in Türkiye and globally."

Massimo Rebolini
Chief Executive Officer

Dear Stakeholders,

DowAksa, one of the world's leading carbon fiber producers, has been offering composite solutions since 2012, backed by the experience and strength of two world giants. As DowAksa, we focus on "strength". Our product, carbon fiber, provides strength in every sector where it is used. We are fed by the definitions of the concept of "strength" in all our business processes, from governance to sustainability, from environment to human resources. We see innovation, sustainability, unity, compassion and transparency as strengths. With the strength we derive from these values, we take firm steps forward into the future.

Since its establishment, DowAksa has sensitively considered the balance of economic development, social development and environmental impact. Continuing to make improvements in environmental, social and governance areas in light of the United Nations Sustainable Development Goals, and integrating best practices into all business processes and corporate culture, our Company completed 2022 by increasing its strength, continuously growing with new investments and taking important steps.

In this context, we are pleased to present to you, our esteemed stakeholders, our second Sustainability Report, which documents the work we carried out in 2022 and shows where we are in our sustainability journey.

Having reached an important point in our Company's growth journey, we want to continue the momentum of our growth with the innovative steps we will take together with our talented team and carry our sustainability commitments forward in this process. We aim to create sustainable positive values for all our stakeholders in the environmental, social and governance impact areas in our sector, and to carry these values into the future.

In this direction, we act with a collective consciousness and approach transformation holistically. In addition to the work we carry out within the company, we also play an active role in the Green Strategy Group established by Akkök Holding, to which we are affiliated. This platform, where Akkök Holding and Group subsidiaries share their knowledge and experience in the context of sustainability and create a roadmap for the urgent agenda items within the scope of the European Green Deal, started its activities in 2022. We believe that the work to be shared in the coming years will set good examples for our industry and our country in mitigating current global risks.

We have shaped the impacts we have made since our establishment and the impacts we will create in the future using the strategy roadmap we have created from a sustainability perspective in order to manage them systematically. Throughout 2023, we aim to expand our sphere of influence by sharing a robust and long-term sustainability strategy and vision with all our internal and external stakeholders, taking advantage of our ability to create advanced composite materials for a better world.

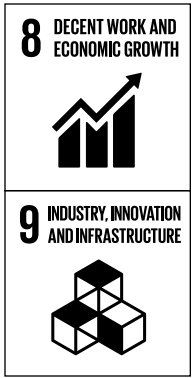
As we have done to date, we will carry out our activities with the responsibility of protecting the world and leaving a better world for future generations. We will continue to follow the 2030 Sustainable Development Goals, carry out our sustainability projects without interruption and present the steps we have taken to you, our valuable stakeholders, in our Sustainability Reports in coming years.

I believe that with the support of our employees and external stakeholders, we will achieve our 2030 targets and make a significant contribution to sustainable development in Türkiye and globally.

Thank you for your support and trust.
Sincerely yours



DOWAKSA



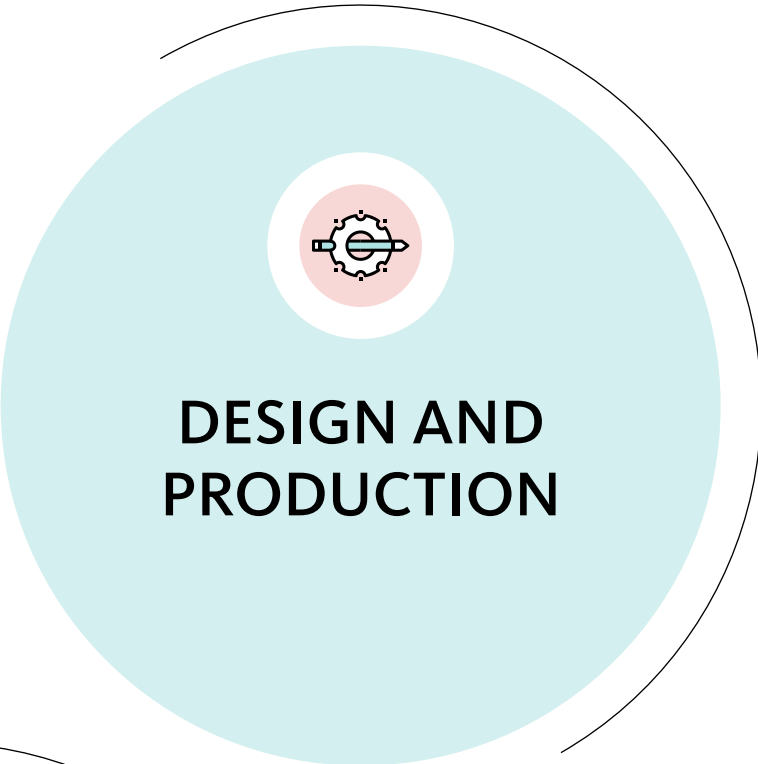
STRENGTH OF
INNOVATION

With the experience, power and support of worlds two leading company, DowAkSa carries its product quality and innovative solutions beyond the borders.



The life cycle of a product or process starts with the supply of raw materials required for production. The supply of non-renewable natural resources is considered under the same heading.

DowAksa, which procures resources within the framework of sustainability targets; maintains its relations with all business partners within the scope of ethical values such as honesty, integrity, fairness and transparency. DowAksa considers criteria such as quality, savings, safety, ethics, community and environmental protection in its purchasing and procurement processes.

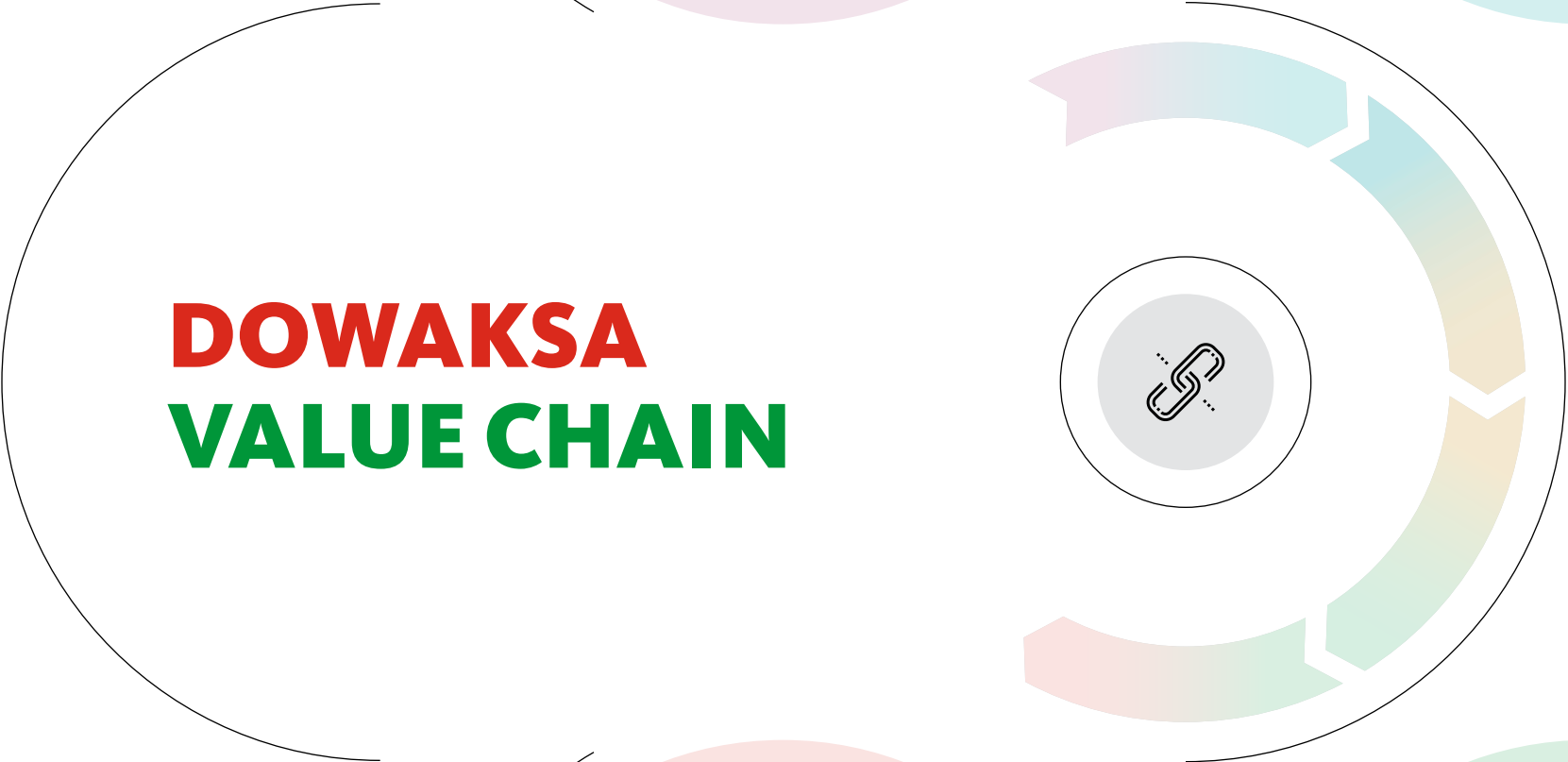


Based on principles of efficient use of resources and respect for the environment in all its operations, DowAksa not only fully complies with relevant laws and regulations, but also has a management approach that meets international standards in line with the requirements of the certificates it holds.

Carbon fiber is a strategic product with high added value that provides innovative solutions to some of the most important problems facing the world, such as increasing the energy production of wind turbines, reducing fuel consumption in automobiles, and strengthening infrastructure and structures to extend their lifespan.

Number of employees
792

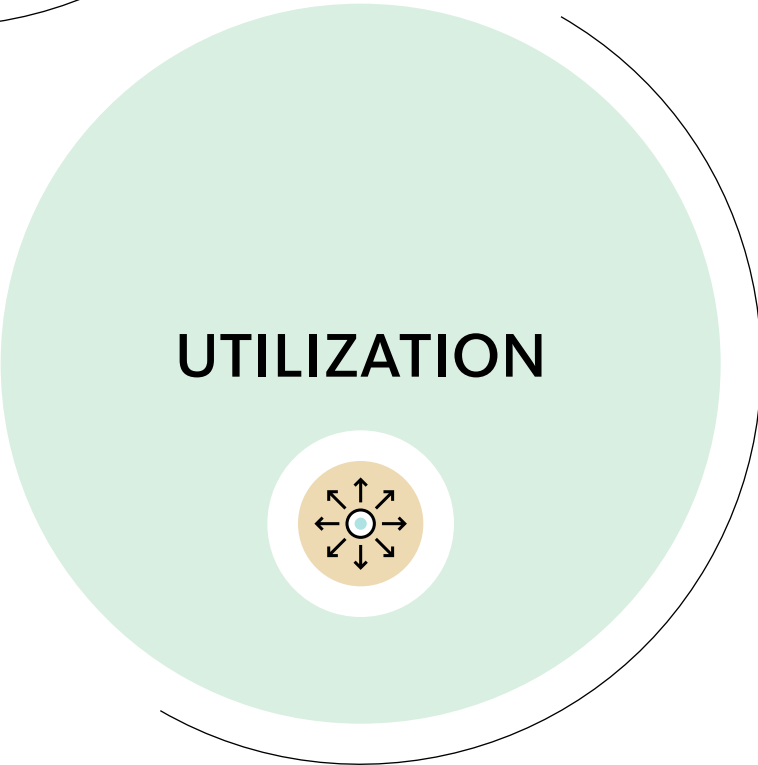
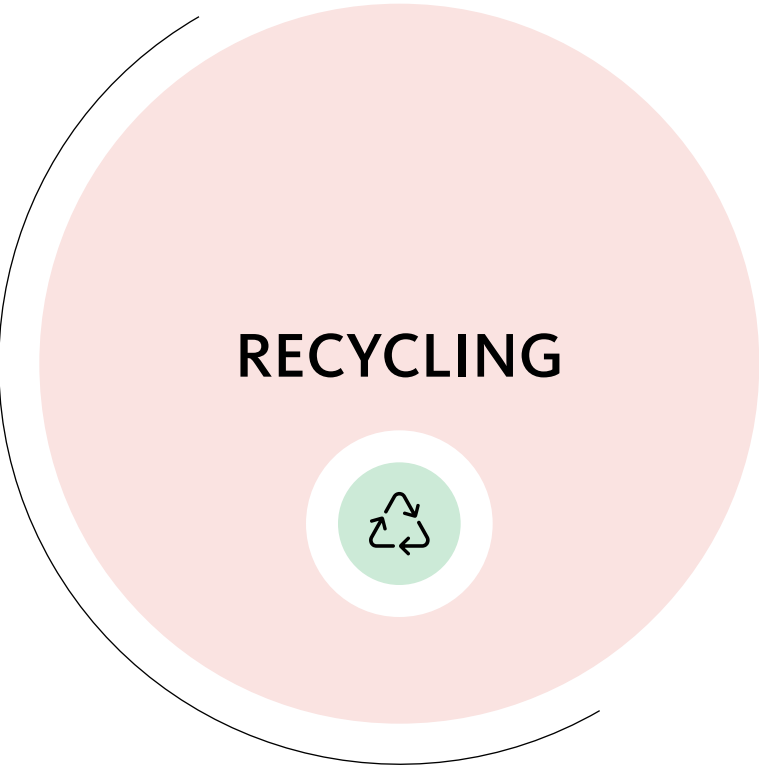
Production capacity
~6,500 tonnes



DowAksa follows the entire process starting from the customer order to the final point of use of the material. In customer relations, DowAksa is sensitive to listening, understanding needs through open communication, responding to all requests in a timely manner, and after-sales services.

Continuous exports to the **EU** and **8** countries

DowAksa is sensitive to pollution prevention, reduces all environmental impacts of its operations at the source, and aims to minimize the impact on nature through recycling activities.



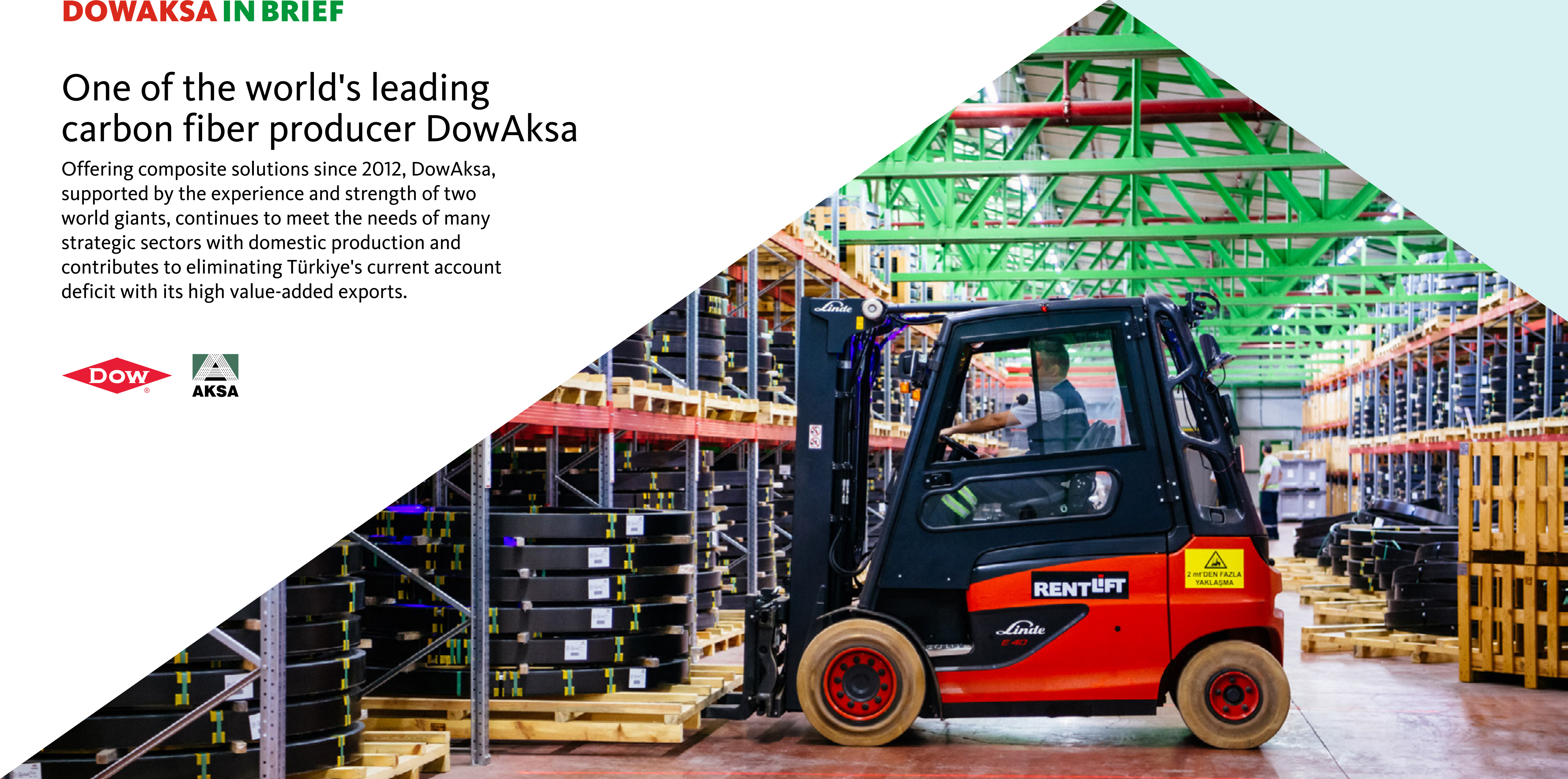
Wind energy
Automotive
Building retrofitting
Aviation and defense industry
Carbon fiber and fabric



DOWAKSA IN BRIEF

One of the world's leading carbon fiber producer DowAkSa

Offering composite solutions since 2012, DowAkSa, supported by the experience and strength of two world giants, continues to meet the needs of many strategic sectors with domestic production and contributes to eliminating Türkiye's current account deficit with its high value-added exports.





Founded in 2012 as a 50/50 joint venture between Aksa Akrilik, the world's leading acrylic fiber producer, and Dow Inc., the most innovative materials science company, DowAkso offers integrated carbon fiber composite solutions for various sectors, particularly the energy, transportation, defense and infrastructure sectors. Combining Dow's knowledge, experience and power with Aksa Akrilik's strong infrastructure that creates an environment suitable for growth, DowAkso has succeeded in becoming the first and only brand of the sector in Türkiye, and is among the world's leading carbon fiber producers.

A strategic and high value-added product

Carbon fiber, produced by DowAkso, is a highly strategic material with a wide range of applications in the aerospace, defense, construction, automotive and renewable energy sectors. Carbon fiber, a high value-added product that replaces metals such as steel and aluminum thanks to its low weight and high strength properties, offers innovative solutions to the most important problems facing the world, such as increasing the energy production of wind turbines, reducing fuel consumption in automobiles, and extending the life of infrastructure and structures by strengthening them. This important product is produced by DowAkso at its world-class Yalova plant equipped with advanced technology. With a total of 792 employees in Türkiye, the USA, the Netherlands and Russia, the company offers engineering solutions as well as products and technical services to the global composites industry, whose raw material is carbon fiber.

DowAkso's solutions

DowAkso exports the solutions it produces to increase Türkiye's competitiveness to many countries around the world. Some of these solutions are as follows:

- Polyurethane-based pultruded profiles for new generation wind turbine blades
- Fast processing (<3 min) resin-based EMC with outstanding leading properties for automotive mass production
- Lightning protection solutions and adhesive films used in the defense and aerospace industry
- A wide range of fabric options (UD, Woven, NCF) and different reinforcement solutions (carbon fiber, e-glass fiber, s-glass fiber, silica, quartz, copper) produced in the ISO9001:2015 and AS9100D certified prepreg production facility in Yalova
- CarbonWrap®, the building retrofit solution that stands out as a cost-effective and innovative solution to reclaim the world's infrastructure





Solutions that increase efficiency and reduce carbon footprint

The fierce global competition in many sectors, from energy to automotive, pushes manufacturers to look for ways to increase efficiency. DowAksa has rapid growth targets to meet the increasing demands of the emerging wind energy and automotive markets. DowAksa's innovative solutions provide energy savings in all sectors in which it is a supplier, reducing carbon footprint and increasing efficiency.

DowAksa, which plays a critical role in the efficiency increases that manufacturers need most in all sectors where it provides carbon fiber composite solutions - especially in the energy, transportation, defense and structural reinforcement sectors - also aims to develop high-performance products for the defense industry, focusing primarily on Türkiye's local requirements.

An essential product for electric vehicles and wind turbines

Carbon fiber is product that is four times stronger and three times lighter than steel and does not rust. It plays a role in lightweighting vehicles in the automotive sector, thus reducing fuel consumption and cutting emissions. Carbon fiber is also used in the manufacture of turbine blades for the rapidly growing renewable wind power sector in Türkiye and the rest of the world. Thanks to the strength and lightness of the product, by reducing the weight while extending the blade length, energy efficiency can be improved by 7 percent.

With carbon fiber, it is possible to strengthen rather than destroy

Another area where carbon fiber provides significant efficiency and energy savings and prevents environmental pollution is in building reinforcement. Instead of demolishing and rebuilding some structures due to economic and environmental impacts, reinforcing them with carbon fiber is a more sustainable option. By reinforcing these structures with carbon fiber, high-cost natural resource consumption and environmental pollution are prevented.

Increasing competitiveness with R&D

One of DowAksa's assertive and distinctive features is its uninterrupted R&D efforts and investments. DowAksa's focus on differentiating and expanding carbon fiber and composite solutions made of carbon fiber with an integrated production approach through its R&D and innovation strength gives the company a significant competitive advantage.

The experience, strength and innovation orientation of two world giants, and the importance Dow Aksa has attached to R&D since its establishment in 2012, enable the company to achieve large-scale efficiency increases by offering solutions that increase added value in many sectors.





Improving performance of wind turbine blades

Having demonstrated the first success of its R&D competencies with its high-performance solution for wind turbine blades, DowAksa significantly increased the performance and efficiency of the carbon fiber it produces as of 2016. DowAksa launched high-performance laminated plates designed for the bearing beams of wind turbine blades by processing them in the pultrusion manufacturing process together with the resin specially developed for the area of use. Thanks to the demand for this product, it has achieved a growth well above the carbon fiber market.

DowAksa's development of a more advanced and innovative carbon fiber and carbon fiber reinforced polyurethane resin plate production technology that is both price advantageous and more advanced in terms of performance has led to a very high demand from international customers. Accelerating investments to increase its capacity to meet this demand, the company will create new employment for 500 people with the facility built on 117 thousand square meters in Yalova, which is planned to start production at full capacity in 2023.

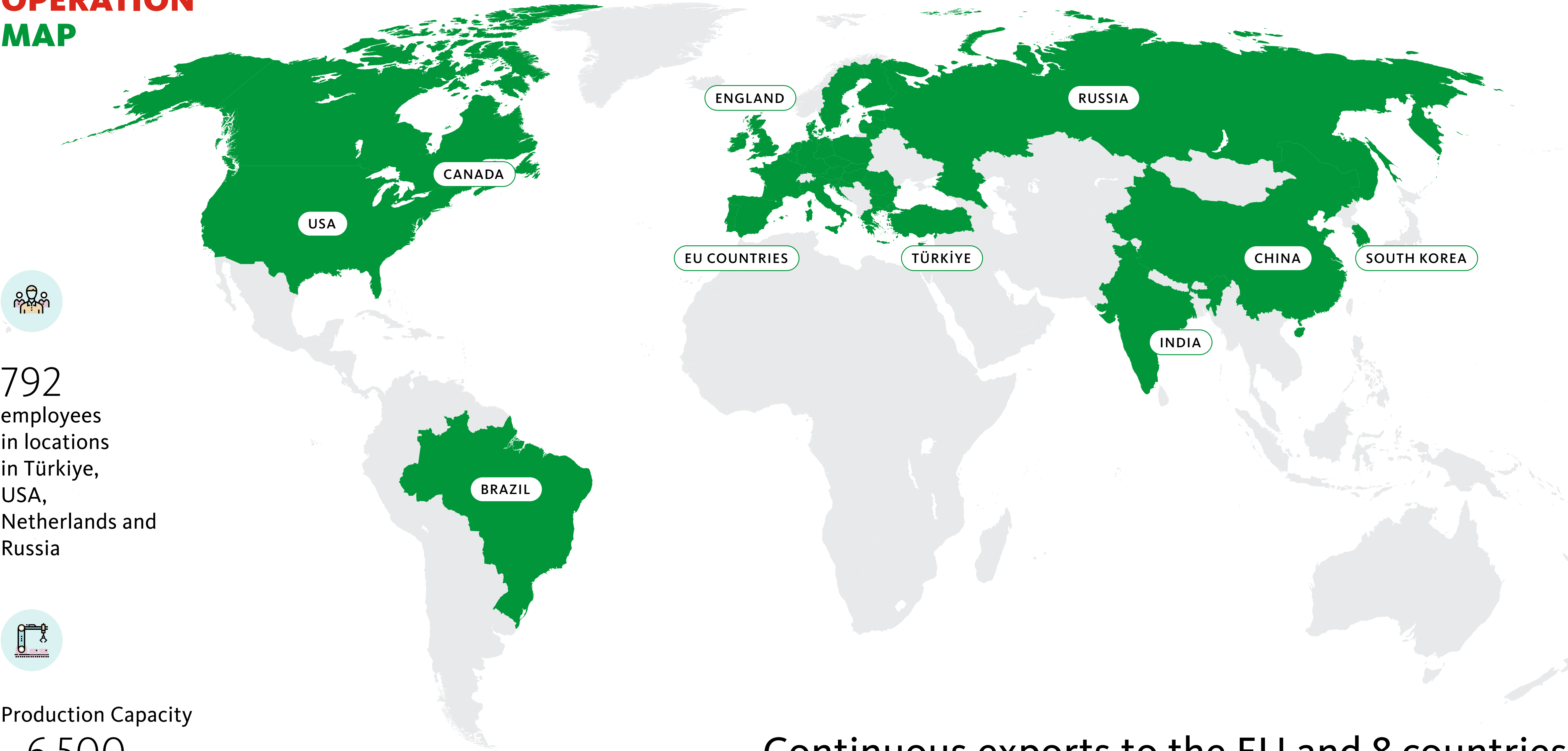
This R&D-oriented achievement and the new pultrusion-based business model it has achieved as a result have provided DowAksa with the opportunity to grow well above the market growth rate in the wind energy market. The company believes that its R&D competency will open up even wider and more exciting growth areas in the future and carries out its activities accordingly.


Increasing export share

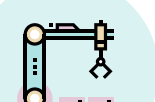
DowAksa, one of the industry's leading integrated solution manufacturers, is among Türkiye's top 1,000 exporters. Wind energy, which is the locomotive sector for the company's growth, is growing rapidly in the world. A small number of global wind turbine manufacturers serve very large geographies and work with a small number of suppliers. As DowAksa gains the competitive power to serve these companies, it is increasing its role in the global supply chain, expanding into the markets where major turbine manufacturers go and creating a supply chain in this direction. Most recently, DowAksa added India and Brazil to its export markets in this way.



OPERATION
MAP




792
employees
in locations
in Türkiye,
USA,
Netherlands and
Russia


Production Capacity
~6.500 tonnes

Continuous exports to the EU and 8 countries



2022 DEVELOPMENTS



2022 growth rate (based on turnover)
43.49%



Share of exports in total income
92%



Jobs created in 2022
191

Foundation of the new integrated facility was laid

The ceremony to lay the foundations of DowAksa's new integrated production facility to be established in Yalova was held on April 27, 2022. Built on 117 thousand square meters and planned to start production at full capacity in 2023, this facility will create 500 new jobs in Yalova. The new production facility, which is an important step to reach the capacity to meet the increasing demand in the wind energy sector in both the short and medium term, will also contribute to increasing Türkiye's share in industrial sectors that use carbon fiber.

"An exemplary investment to point fingers at"

Speaking at the ceremony, Mustafa Varank, Minister of Industry and Technology of the Republic of Türkiye, stated that an important investment has been realized in Türkiye's goal of becoming a strategic production base and said, "DowAksa will increase its production capacity by two and a half times with the new investment we will lay the foundation of today, and will significantly raise the added value it provides to our country."

Emphasizing that the facility is an exemplary investment to be admired, Varank mentioned that carbon fiber is one of the products with very high added value that science has brought to the world. Noting that carbon fiber, which is a highly strategic material, has a wide range of uses in the aviation, space, defense, construction, automotive and renewable energy sectors, Varank continued his speech as follows: "DowAksa is a company that has managed to develop this extraordinary material in a short time with its team of Turkish engineers and to produce it at international standards. Moreover, the world's most economical and best performing carbon fiber is produced here in Yalova. The carbon fiber sector grows by an average of 10 to 15 percent every year. Demand, which was 118 thousand tonnes last year, is expected to

reach 400 thousand tons by 2030. Our company, which made this visionary investment in 2012 in anticipation of this demand in the market, quickly reaped the rewards. Our company's R&D studies, innovative production technology and competitive advantages of its products are so good that it exports its locally produced products to more than 30 countries."

Speaking at the foundation-laying ceremony, Ahmet Dördüncü, Deputy Chairman of the Board of Directors of DowAksa, said: "This investment will not only provide value-added exports and employment opportunities, but will also support our country's self-sufficiency in strategic sectors. We will continue to develop innovative composite solutions with our high-performance carbon fibers and invest to meet the rapidly rising demands of our business partners both locally and globally."



New integrated plant
**117 thousand
square meters**

Meeting the growing need for wind energy

Yalova has been identified as a strategic point in the new investment to ensure full integration with DowAksa's supply chain and existing production facility in terms of raw materials, energy and other requirements. With this investment, which is expected to reach full capacity in 2024, a significant proportion of carbon fiber beams for wind turbine blades will be produced in Türkiye. This will meet the increasing needs of wind energy projects in the domestic market. The new facility will also respond to the needs of sectors using carbon fiber composite materials in Türkiye, as well as the rapidly growing global automotive industry.



Investment award to DowAksa from AmCham Türkiye

DowAksa received an award in the ‘Investment’ category at the IAmChamPion Awards organized by the American Chamber of Commerce (AmCham Türkiye) for its new integrated plant investment in Yalova. Presidential Investment Office President Burak Dağlıoğlu and Citibank Türkiye General Manager Emre Karter presented the award to DowAksa Public Markets Director İhsan Necipoğlu.

The IAmChamPion Awards program is organized by AmCham Türkiye, which was established in 2004 to celebrate and encourage companies that sustain bilateral economic development between Türkiye and the US.



DowAksa's first Sustainability Report receives an award from the USA

DowAksa's first Sustainability Report won an important international award. DowAksa's Sustainability Report covering the year 2021, titled "Strength Reimagined", received the Silver Award in the Annual Report-Design category at the NYX Awards 2022, one of the world's most prestigious creativity awards.

Organized by International Awards Associates (IAA) since 2018, NYX Awards is a leading international awards program that recognizes, celebrates and honors excellence in marketing, communications and creativity to support worthy and important projects, accepting thousands of outstanding entries from more than 60 countries each year. In 2022, over 1,200 projects from all over the world competed in the competition, with an international jury of 31 independent professionals evaluating projects based on criteria such as creativity, concept, idea, content, quality of message, production, execution, innovation, effectiveness and overall experience.

The sustainability consultancy of the DowAksa Sustainability Report, which was deemed worthy of an award in this important competition, was carried out by Metsims and the report design was done by Editorial. The report emphasized the high added value provided by carbon fiber, a strategic product produced by DowAksa with superior technology. Based on the properties of carbon fiber, which replaces metals such as steel and aluminum thanks to its low weight and high strength, the design concept of the report was created using the biomimetic method.

Another award from the USA for the Sustainability Report

Winning another important international award, DowAksa's first Sustainability Report received the Silver Award in the Annual Report category at the MUSE Creative Awards 2023, where the world's most creative ideas and projects are evaluated.

Organized by International Awards Associates (IAA) since 2015, more than 6,000 projects from all over the world competed in the MUSE Creative Awards this year. An international jury of nearly 40 independent professionals evaluated the projects based on criteria such as creativity, concept, content, visual, design, innovation, functionality, impact and memorability.



MISSION AND VISION

Mission

- Provide fully integrated carbon fiber based products and solutions.
- Meet or exceed all quality requirements for the target industries.
- Deliver profit to our shareholders.
- Operate safely, environmentally friendly to the benefit of all stakeholders

Vision

Drive our stakeholder’s return by producing high quality, low cost carbon fiber and carbon fiber intermediates for the industrial, aerospace and defense industries.

Quality Policy

- As DowAksa Advanced Composite Material Industries Limited Company;
- We abide with the conditions of Quality Management System; accordingly we set and promote approaches and goals, review them and thus improve our performance continuously.
- In order to be one of the leading company, we commit to fulfill the requirements and conditions of our customers, provide unconditional customer satisfaction , and meet the related conditions of the legal regulations.
- According to our principle of continuous improvement and development, we aim at continuous improvement of our all processes by using new technologies to enhance the quality and reliability of our products.
- Based on our Quality Management Philosophy, we raise the awareness of all our stakeholders, we plan and improve the training programs continuously to make sure our quality policy is adopted as a life style by our employees.

MILESTONES

2012

DowAksa partnership established between Aksa and Dow.

2013

CarbonWrap, a provider of carbon fiber composite solutions for infrastructure and building reinforcement was bought.

2014

Signed a \$4.3 million triple joint investment with Rusnano and Kompozit Holding (HCC) for the Nanotechnology Center of Composites (NCC).

Joined the Open Hybrid Lab Factory, which aims to develop environmentally friendly hybrid cars.

Started the Silk Project-Turkish Aerospace Industry (TAI) and the Presidency of Defense Industries to produce and develop thermoset resin prepreg material used in the aviation industry in Türkiye.

DowAksa USA was established.

2015

DowAksa has signed an R&D agreement with Ford, an automotive giant manufacturing in Türkiye, to work on the production of carbon fiber for affordable, high-volume automotive applications.

DowAksa was one of the companies that helped establish the Institute for Advanced Composites Manufacturing Innovation (IACMI), a public/private partnership of industry, government and academic institutions aimed at accelerating the adoption of carbon fiber composites.

2016

Inaugurated the DowAksa Global Composites Center, a high-tech facility designed to develop carbon fiber and advanced composite materials in Türkiye.

The company collaborated with Istanbul Technical University to simulate an earthquake on full-scale buildings in Yalova using carbon fiber reinforced polymer (CFRP) technology.

2017

Signed a long-term supply agreement with Vestas, one of the major players in the global wind energy industry.

The earthquake experiment conducted on full-scale buildings in Yalova brought Türkiye the grand prize at the JEC Innovation Awards.

The Silk Project, carried out jointly with Turkish Aerospace Industry (TAI) and supported by the Undersecretariat for Defence Industries (SSM), received the 2017 Defence Industry Technology Development Special Award from the SSM as part of the 2017 Defence Industry Special Awards organized by the The Defense and Aerospace Manufacturers Association (SASAD).

2018

It was included in the Project Based Incentive System.

2019

The company ranked among Türkiye's Top 1000 Exporters. With the exports it made, it rose from 974th to 539th place, leaving 400 companies behind in just one year.

2020

Despite the pandemic that disrupted production and supply chains all over the world, the company continued to work, produce and export without interruption thanks to the measures taken within the framework of occupational health and safety policies. It continued to provide economic support to Türkiye and Yalova in this difficult period by completing previously planned investments.

According to data from the Turkish Exporters Assembly (TIM), it ranked 269th in the list of the largest exporter companies with the exports it carried out in 2020.

2021

Obtained permission to export to India.

In the Corporate Culture 100 survey conducted in cooperation with Kariyer.net and Fast Company magazine, it ranked among Türkiye's top 100 companies in terms of corporate culture.

According to the data of the Turkish Exporters Assembly (TIM), it ranked 236th in the list of the largest exporter companies with the exports it realized in 2021, rising 33 places compared to the previous year.

2022

Celebrated their 10th anniversary.

The ceremony to lay the foundations of the new integrated facility to be built on an area of 117 thousand square meters in Yalova was held.

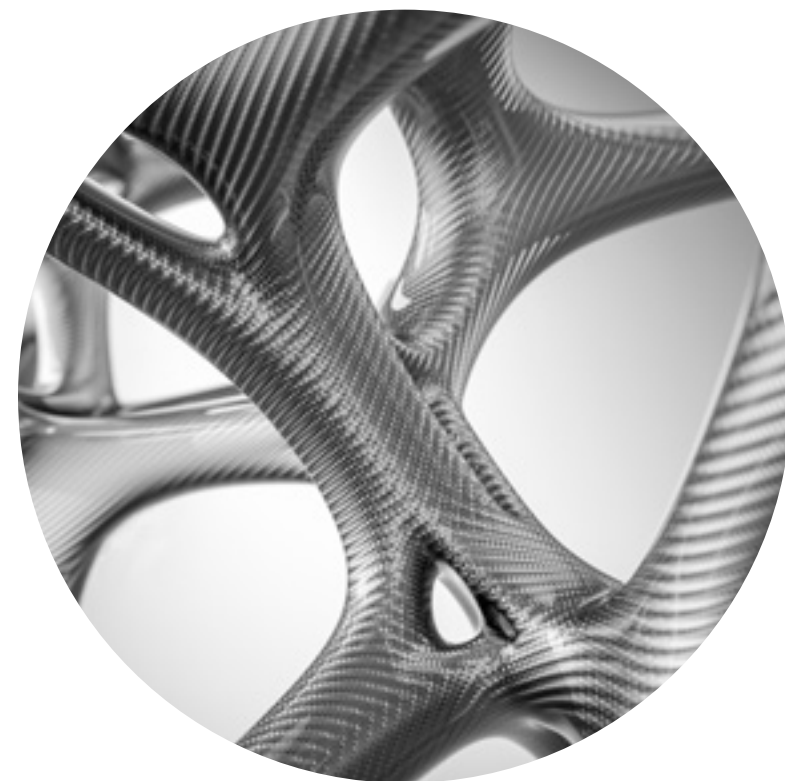
The new facility investment received an award in the ‘Investment’ category at the IAmChamPion Awards.

Published its first Sustainability Report. The report received two international awards.



SECTORS AND PRODUCTS

DowAksa has become a brand in efficiency increase with the innovations it has brought to many sectors such as building reinforcement, aerospace and defense, especially in the wind energy and automotive sectors.



“Carbon fiber and composite materials, with their lightness and robustness, offer significant opportunities to increase energy efficiency, reduce fuel consumption and greenhouse gas emissions in critical sectors such as wind energy, transportation and aviation. Today, thanks to the carbon fiber used in new generation wind turbines, longer blades can be manufactured and significantly more electricity can be generated. As DowAksa, we are proud to see the difference our products make for a sustainable world.”

Tamer Bozaci

DowAksa Marketing & Sales Group Director



Wind Energy

Demand in the wind energy sector is increasing for carbon fiber to produce wind turbines that operate at a cost equal to or less than the cost of traditional generation technologies such as coal, natural gas and hydropower. As the blade lengths of wind turbines get longer, the strength, stiffness and lightness required for more robust and efficient wind turbines become more important. DowAksa produces carbon fiber reinforced polyurethane resin-based pultruded profiles/laminated plates for the spar caps used in the extending blades of new generation wind turbines for the rapidly developing wind energy sector.

These laminated plates are manufactured at DowAksa's production facility in Yalova with a specially developed pultrusion production technology based on cost reduction and performance enhancement. With its 'downstream' integration model, DowAksa is also helping Türkiye raise the bar for local content creation in wind energy projects by domestically producing a significant amount of laminated plates required for carbon fiber bearing beam parts in wind turbine blades. Before DowAksa was established, these parts were imported to Türkiye from other countries.

This R&D-focused success and the new pultrusion-based business model they have achieved as a result give DowAksa the opportunity to grow with the leaders in the wind energy market, well above the market's growth rate. The company believes that its R&D competency will open up even wider and more exciting growth areas in the future, and carries out its activities accordingly.



Automotive

When working with standard materials such as steel and aluminum, it is very difficult to achieve the emission and fuel consumption values that meet the demands of the automotive industry, which is currently accelerating its electric vehicle (EV) investments. This is where carbon fiber comes in. Carbon fiber composite materials are about five times stronger than steel, but much lighter and more structurally reliable. DowAksa, which offers the benefits of carbon fiber to industrial markets, is also using these technologies (XForge™ Prepreg and VORAFUSE™ Fast Curing Resin Technology) in the automotive sector.

Leading mechanical properties in its class

- Fast part production process (<3 minutes)
- Technology for the reuse of process trim parts
- Low investment cost
- Storage at room temperature (>50 days)
- Easy demolding feature

XForge™ is a trademark of DowAksa.
Vorafuse™ is a trademark of The Dow Chemical Company ("Dow") and its affiliates.



Structural reinforcement

Old or damaged buildings are a common problem in developed regions of the world. The roads, buildings, bridges and pipes that enable a region's economy to thrive can also damage economies if they are not repaired or properly maintained. Businesses, too, need to take proper care of their infrastructure and buildings to avoid slowdowns or even stoppages in operations. Historic buildings, on the other hand, can face the danger of being completely destroyed over time. At this point, carbon fiber reinforced materials are a cost-effective solution.

Carbon fiber reinforced composite materials were developed as an alternative to traditional reinforcement systems. The biggest advantages of such composite materials, whose tensile strength is higher than steel, are that they are lightweight, corrosion-free and easy to apply. Another important feature of the CarbonWrap solution produced by DowAksa is that the structures can continue their normal functions uninterrupted during the reinforcement works carried out by experts. Unlike traditional retrofit or reconstruction techniques that require the demolition and reconstruction of part or all of weakened structures, CarbonWrap can be applied directly on top of the existing substrate. This saves significant installation time and costs.

Aerospace and defense

One of the areas where the use of carbon fiber makes a significant difference is the defense and aerospace sector. The superior strength-to-weight ratio of carbon fiber reinforced polymers makes this material a frequently preferred product for applications in this sector. DowAksa develops high-performance products for the aerospace and defense industry, focusing on domestic needs. It offers carbon fiber fabric and prepreg (carbon fiber, glass fiber, copper) solutions, produced with advanced technology at its ISO9001:2015 and AS9100D certified production facilities in Yalova.

SUSTAINABILITY



STRENGTH OF CONTINUITY

Being one of the world's leading carbon fiber producers, DowAksa creates sustainable positive values for all its stakeholders in the environmental, social and governance pillars.

SUSTAINABILITY STRATEGY



Sustainable positive values for all stakeholders
As one of the world's leading carbon fiber producers, DowAksa aims to create sustainable positive values for all stakeholders in the environmental, social and governance impact areas in the sector in which it is the leader, and to carry these values into the future.

While ensuring customer satisfaction with its products and services, DowAksa continues its efforts to contribute to economic, environmental and social development and transparently discloses these efforts to all stakeholders through sustainability reports.

Believing that the goals set can only be achieved through a collective transformation with stakeholders, DowAksa values its relationship with stakeholders, who agree on the company's sustainability goals and vision.

DowAksa conducted a materiality analysis study to define stakeholder expectations, and held a strategy pre-work meeting with C-level participants to understand the management perspective. In the meeting, organized with the participation of department managers from Finance, R&D, Human Resources, Sales, Purchasing, Production and Quality, important issues that will shape DowAksa's sustainability strategy were discussed. The communication of the DowAksa Corporate Sustainability Strategy Document created after the meeting will be carried out with internal and external stakeholders in the near future.

Corporate sustainability success needs to be integrated and coordinated with internal and external stakeholder expectations, and with other strategies determined by the organization and management. The Strategy Document, which addresses this issue in order to ensure the success and ownership of the sustainability strategy, is linked to three main pillars: internal alignment, governance and oversight.

Objectives

- Managing sustainability impacts and environmental, social and governance responsibilities beyond laws and expectations within the scope of important and material issues for DowAksa and stakeholders,
- To carry out their activities in line with the Sustainable Development Goals,
- Creating sustainable value through R&D, innovative ideas, investments and products,
- Working with all employees to achieve sustainability goals and keeping all communication channels open,
- Periodically reviewing and improving their objectives and performance,
- To use all their resources to implement the actions they have identified to achieve their sustainability goals,
- Continuing to work with the idea of positive contribution to life. In this context, product life cycle analysis studies and detailed monitoring of pre- and post-production impacts,
- Publish a Sustainability Report on a regular basis.

Sustainability goals

Zero landfill and incineration without energy recovery by 2040

Zero incident rate in OHS

25% diversity in leadership and middle management by 2025

Sustainability goals in pultrusion production

Transition to 100% renewable energy use by 2030

Becoming a carbon neutral company by 2030

Reduce waste by 50% between 2021 and 2030

92% CO2 Scope 1 and Scope 2 emission reductions between 2021 and 2030

Green Strategy Group was established

Subsidiaries of Akkök Holding, one of Türkiye's well-established industrial organizations, established a Green Strategy Group. The organization, which includes group companies DowAksa, Aksa Akrilik, Akkim Kimya, Akcoat, Akgirişim and YALKİM OSB, will implement the roadmap for the urgent agenda items determined within the scope of the European Green Deal. Akkim Kimya assumed the leadership of the Group in its first year, which will also strengthen cooperation between companies on topics such as sustainability, circular economy, clean energy and adaptation to climate change.

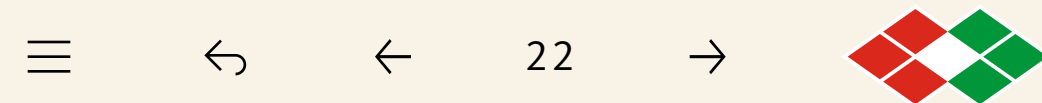
The European Commission's European Green Deal Call, announced in December 2019, aims to reduce carbon emissions by 50 percent by 2030 and to achieve zero emissions by 2050. The agreement is also closely related to Türkiye through the Carbon Border Adjustment Mechanism, which is associated with international trade.

The Group's work

- SWOT analysis was conducted and strengths, weaknesses, opportunities, and threats were identified.
- Training on ETS was received.
- Information presentations were made.
- Work subjects were identified after the SWOT analysis. It was presented to the management for prioritization. The following issues were prioritized. In this context, a seven-year project will be carried out.
 - SPP and sink area for greenhouse gas mitigation
 - Study for water impact assessment and studies for water mitigation
 - Working for biodiversity
- Companies continue to work on SPP and sink areas. At DowAksa, a feasibility study is being conducted to see if SPP can be installed on the roofs of new facilities.

The Group's 2023 agenda items

- Identification of institutional common policies, GAP analysis
- Preparation of corporate risk analysis documents



“In line with the ideal of sustainability, we established the Green Strategy Group with the subsidiaries of Akkök Holding to secure our future today. Our companies will implement the roadmap, action plan and commitments accepted in the European Green Deal. From carbon regulation to renewable energy, from climate crisis to innovation and social welfare, we will make solid efforts to increase the adoption of the most fundamental elements of sustainable development.”

Ahmet Cemal Dördüncü
Akkök Holding Chief Executive Officer and
UN Global Compact Chair of Türkiye

MATERIALITY ANALYSIS

DowAksa conducted a materiality analysis study in 2022 to identify environmental, social, economic and governance issues that will create impact and value for both the company and its stakeholders, in line with the company's business strategy. The topics identified within the scope of the study were shared with internal and external stakeholders through online surveys and evaluated. In line with the survey results, a matrix was prepared by identifying material issues and sustainability targets.

At DowAksa, which attaches great importance to material issues and sustainability targets, strategic roadmaps and business plans are created under the leadership of senior management. Business plans are published and monitored periodically. Projects, improvements or targets are determined in line with the plans. The outputs of the studies are analyzed in review and planning charts. Each target and business plan is handled individually. Outputs are recorded in corporate memory as know-how and lessons learned.

Very High Priority Material Topics

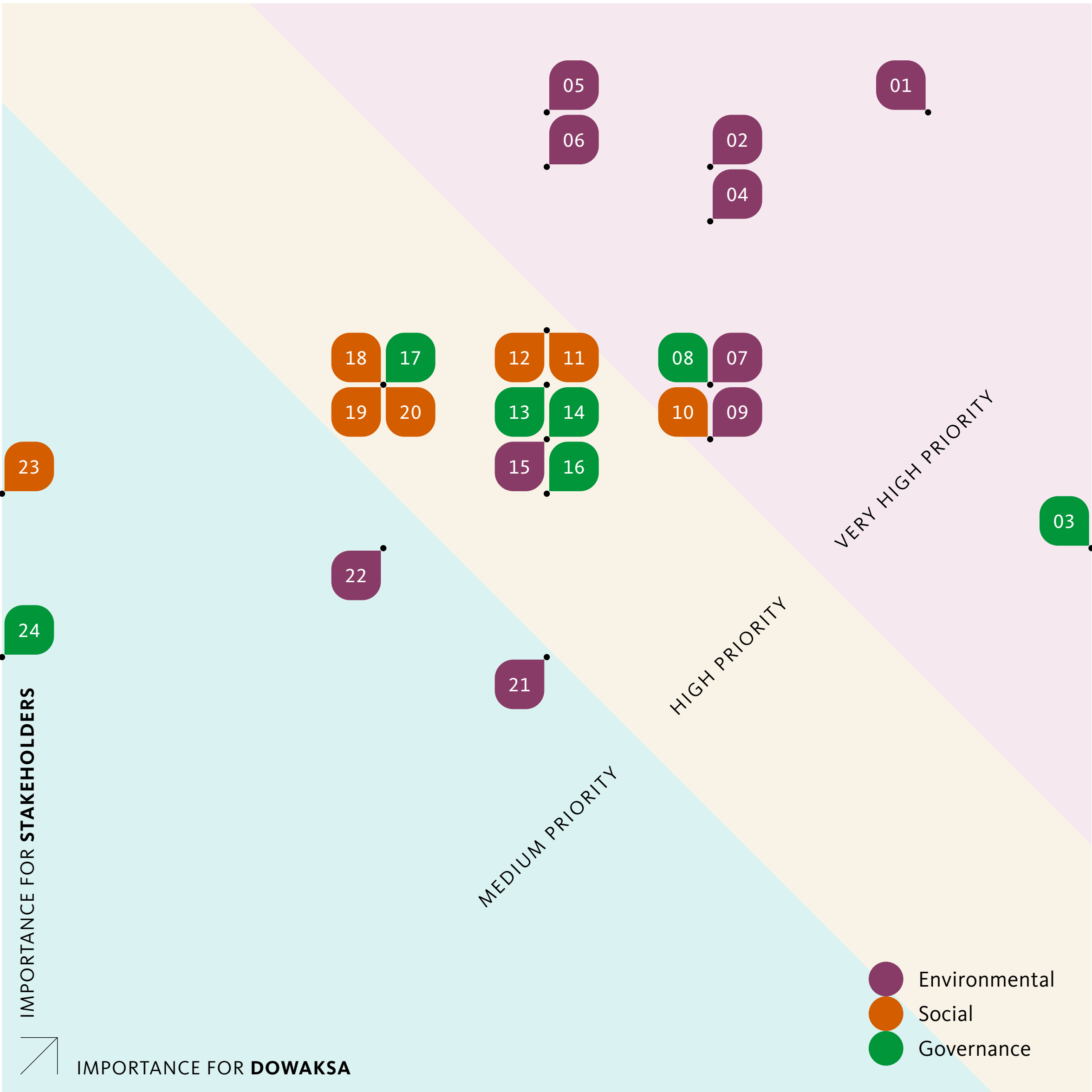
- 01 Data security
- 02 Supply chain management
- 03 Energy management
- 04 R&D and innovation
- 05 Compliance with national and international legislation
- 06 Ethics and transparency
- 07 Employee rights
- 08 Waste management
- 09 Brand value
- 10 Employee engagement and well-being

High Priority Material Topics

- 11 Equal opportunity
- 12 Occupational health and safety
- 13 Sustainable product design
- 14 Circular economy
- 15 Communication with stakeholders
- 16 Water management
- 17 Emissions and climate change strategy
- 19 Women's employment
- 19 Employee training

Medium Priority Material Topics

- 20 Gender equality
- 21 Contribution to the economy
- 22 Contribution to employment
- 23 Investing in talent
- 24 Biodiversity





MEGA TRENDS AND EXTERNAL FACTORS

Composite materials attract attention with their durable and lightweight construction formed by combining different components. These materials, which have a wide range of applications, are preferred in many sectors including aerospace, automotive, energy and construction materials. Worldwide production and use of composites, which are preferred over materials such as iron and aluminum due to their properties of low weight and high strength, are increasing day by day.

Growth drivers - wind energy, civil aviation and automotive

In 2022 the value of the global composites market reached \$53.5 billion, and it is projected to reach \$72 billion by 2028, with an annual growth rate of around 5 percent. Among the most important drivers of this growth are the wind energy, civil aviation and automotive sectors. In the aviation industry, efforts to save fuel and reduce carbon emissions through the use of lightweight and durable composite materials are supporting growth in the sector. The EU wind power sector, projected to reach 60 GW of offshore wind farm capacity by 2030 and 300 GW by 2050, is also supporting growth in composites demand.

Composites sector maintains impressive growth

The global composites industry, of which DowAksa is a part, has shown impressive growth in recent years. The global composites market, which reached \$53.5 billion in 2022, is projected to reach \$72 billion by 2028, with an annual growth rate of approximately 5 percent.

Significant growth potential in Türkiye

The composites sector in Türkiye also has a significant growth potential. According to data from the Turkish Composites Manufacturers Association, Türkiye's composites production will reach 5.5 billion USD in 2022, and the sector's annual growth rate will be over 12 percent. Türkiye's strategic location, large domestic market potential and skilled workforce contribute to the development of the composites industry. In addition, the need for composite materials is growing rapidly in Türkiye with the increasing demand in sectors such as automotive, maritime, defense and construction. This enables Turkish composites companies to expand their production capacity and increase their export potential.

Expecting to expand to wider areas of use

When we look at the carbon fiber sector in the world, the sector is expected to grow by 9 percent in the 2023-2030 period. The size of the carbon fiber industry, which reached approximately 3.1 billion USD in 2022, is expected to reach approximately 5.9 billion dollars in 2030. This increase is expected to be driven by the rising use of carbon fiber in wind energy, aviation, automotive and pressure vessels. The high cost of carbon fiber production is the most important factor curbing the growth rate of the market. In addition, the carbon fiber sector is a field that is constantly open to research and development. Studies on new production methods and more economical and sustainable production processes are ongoing. With these developments, carbon fiber is expected to spread to wider areas of use and the market is expected to grow.

Increasing the local content in wind energy projects

The wind energy sector, which is the main driver for DowAksa, has the highest share of carbon fiber demand in the world. Having signed long-term supply agreements with the world's leading wind turbine manufacturers, DowAksa uses advanced process technologies to produce carbon fiber laminated plates that provide the strength, stiffness and lightness required for more efficient and reliable operation of wind turbines; these plates are used in spar caps, which are fundamental to wind turbine rotor blades. As DowAksa is now able to produce significant quantities of laminated plates domestically as part of its fully integrated carbon fiber-based composite material production model, it is also helping Türkiye increase the local content creation in wind energy projects. Before DowAksa, these parts had to be imported from other countries.

The rapid growth in the global automotive industry creates a significant potential for the carbon fiber sector. However, in order for this strategic material to be used more widely in the automotive industry, certain conditions must be met. In this context, efforts are being made both to reduce costs in order to lower the product price and to find innovative solutions that facilitate mass production. DowAksa produces resin-based EMC and prepreg products for mass production in the automotive industry.

As Türkiye's first and only carbon fiber producer, DowAksa also attaches importance to projects that will increase Türkiye's competitive advantage and improve the country's self-sufficiency. The company continues to focus on and develop high-performance products that will contribute to Türkiye's aerospace and defense industry needs.

ENVIRONMENT

6	CLEAN WATER AND SANITATION
7	AFFORDABLE AND CLEAN ENERGY
12	RESPONSIBLE CONSUMPTION AND PRODUCTION
13	CLIMATE ACTION

STRENGTH OF COMPASSION

Adopting an approach that respects the environment and embraces nature, DowAksa strongly supports the protection of the ecosystem by adopting the most environmentally compatible technologies.

Environmentally responsible production for a better world
Using the most compatible and appropriate technologies, and with sustainable development and care for the environment at the heart of all its processes, DowAkso aims to minimize the pressure on natural resources caused by global environmental problems with its sustainable development and continuous improvement approach.

Operating with the principles of efficient use of resources and respect for the environment in all operations, DowAkso not only fully complies with relevant laws and regulations, but also manages its facilities to international standards in line with the requirements of the certificates it holds. In its operations, DowAkso focuses on responsible and efficient resource use, waste reduction or the inclusion of waste as input to production through the circular economy model, and the protection of biodiversity and the ecosystem. At DowAkso, which measures and reports on its environmental impact, environmental activities are carried out by a team of 18 people.

Environmental policy

As DowAkso Advanced Composite Material Industries Limited Company;We abide by all the legal regulations and other conditions regarding environmental management.

All of the natural resources and energy required for our activities are used in the most efficient way possible and are constantly supervised. We implement policies aimed at improving the performance of our environmental management system.

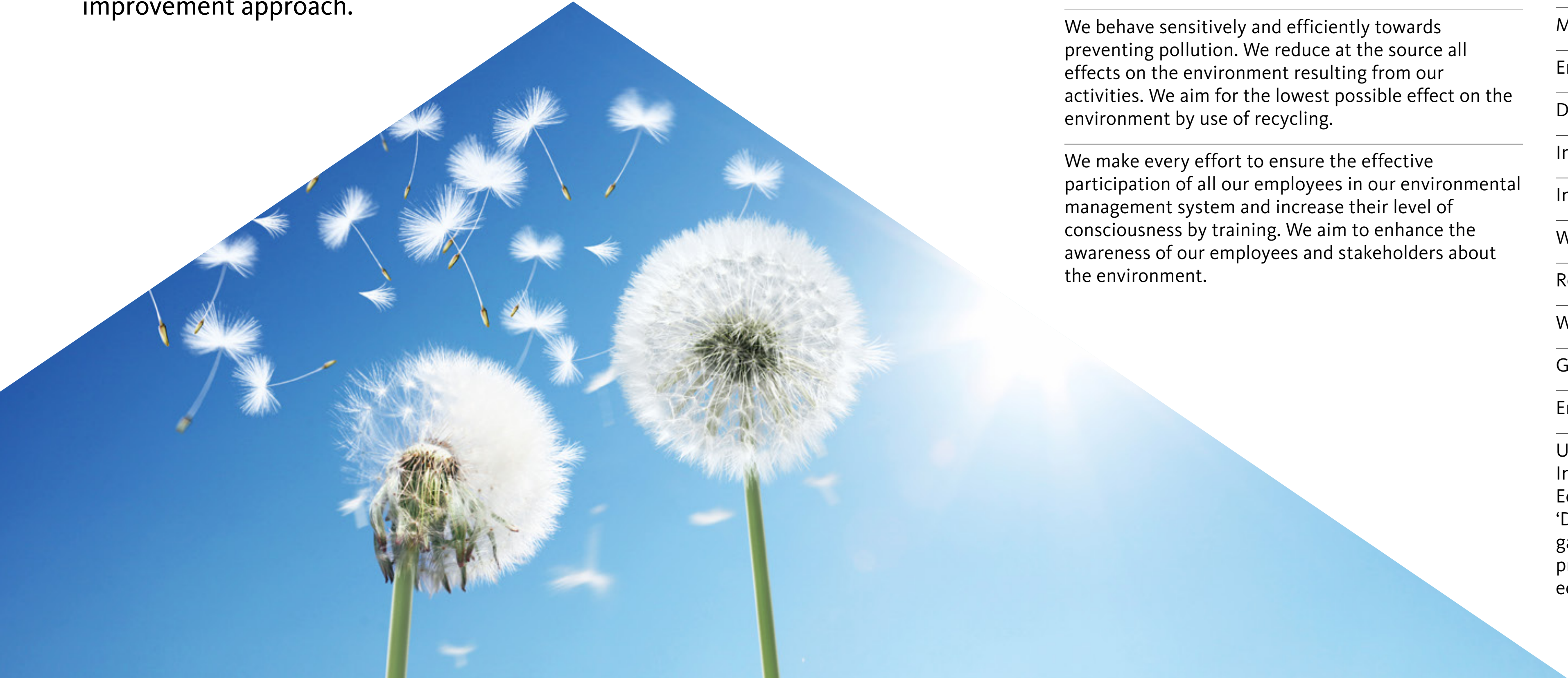
In all of our company’s processes we aim at sustainable development and use the technologies that are the most appropriate and environmentally friendly.

We behave sensitively and efficiently towards preventing pollution. We reduce at the source all effects on the environment resulting from our activities. We aim for the lowest possible effect on the environment by use of recycling.

We make every effort to ensure the effective participation of all our employees in our environmental management system and increase their level of consciousness by training. We aim to enhance the awareness of our employees and stakeholders about the environment.

Activities carried out within the scope of environment

- Waste management
- Emissions, emissions modeling, greenhouse gas calculation and verification
- Soil pollution
- EIA studies
- Environmental and social due diligence (ESDD) studies for new investments
- Water and wastewater management
- Management of chemicals
- Environmental permit system
- Drills
- Inspections
- Incident and near-miss investigations
- Water footprint calculation
- Resin reduction project
- Waste characterization study
- Green Strategy Group projects
- Environmental slogan contest
- Under the leadership of Human Resources and Information Technologies, we supported the Educational Volunteers Foundation of Türkiye (TEGV) ‘Don’t Waste, Donate!’ campaign. With the money gained by recycling electronic waste, support was provided to children who cannot access quality education.



Environmental standards

ISO 9001 - 10 years

ISO 14001 - 10 years

ISO 14046 - 1 year (Standard for water footprint calculation)

Environmental training

Focusing on raising its environmental standards to a higher level within the framework of continuous improvement, DowAksa continues its training programs covering topics such as standard facility practices, procedures, waste management, recycling and responsible consumption.

Environmental management system applications

Waste management and Zero waste training (657 users received training from DowAksa Academy in 2022)

Environmental legislation (62 people attended face-to-face training in 2022)

Water and wastewater management

Industrial symbiosis

Greenhouse gas

General environmental training

Environmental impact reduction efforts

Displaying a sensitive attitude towards pollution prevention, DowAksa reduces at source all environmental impacts resulting from its operations. It aims to minimize the impact on nature by sending more than 95 percent of its wastes to companies with recovery/recycling licenses. It uses systems that comply with international standards and continually invests in such systems to prevent pollution and minimize the polluting effects on air, water and soil. For example, emissions are oxidized with natural gas before being released into the atmosphere, and flue gas emission values are minimized. Such processes are carried out using the best treatment techniques as specified in IPPC, such as catalytic filtration (RTO, VAR and TOx).

DowAksa first evaluates whether it is possible to not perform the activity that creates environmental impact at all (for example, the company switched to dry ice application instead of using water for cleaning carbon fiber machines), but in cases where the activity has to be carried out, the company works on what can be done to reduce the environmental impact. If an emission or waste is generated as a result of the activity, the company investigates what can be done to remove it, in accordance with Environmental Legislation. If a chemical is used, it is replaced with a harmless one. DowAksa treats the resulting emission with flue gas treatment systems to prevent it from being released into the environment, and takes utmost care in sending waste to recycling.

Before new investments and new activities are undertaken, environmental impacts are identified and the measures to be taken are laid out. If there is an environmental impact in subsequent changes to the system or organization, this is also evaluated in line with the principles of change management.



WATER AND WASTEWATER MANAGEMENT

DowAksa considers water and wastewater management among its highest priority material topics, focuses on using water in the most efficient way and invests in projects to reduce water consumption.



	2020	2021	2022
Water withdrawal (ML)			
Surface water	0	0	0
Groundwater	0	0	0
Sea water	0	0	0
Water purchased from third-party suppliers*	456	467	519
Total water withdrawal	456	467	519
Water discharged (ML)			
Water discharged	215	159	194
Water consumption (ML)			
Water consumption	241	308	325

* Domestic water is supplied by the OIZ. OIZ dam water is used. Fire reserve, boiler feed water and DIW are purchased from Aksa.

DowAksa evaluates the water issue, which directly affects production processes and is a risk factor in its operational geography, in a holistic framework. Aiming to calculate its corporate water footprint on a regular basis, the Company sends its wastewater to the YALKİM OIZ Treatment Plant, which is designed to meet a wastewater flow rate of 15,000 cubic meters per day with a wastewater treatment plant connection permit and to reduce the pollution load of 34,000 kg COD per day and 5,000 kg TKN per day to the legal discharge criteria specified in the Water Pollution Control Regulation.

In the YALKİM OIZ plant, advanced treatment (total nitrogen parameter removal) technology is applied and nitrogen removal is achieved by a combined nitrification-denitrification method. In addition to total nitrogen parameter removal in the biological treatment unit, the COD parameter is also reduced to the technologically feasible minimum level by using additional chemicals (precipitation optimizers) and a dose of powder-suspension activated carbon. Under these conditions, the discharge values at the outlet of the plant are close to the inert COD and inert total nitrogen levels, and the outlet values are monitored to remain below the limits for discharge set by the Ministry of Environment, Urbanization and Climate Change.

The COD value of the wastewater sent to the YALKİM OIZ Wastewater Treatment Plant via closed lines is measured online at the treatment inlet, while the TN value is measured manually. The discharge of wastewater treated using physical, chemical and advanced biological treatment technologies is continuously monitored by the online measurement system (SAIS), which is traceable by the Ministry of Environment, Urbanization and Climate Change, Provincial Directorate of Environment. Legal limits were met throughout 2022.

In 2021, due to the mucilage problem in the Marmara Sea, more than 70 inspections were carried out by the Ministry of Environment, Urbanization and Climate Change and its affiliated organizations, with and without

notice. These inspections found zero non-conformities at the wastewater treatment plant to which DowAksa sends its wastewater.

DowAksa has begun feasibility studies for the Wastewater Project to be carried out jointly with YALKİM OIZ. Through this project, DowAksa aims to reduce the chemical and energy consumption of the treatment plant by improving the character of the wastewater.

Adopting a responsible water consumption approach in its production activities, DowAksa develops projects to reduce water consumption and to reuse water. An analysis of annual water consumption data shows that, although total company-wide water consumption seems to have increased, when capacity increases and production values are taken into account, water consumption per product has been reduced through good practice and process improvements.

Water footprint

DowAksa performed a water footprint calculation in 2022 to define the amount and type of water consumed per unit process and to detail water management. The DowAksa 2021 Water Footprint Inventory Calculation and Verification Report evaluated water consumption using the gate-to-gate method. In the report, prepared to ISO 14046:2014 standard, water use was calculated for all operations carried out under the responsibility of the given business units within the boundaries of the organization.

DowAksa sensitively monitors water consumption and carries out improvement and water consumption reduction studies within the scope of continuous development with the support of senior management. Through such studies, hot spots are identified and awareness is raised to focus on these areas in improvement projects.



WASTE
MANAGEMENT

DowAksa attaches importance to preventing environmental pollution and to recycling waste into the economy. DowAksa separates at source the waste generated as a result of its operations, prioritizes sending it to recycling facilities, and disposes of it in accordance with legislation relevant to the type of waste.



GOAL

Zero landfill and zero incineration without energy recovery by 2040

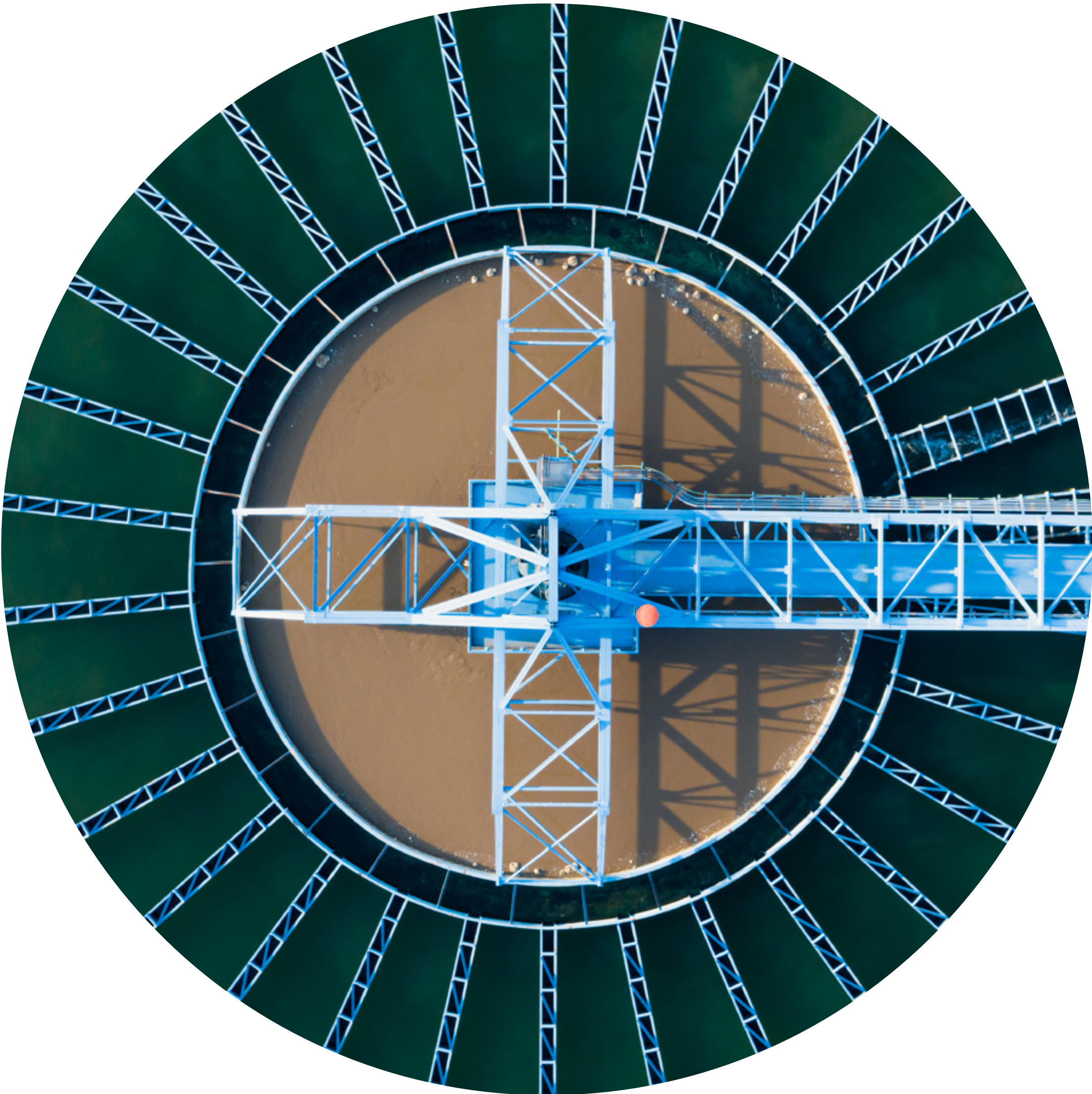
Waste from pultrusion production reduced by
50%
between 2021 and 2030

Conducting its waste activities in cooperation with YALKİM OIZ Environment Directorate, Corporate Projects Directorate and Health, Safety and Environment Directorate, DowAksa considers "collecting waste separately at source" and "prioritizing prevention, reduction and recovery opportunities" as basic principles in its waste management system.

The waste management system at DowAksa is carried out as:

- Identification of source points,
- Monitoring quantities and changes,
- Reducing the amounts generated, preventing pollution,
- Finding recovery, reuse or disposal alternatives,
- Implementing cost-reduction measures,
- Planning of source separation, collection and transportation processes,
- Arranging the appropriate collection vehicles/ equipment and temporary storage area,
- Recording the data related to the installed systems,
- Undertaking a waste characterization study,
- Improving systems.

DowAksa also has a Zero Waste Certificate, which covers the establishment, dissemination, development, monitoring, financing, recording and certification of the waste management system initiated by the Ministry of Environment, Urbanization and Climate Change, and the company attaches great importance to waste management. DowAksa's waste management procedures aim to prevent waste at source. In cases where waste cannot be prevented, reduction and separation projects are evaluated at the source. DowAksa adheres to its Industrial Waste Management Plan in waste management and although the total amount of waste generated has increased over the years due to increased overall capacity, it has decreased with the improvement projects carried out when evaluated on a product-specific basis.



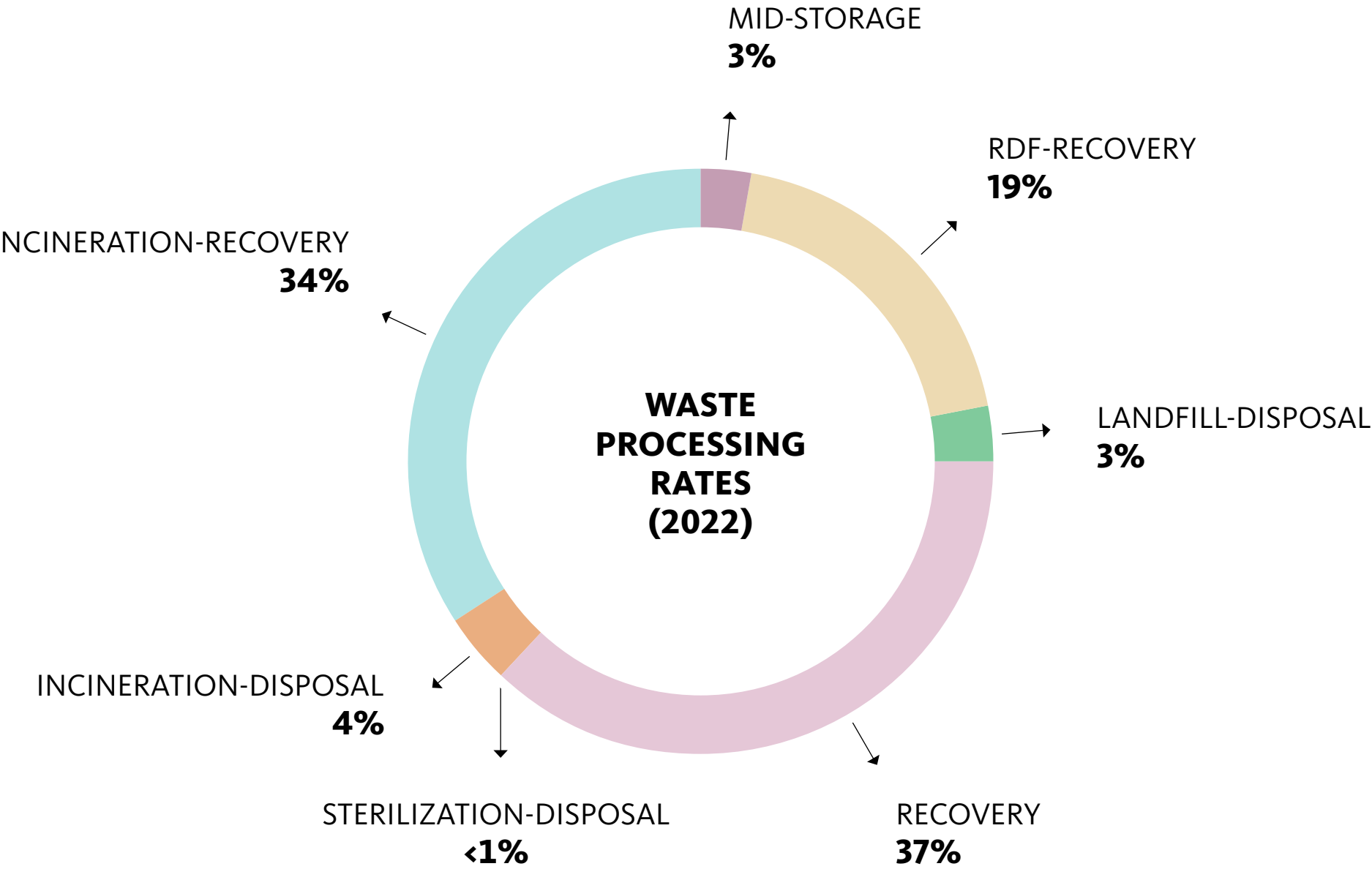
Project on waste characterization

In 2022, within the scope of the project on waste characterization, all resin waste, which is the most generated waste from the DowAksa plant, was sent for recovery. Thus, there was a decrease in the amount of waste sent to disposal at the facility. Annex-3/B Analysis was conducted for resin wastes, refractor brick wastes, pultrusion plate part wastes and cable wastes and the results of the analysis showed that the mentioned wastes were non-hazardous. Hazardous waste shipments will therefore be significantly lower in 2023.

In 2022, DowAksa Factory Technical Team also carried out a study to reduce the amount of resin produced in the pultrusion unit. Following the design work carried out in the i-box units, black belt works were initiated with the aim of increasing the process speed and reducing the resources used. These works sparked new project ideas, and between April and December 2022 observations and calculations were made to increase efficiency. The project will continue in 2023.

Reducing the amount of resin leaving the process not only reduced the amount of resin waste, but also contributed to a reduction in disposal costs. Thanks to the wide-angle i boxes that started to be developed in 2022, the same output was produced by feeding approximately 175 tons less resin in all products compared to the old design i-boxes.

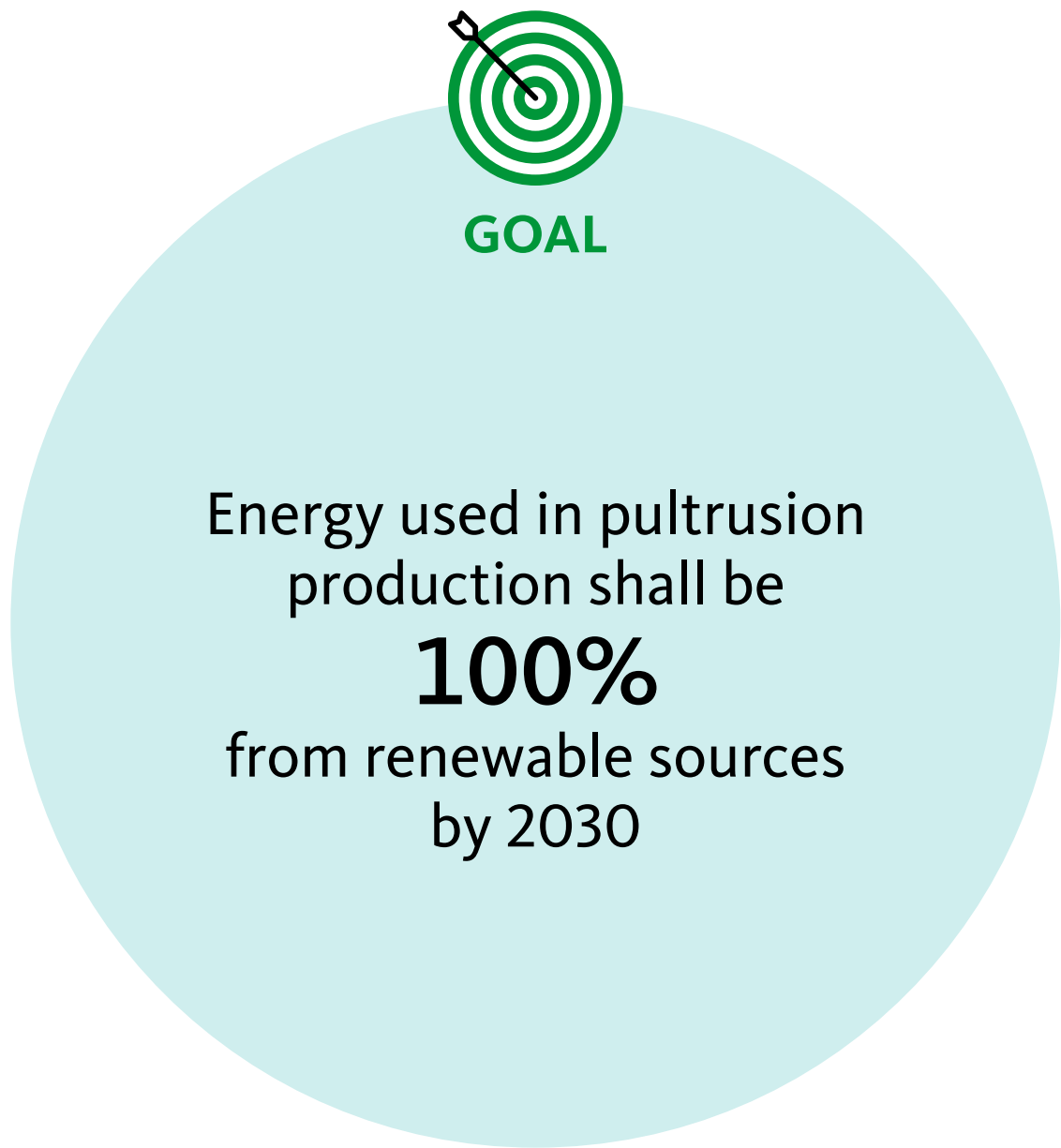
Wastes sorted in accordance with waste management principles are primarily sent to recycling facilities. DowAksa sends wastes that cannot be recovered to licensed landfill, sterilization and incineration facilities for disposal. Waste processing rates are shown in the table below.



WASTE AMOUNTS (TONS)	2020	2021	2022
PACKAGING WASTE	158	401	778
DOMESTIC WASTE	68.8	55.1	67.3
HAZARDOUS WASTE	1,479	1,965	2,153
NON-HAZARDOUS WASTE	273	514	199
MEDICAL WASTE	0.14	0.222	0.105
TOTAL	1,979	2,935	3,041

ENERGY EFFICIENCY

Energy efficiency, which is among DowAkSa's main policies, is promoted with the support of senior management and the goal is to continuously reduce energy intensity through continual improvements.



At DowAkSa, energy specific values are monitored on a product basis and annual targets are set and monitored within the scope of budget and environmental management. Based on the annual Energy Report, inefficiency points are identified and projects that will increase efficiency are implemented.

DowAkSa strives to reduce its carbon footprint by constantly researching alternative and renewable energy sources and acts in compliance with all legal obligations.

At the facility in Yalova, inefficient operation of the machines is prevented through preventive maintenance practices. Failure tracking, and targets set, ensure that the machines operate at maximum capacity. Energy consumption is monitored online with industrial automation applications such as DCS and Scada. The new On-Line Energy Monitoring System will be installed in 2023.

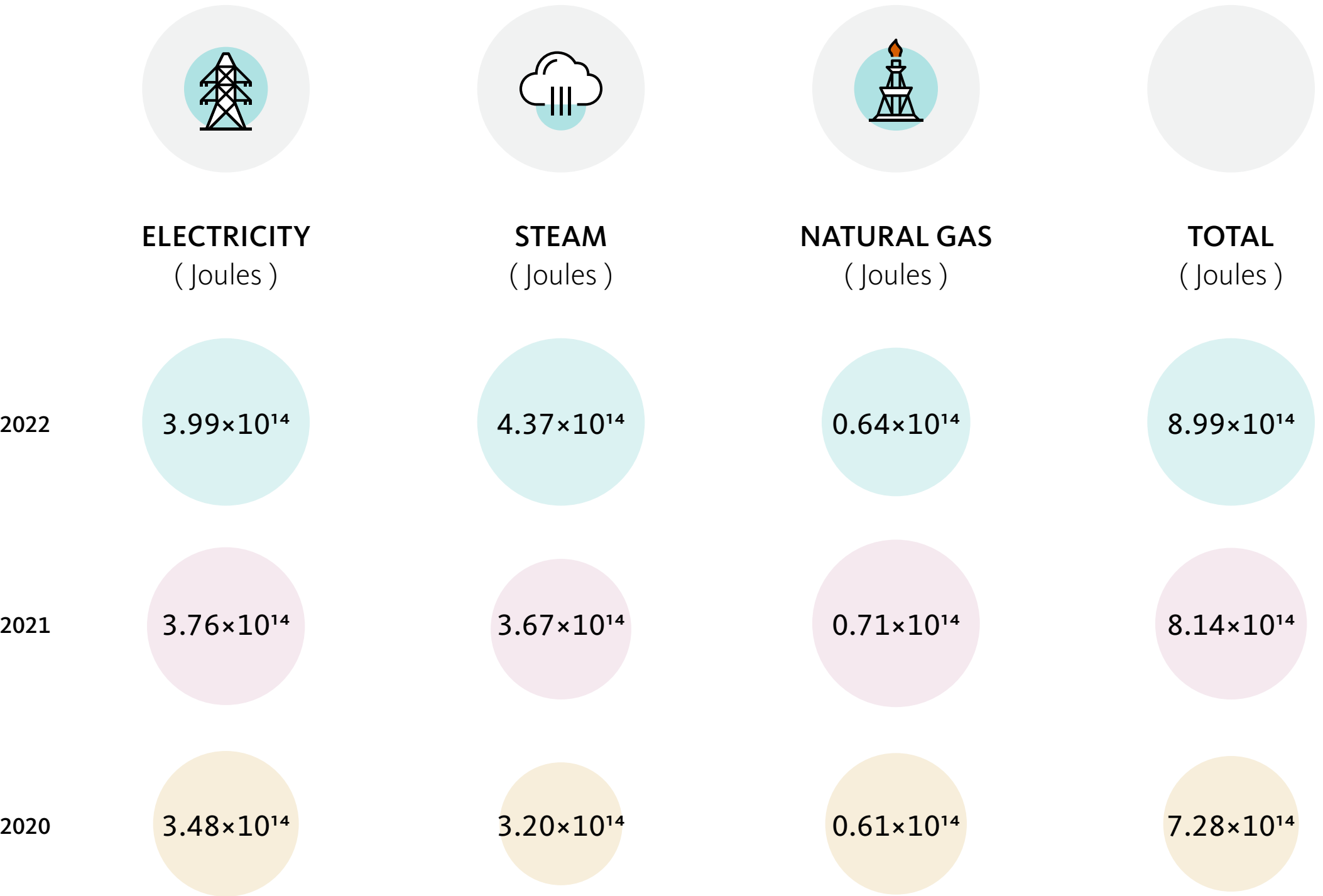
At DowAkSa, which attaches great importance to reducing energy use, efficiency studies are continuously carried out for electricity, steam and natural gas. In the name of electricity efficiency, an efficiency of 1 percent was achieved by optimizing the set value in carbonization furnaces. Work continued on steam, which is also highly consumed and one of the ‘hotspots’ in DowAkSa’s carbon footprint calculations. Here, the condensers in the precursor machines were found to have an inefficient design and were replaced with new types of condensers that are more efficient. As one of the continuous control measures, condensate leakages are regularly monitored.

In terms of natural gas consumption, a project related to the natural gas valve is also being conducted. As capacity increases and the boiler temperature gets closer to the desired set value, the natural gas valve throttles itself, reducing consumption of natural gas and improving efficiency.

Energy Consumption

	2020	2021	2022
Renewable energy consumption (joules)	0	0	0
Non-renewable energy consumption (joules)	7.28×10 ¹⁴	8.14×10 ¹⁴	8.99×10 ¹⁴
Total consumption (GJ)	7.28×10 ⁵	8.14×10 ⁵	8.99×10 ⁵

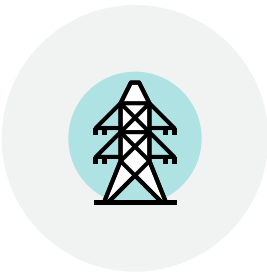
Total energy used



Energy optimization projects

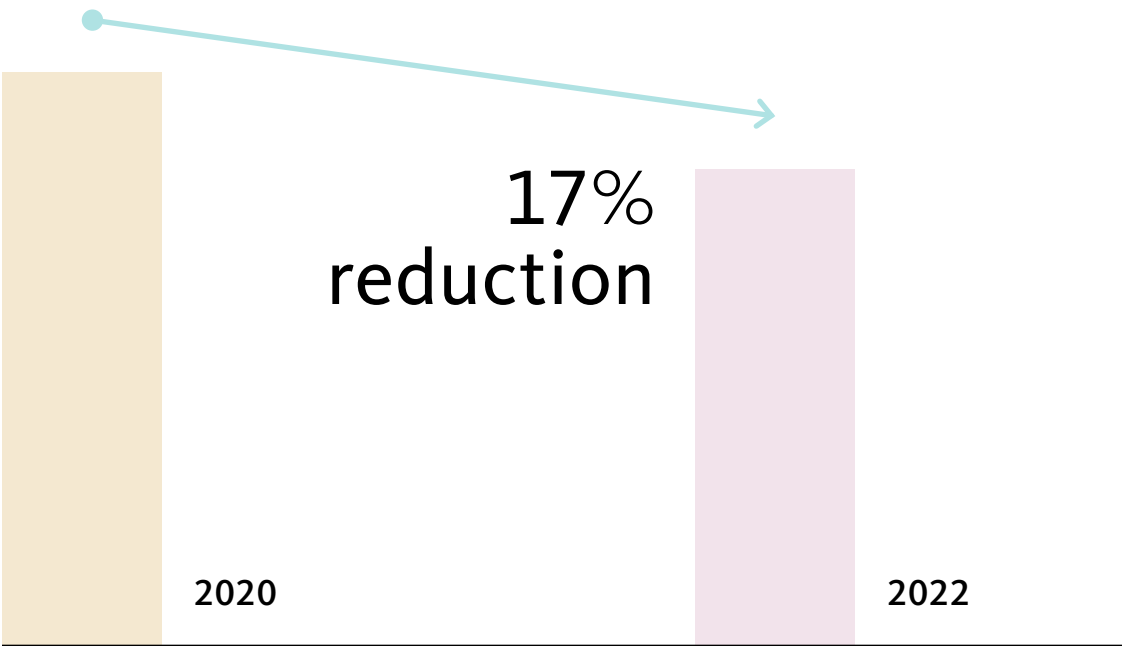
Electricity efficiency projects

Electricity consumption in the furnaces was reduced by 5 percent by increasing the flow through VAR and RTO units.	Electricity consumption was reduced by 3 percent by renewing furnace and chimney insulation.	Electric heaters in precursor production lines were replaced with steam heaters.
	Electricity consumption was reduced by 4 percent by optimizing the balance of oxidation furnaces.	Old conventional lighting was replaced with efficient LED lighting.



ELECTRICITY
(kwh/kgCF)*

*Electricity consumed per kilogram of carbon fiber (kWh)



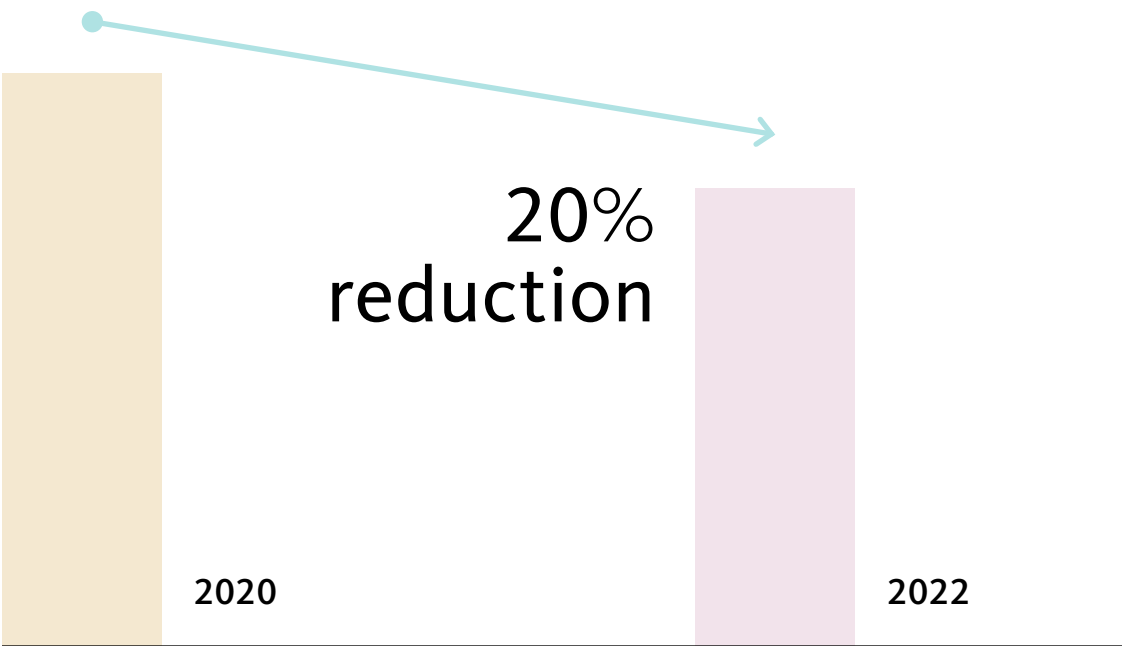
Steam efficiency projects

Renovations and changes in condensate return systems increased the energy obtained from condensate by 12 percent.	Energy efficiency increased by 2 percent with the insulation of steam lines.
	Valve optimizations and drying system balancing works are ongoing.



STEAM
(kg/kgPC)*

*Steam consumption per kilogram precursor



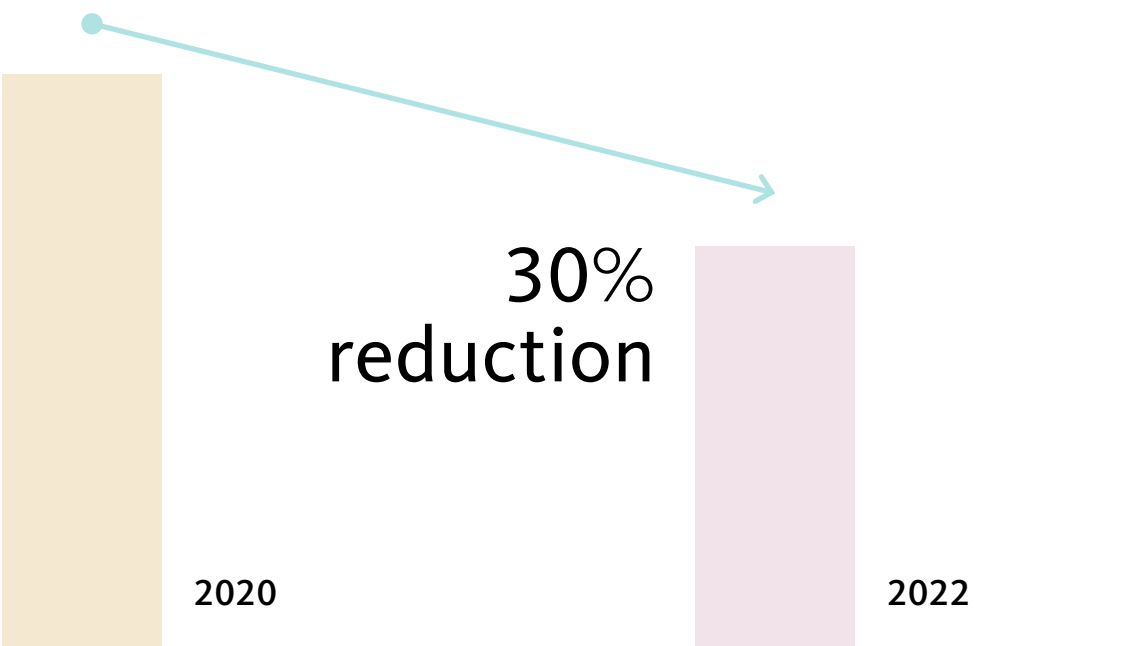
Natural gas efficiency projects

By optimizing the fresh air valves of VAR and RTO units and changing PID parameters, 30 percent efficiency was achieved.	VAR boiler insulation was improved and a 4 percent efficiency increase was achieved.
--	--



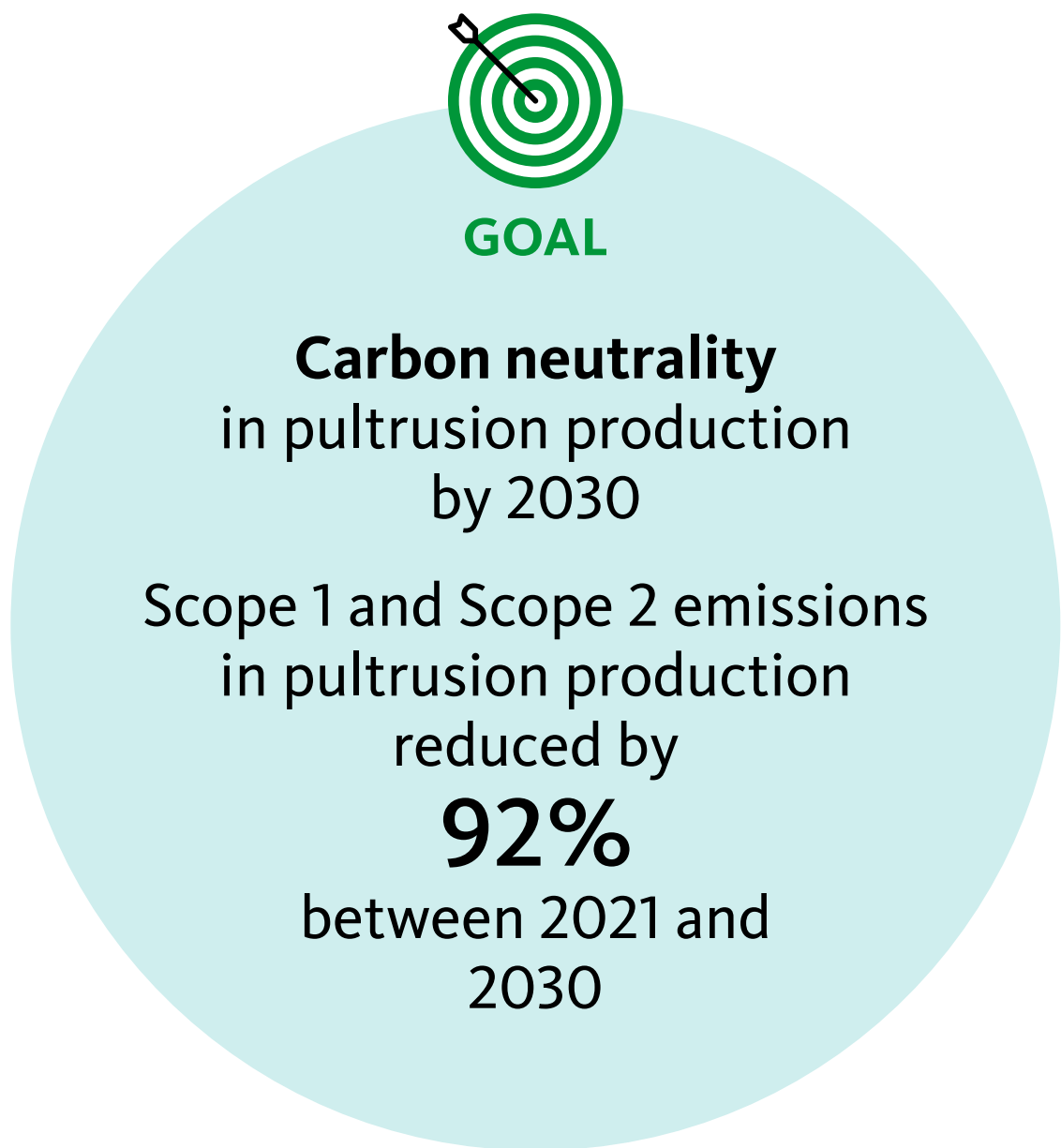
NATURAL GAS
(m³/kgCF)*

*Natural gas consumed per kilogram of carbon fiber (m³)



CORPORATE CARBON FOOTPRINT

Believing in the necessity of monitoring and managing greenhouse gases emitted to mitigate the effects of climate change, DowAksa declared its Corporate Carbon Footprint Report for its activities in 2022.



It is very important for organizations to calculate their carbon footprint in order to evaluate their current position in the sector and determine their strategies for the future. In this context, DowAksa calculated its corporate carbon footprint in 2022 as in previous years.

The carbon footprint of DowAksa's direct and indirect activities throughout 2022 was calculated in accordance with the ISO 14064 standard and declared in the Corporate Carbon Footprint Report.

Scope 1, 2 and 3 emissions, calculated within the framework of the ISO 14064 standard and the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain (Scope 3) Standard, refer to greenhouse gas emissions from the company's economic activities.

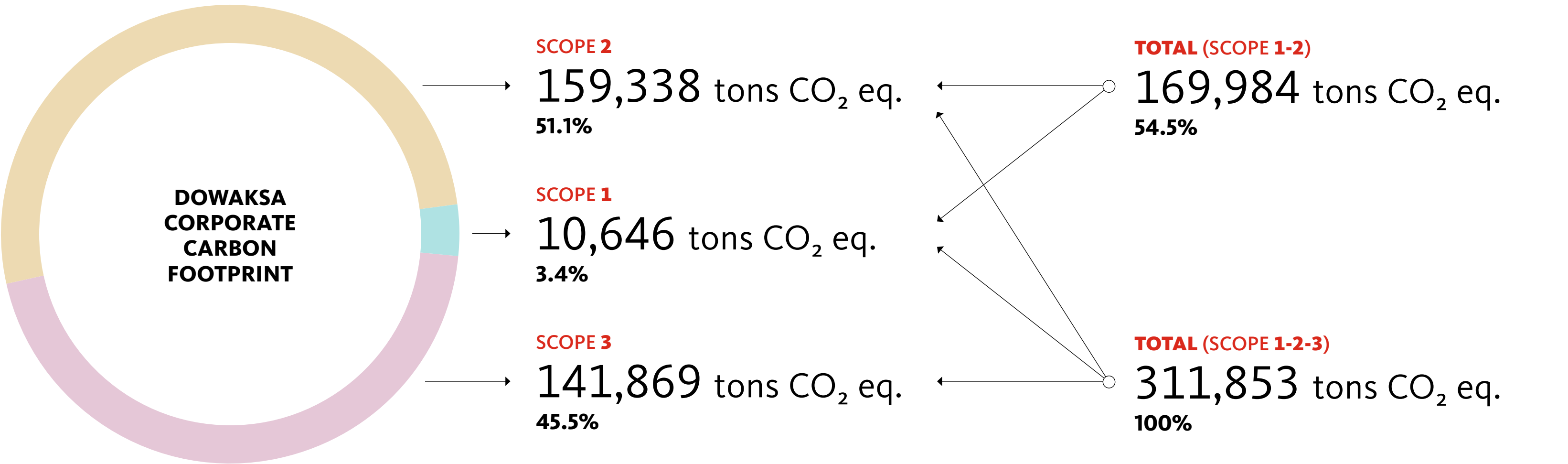
Although various improvement projects have been carried out in its processes, DowAksa has not made any major changes in its work flowchart, and its 'hotspots' are similar to previous years. As the corporate carbon footprint calculation shows, just over half of all DowAksa's emissions are Scope 2 emissions – those caused as a result of the choice of energy source. 46 percent of total emissions are Scope 3 emissions – those generated in the company's value chain. Scope 1 emissions, which include process emissions, stationary combustion, vehicle use and emissions from other activities, account for 3 percent of total emissions.

In 2022, hotspots were taken into consideration in improvement projects and various efficiency projects were realized as stated in the Report. When the hotspot analysis was compared with previous years, the top three hotspots were electricity consumption, raw materials and purchased steam/cooling. For electricity

consumption, which is the source of most emissions, the maintenance team is working to reduce consumption and emissions.

Based on the 2021 corporate carbon footprint calculation, the DowAksa Sustainability Roadmap was initiated, and KPIs and surveys that will ensure supplier monitoring are determined, and projects are being developed to reduce the carbon footprint caused by choice of and consumption of raw material.

In order to inform DowAksa employees about both the calculation and communication of the corporate carbon footprint studies and to increase project ownership, various training programs were provided to the relevant employees and their level of awareness was increased. The company's aim is to evaluate emission reduction opportunities through exchange of information and opinions between different departments.



SOCIAL

4	QUALITY EDUCATION	
5	GENDER EQUALITY	
8	DECENT WORK AND ECONOMIC GROWTH	

STRENGTH OF UNITY

Believing that unity provides an important power, DowAksa sees its participatory, sharing culture that values individual leadership, self-responsibility and teamwork as the main factor in its success.



HUMAN RESOURCES

The locomotive for company success: Human resources

DowAksa sees its transparent, participatory, sharing culture that values individual leadership, self-responsibility and teamwork as the main factor in success and leadership.

Adopting and implementing legal regulations, standards and modern management systems in the field of occupational health and safety, DowAksa closely follows technological changes and developments. Supporting the Turkish economy with active employment policies in line with its growth plans, the company aims to grow its human resources in line with its continuous improvement and development perspective and corporate business culture.

DowAksa's Values

Health and Safety

The health and safety of our employees and the protection of our communities are our top priorities.

Community

Our community is the source of our success and the differentiator that enables us to take industry leadership.

Diversity

For the excellence of individuals and teams, we are committed to a diverse and pluralistic workforce, based on individual respect and responsibility.

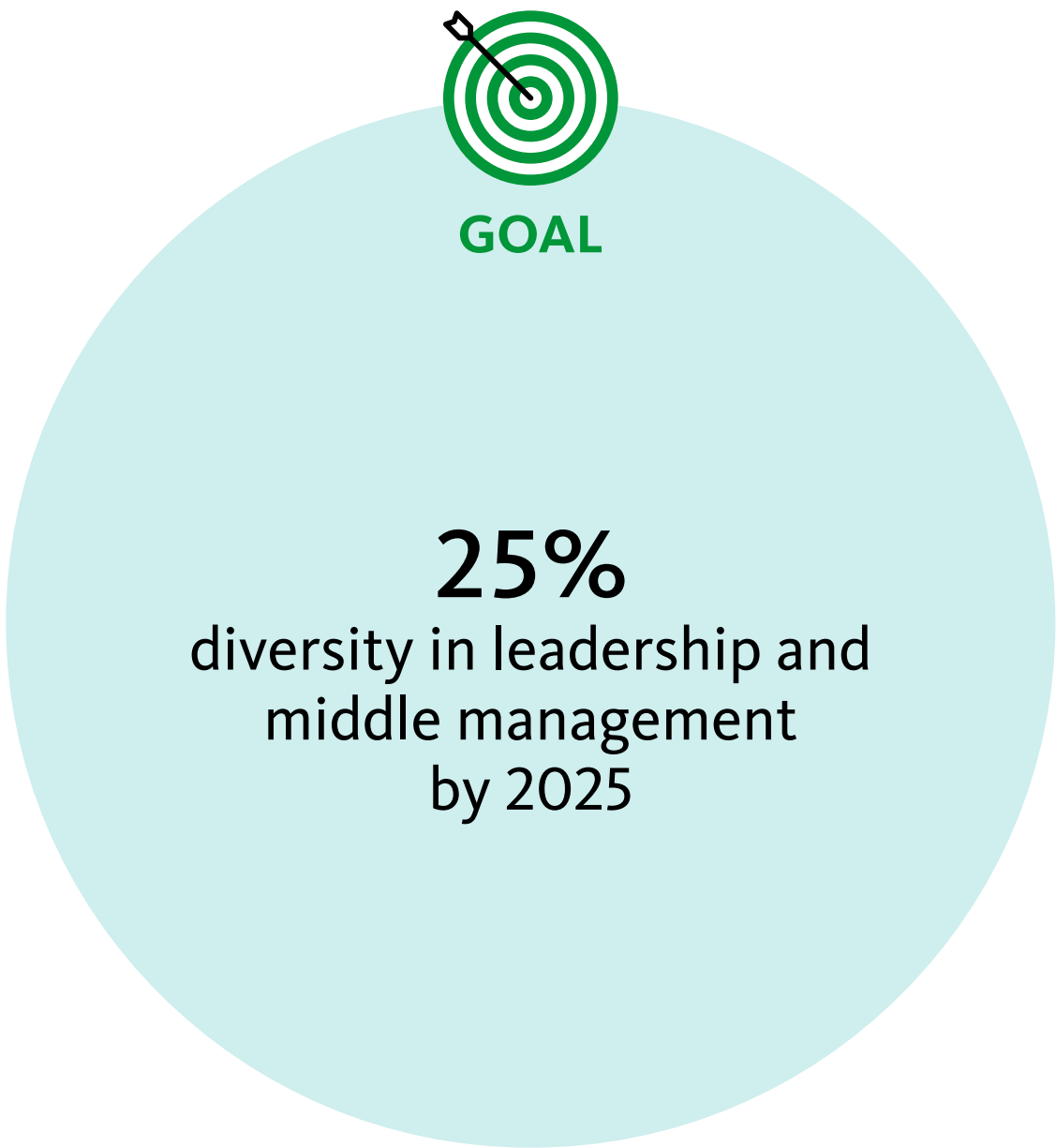
Integrity and Honesty

We will act correctly and honestly in everything we do.



HUMAN RESOURCES PRACTICES

DowAksa implements practices to ensure the continuity of human resources with high awareness and commitment to the organization, competence, participation and focus on company goals.



Supporting recruitment and local employment

DowAksa prioritizes the recruitment of human resources that are highly aware, value diversity, have high learning agility, and are entrepreneurial and passionate about their work, and supports local employment in the recruitment process. Almost all employees, especially at the operational level, are recruited through local employment. DowAksa aims to ensure the continuity of professional and operational level human resources focused on company goals, preferentially promoting from within and supporting the career management of employees. In 2022, a total of 191 people, 151 operational and 40 professional, were employed.



Gender equality and diversity

In the culture of mutual respect that it promotes, DowAksa prioritizes providing an environment in which similarities and diversity in beliefs, religious practices and other matters among employees are understood and valued. Adhering to all relevant laws and regulations, the company offers equal opportunities to all employees and does not allow any form of discrimination in practices such as candidate identification, recruitment, assignment, promotion, transfer, wages and benefits, training or termination of employment. Aiming to provide an environment where everyone can make their voices heard and work with passion, the company provides training in equality and diversity to its employees.

Attaching importance to the support and employment of women, DowAksa implements a wage system based on work/family roles that is fair in terms of internal balances and competitive with the market, regardless of gender.

In 2022, DowAksa organized a Rhythm Workshop event on March 8, International Women's Day. In addition, seminars on 'Violence Against Women' and the role of 'Mother' in preventing harmful habits of children were organized for female employees.

Human rights

Prioritizing respect for the dignity and rights of all employees as a critical element, DowAksa acts in full compliance with all labor laws and regulations, including child labor laws, wherever it operates. DowAksa prepares a Human Rights Policy and shares it with employees as part of ESDD, and organizes 'Ethical Principles and Code of Conduct' e-learning programs every year to raise awareness of its business ethics culture. The Human Resources Department shares questions on ethics and values with employees on a quarterly basis and thanks the employees who share the first correct answer with small gifts.

Employer-employee relations

DowAksa does not have an organized labor union. The DowAksa Representative Committee, elected by the employees, provides a strong communication structure by sharing employees' requests, demands and opinions with the management. With the Representative Committee team, comprehensive studies are carried out by taking into account suggestions from employees to improve safety, health and well-being.

In order to increase employee motivation and awareness, fun social activities such as a New Year's Party, a Flower Planting Event, sapling donation to TEMA on behalf of employees' new babies, participation in the Istanbul Marathon in cooperation with the Educational Volunteers Foundation of Türkiye (TEGV), and OHS and Environment Weeks are organized.

Entrepreneurship and awareness

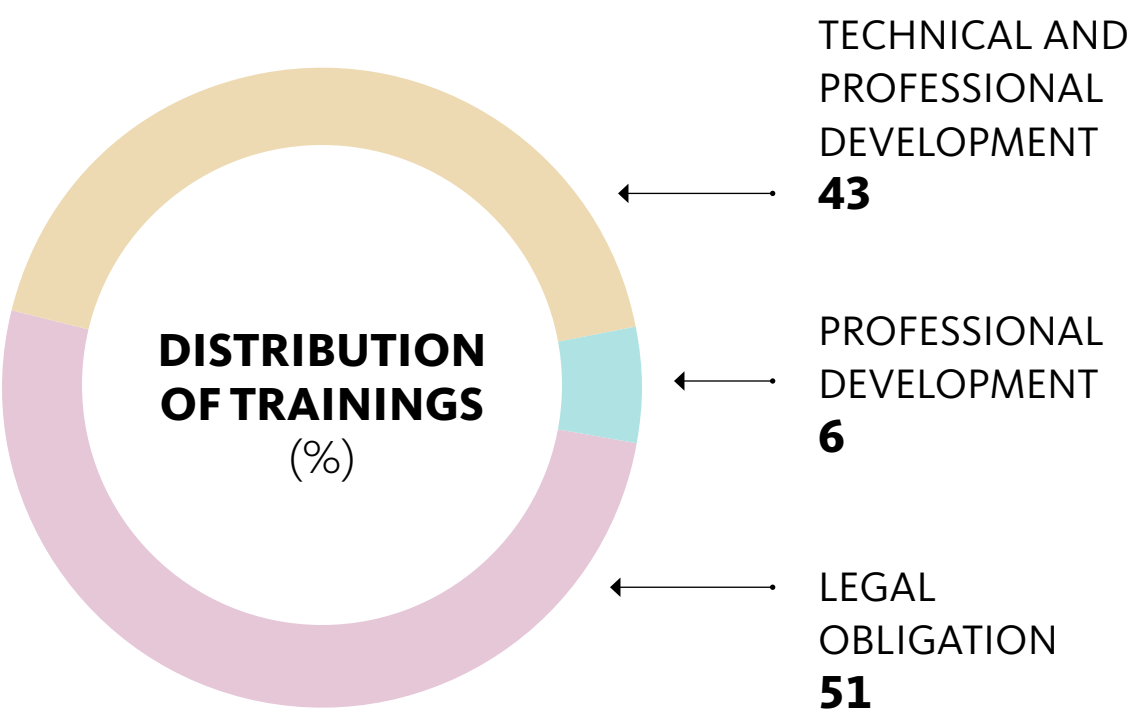
DowAksa, whose typical employee acts with integrity and honesty within an atmosphere of respect and responsibility, wants its employees to benefit themselves, their teams, the company and society at large. To this end, DowAksa offers a working environment suitable for entrepreneurial spirits to develop new and creative ideas.

In 2022, DowAksa rewarded 47 individuals and 15 teams with the Employee Reward System, which recognizes employees' suggestions and efforts that make a difference in the categories of health, safety and environment, operational excellence, cooperation, development and innovation.

Education and development

Supporting the learning and development processes of its employees by analyzing their development needs in line with its continuous development culture, DowAksa aims to improve the knowledge, skills and competencies of its employees through various training and development opportunities prepared by assessing current and future needs. These developments are monitored through DowAksa Academy.

In the Engineer Development Programs carried out within the scope of R&D, production and investment processes, 17 employees achieved Six Sigma Green Belt and 2 employees achieved Six Sigma Black Belt. Design for Six Sigma, Six Sigma Black Belt and Project Management training was successfully completed by separate teams of 20 employees.

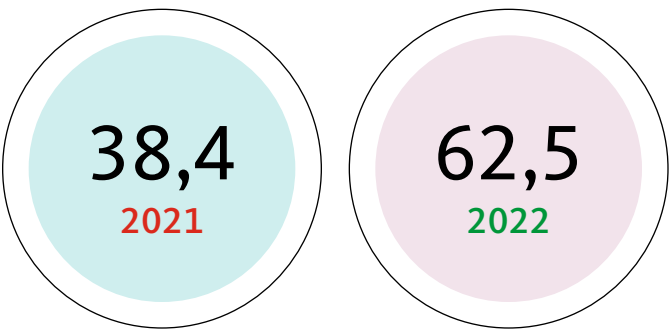


CRITICAL EMPLOYEE TURNOVER RATE (%)

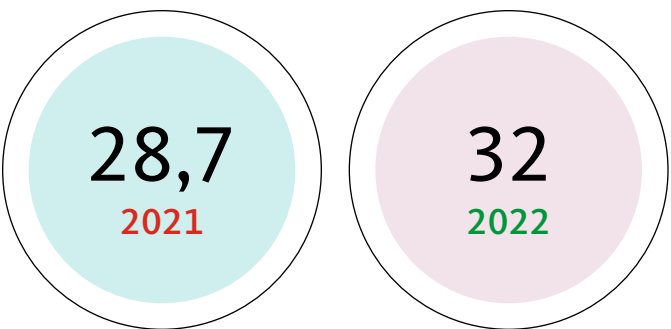


EDUCATION

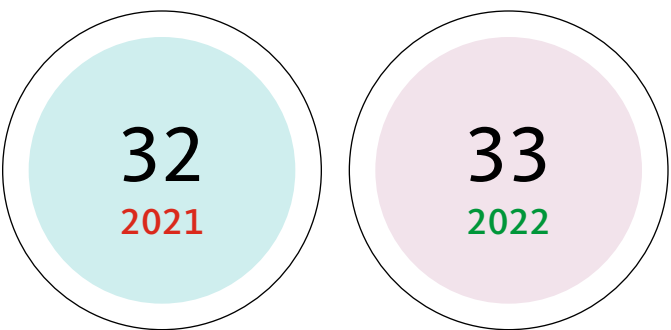
Online/digital resource use as a percentage of total training time for professional staff



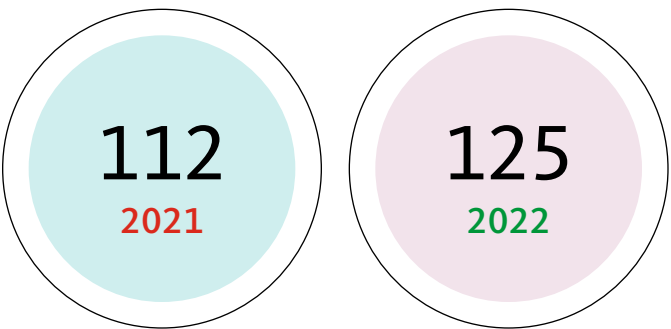
Online/digital resource use as a percentage of total training time for operational staff



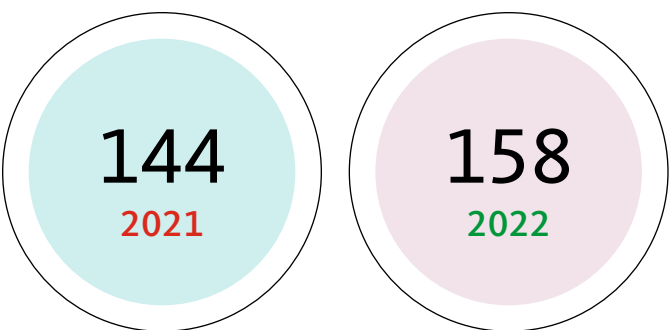
Average hours of training per professional employee per year



Average hours of training per operational employee per year



Total training hours per employee



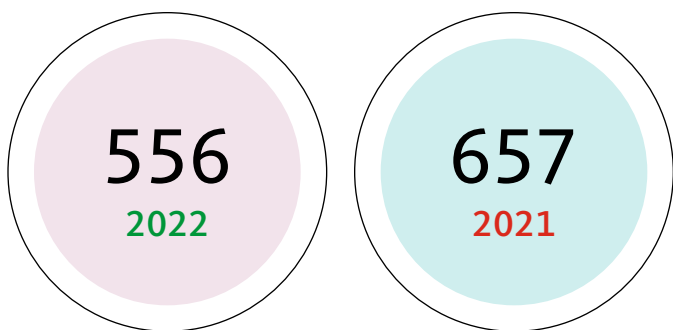
Talent and performance management

In its ever-growing organization, DowAksa aims to recruit talented people who will carry the company into the future, realize its ambitious goals, work with high potential and passion, and enhance its existing talent-base. Within the framework of talent management policies, individual goals are structured in an integrated manner with company, directorate and department goals, with a focus on employees' business results and competencies. By systematically evaluating the goals and ensuring the continuity of this structure, it is ensured that company goals are achieved.

As a result of assessments made in line with defined job families, roles, competencies and criteria, our employees' career development is guided by behavioral and professional development programs, coaching and mentoring programs, rotations, and assignments to different tasks and projects. Succession, promotion integrated with the performance system, internal announcement systems and rotation processes form an integral part of HR policies. With an approach focused on individual business results and competencies determined in line with the company's strategies and targets, DowAksa aims to evaluate its employees' performance and plan their development with a holistic perspective.

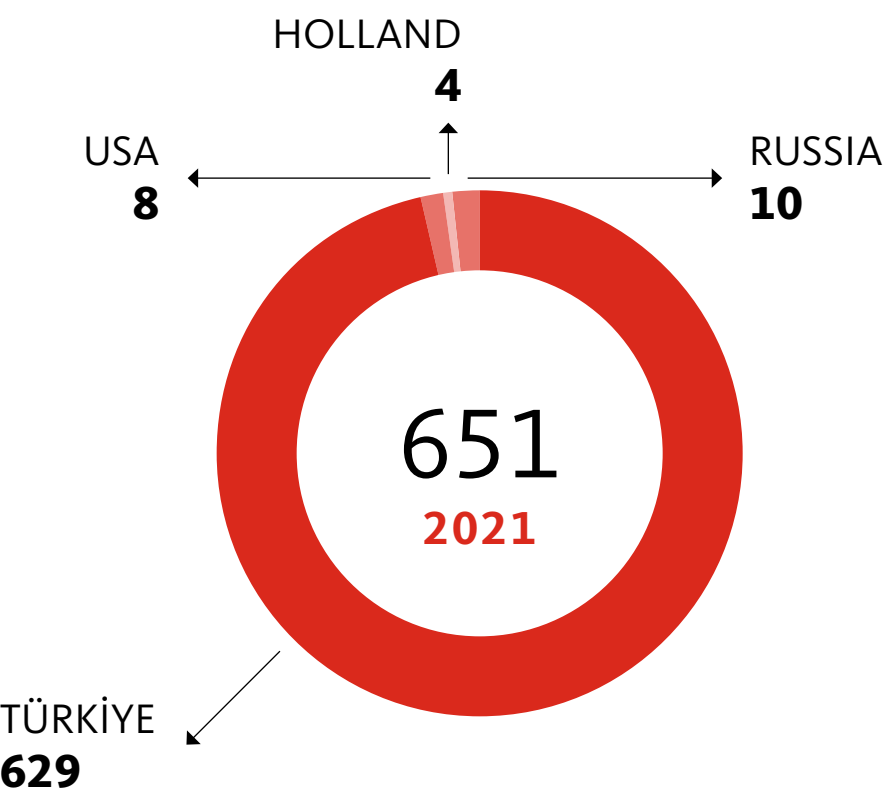
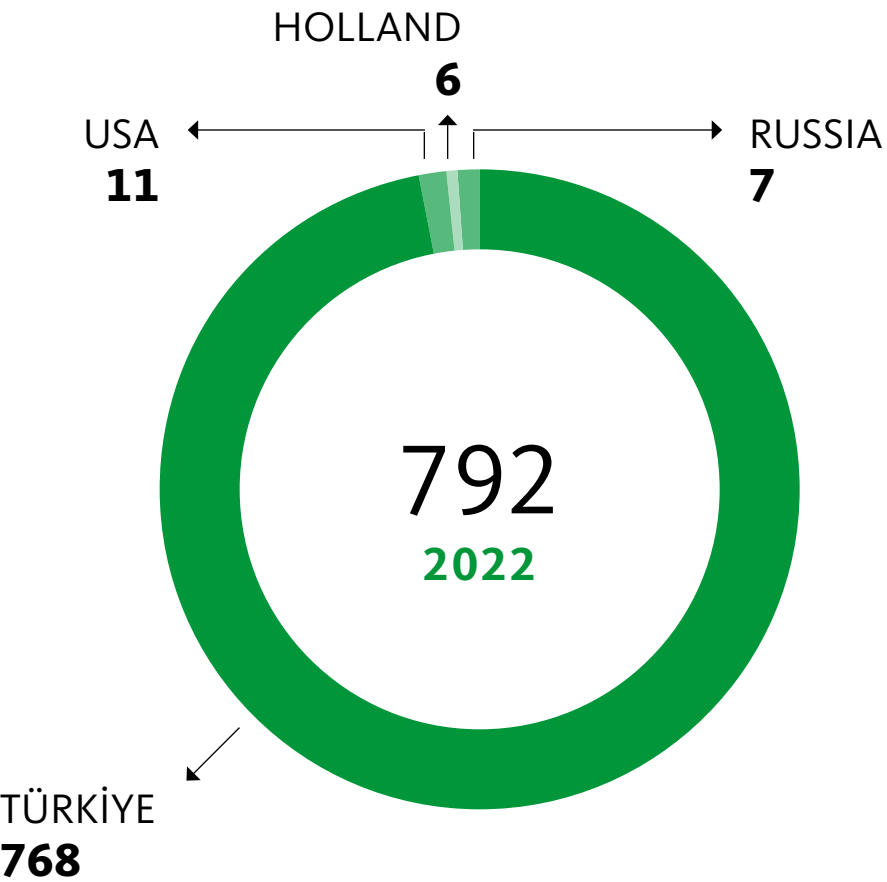
In 2022, a 360 Degrees Competency Assessment was conducted for senior specialist positions and above. The aim was to provide feedback and evaluations from subordinates, superiors and stakeholders regarding the competency levels of these roles. At the end of the project, feedback was provided to all participants and their managers in line with the report results, and development plans were shared.

EMPLOYEES INCLUDED IN THE PERFORMANCE SYSTEM

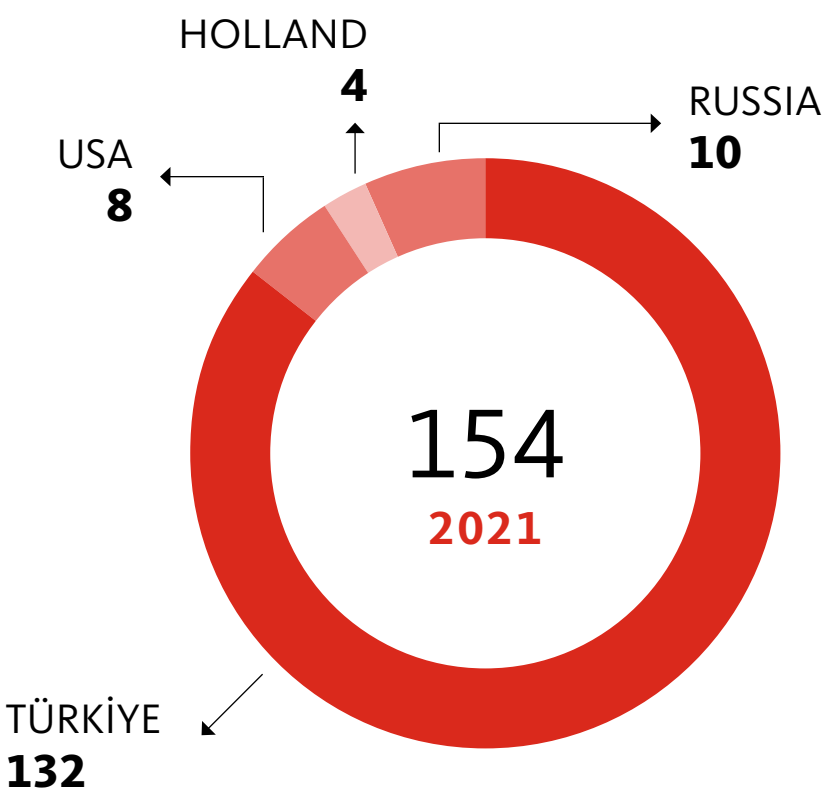
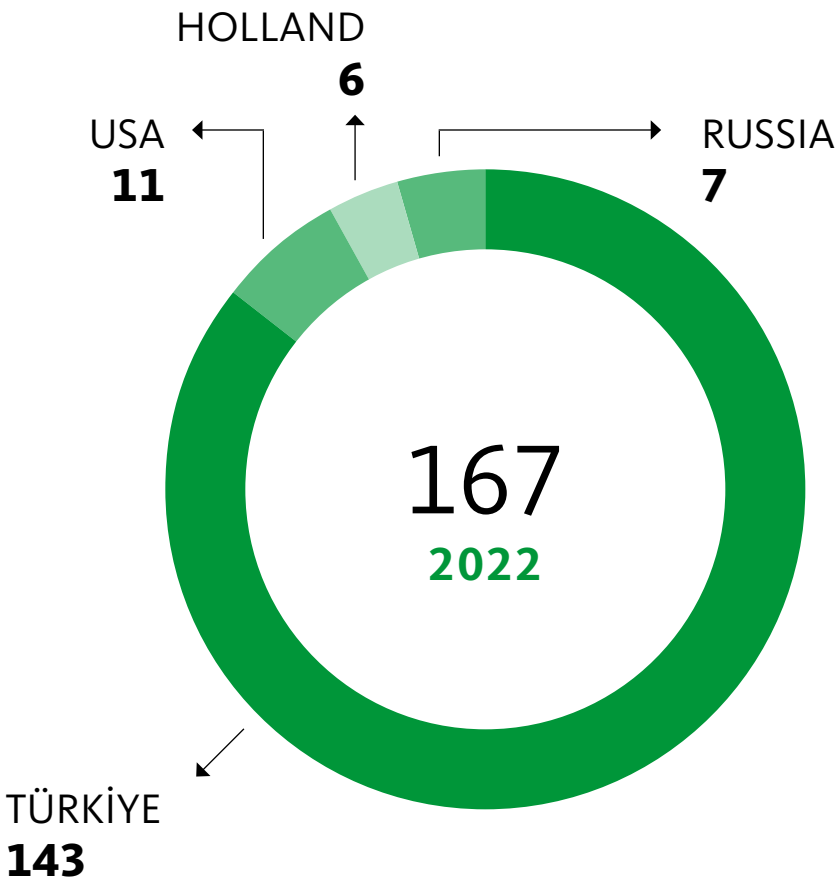


HUMAN RESOURCES INDICATORS (TÜRKİYE)

NUMBER OF EMPLOYEES



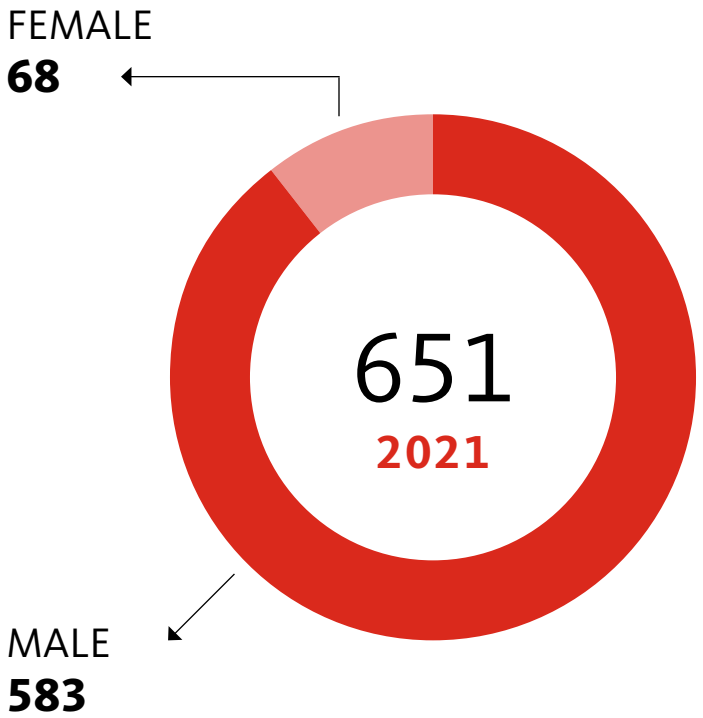
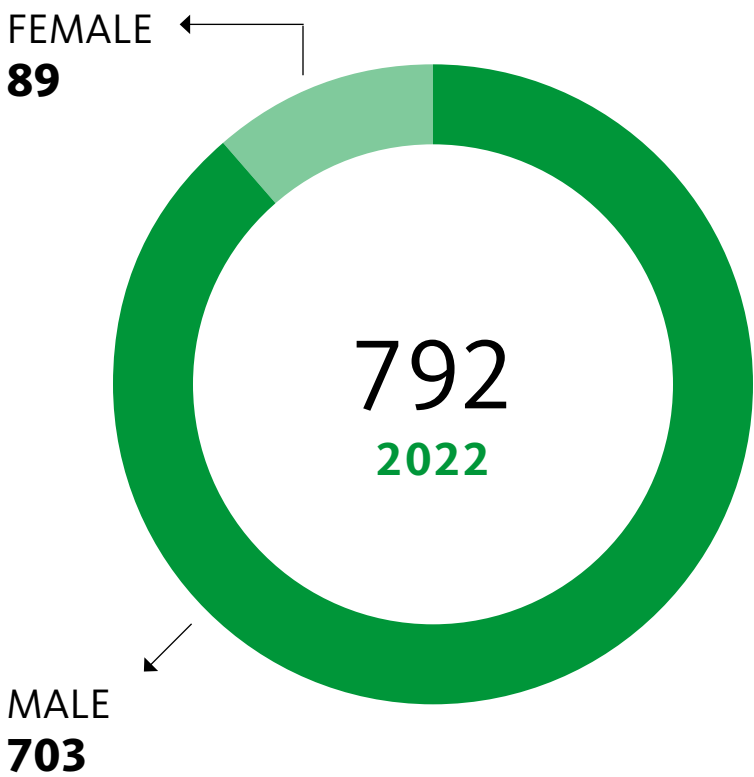
PROFESSIONAL

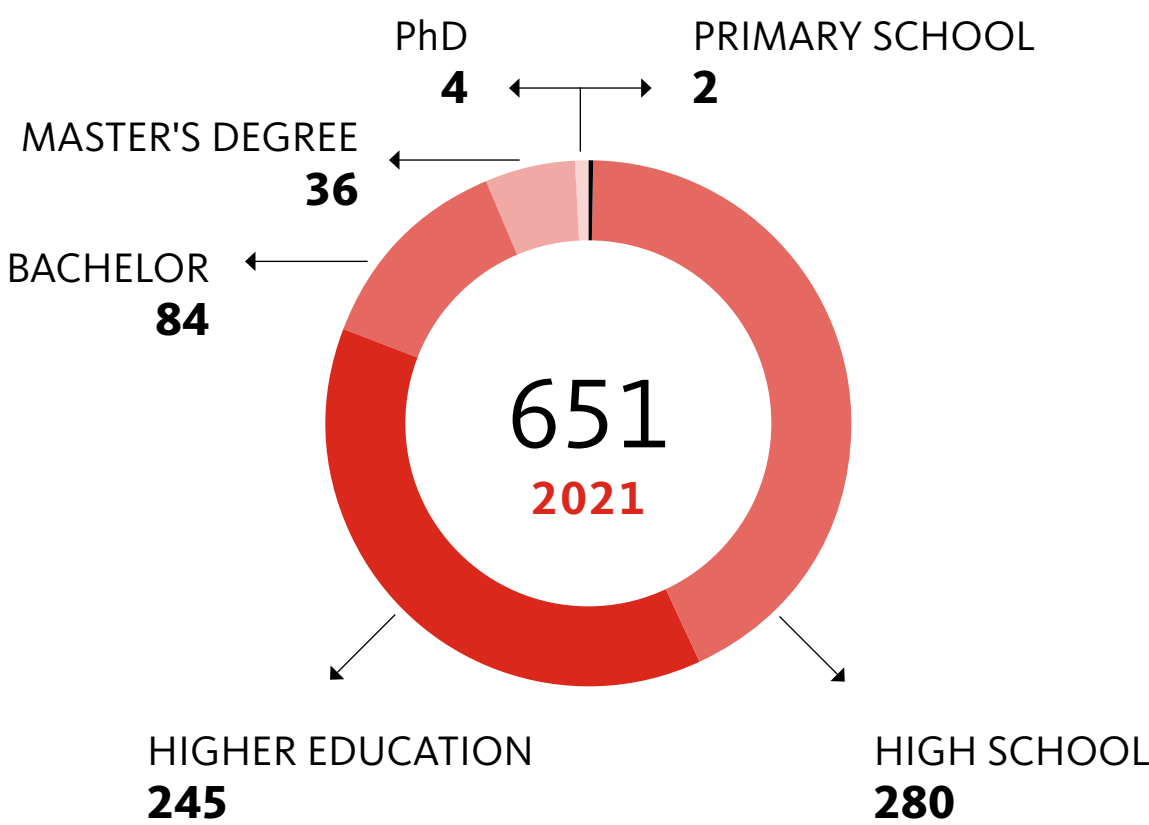
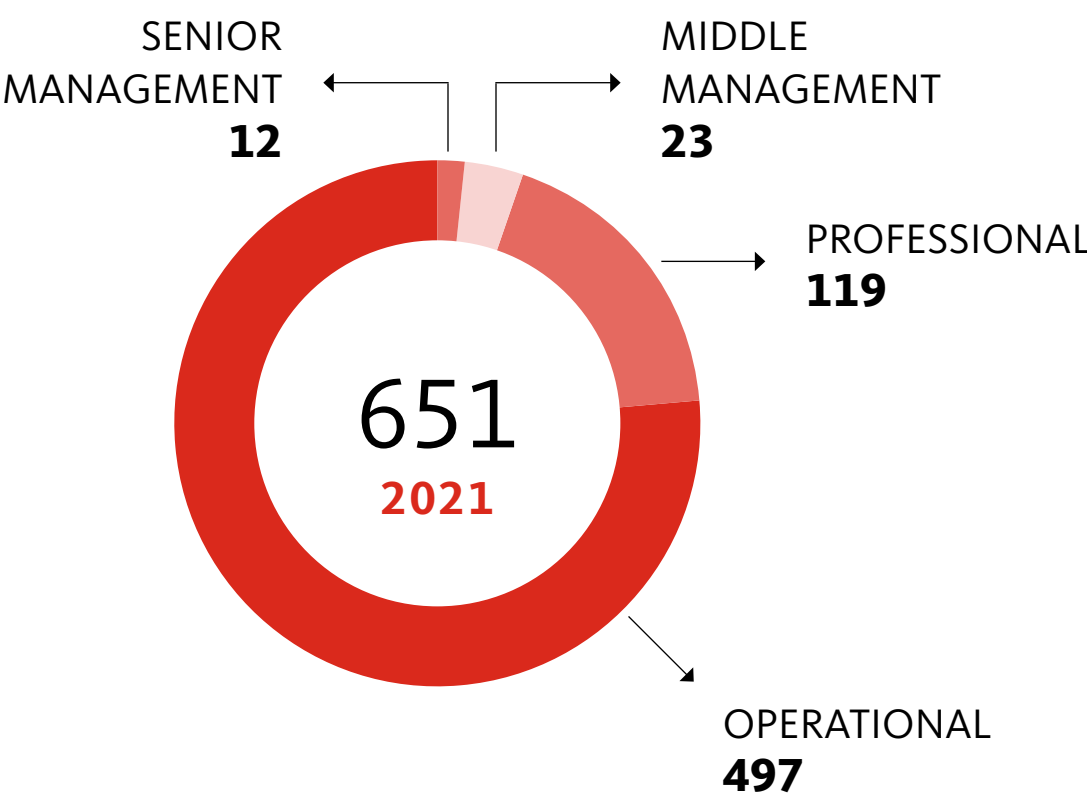
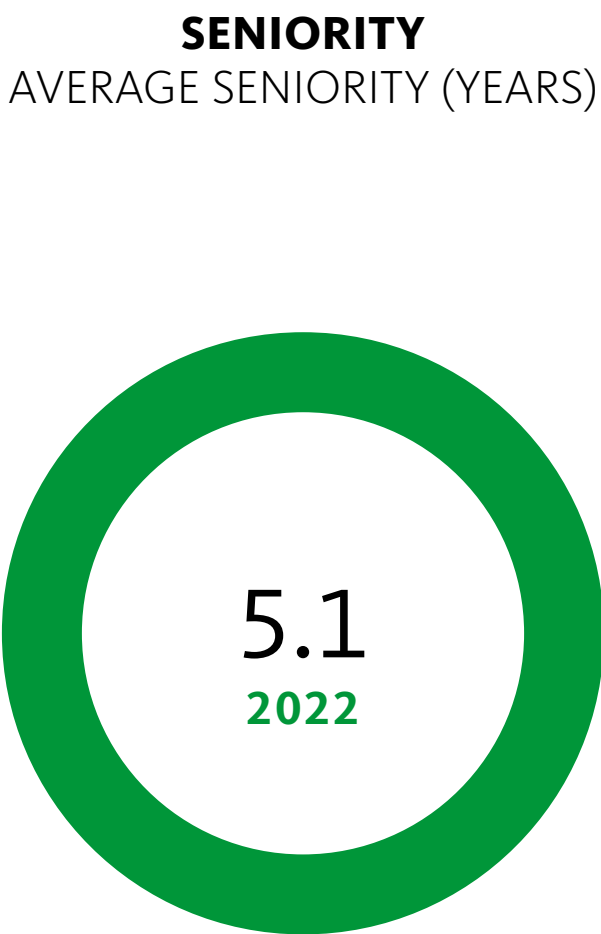
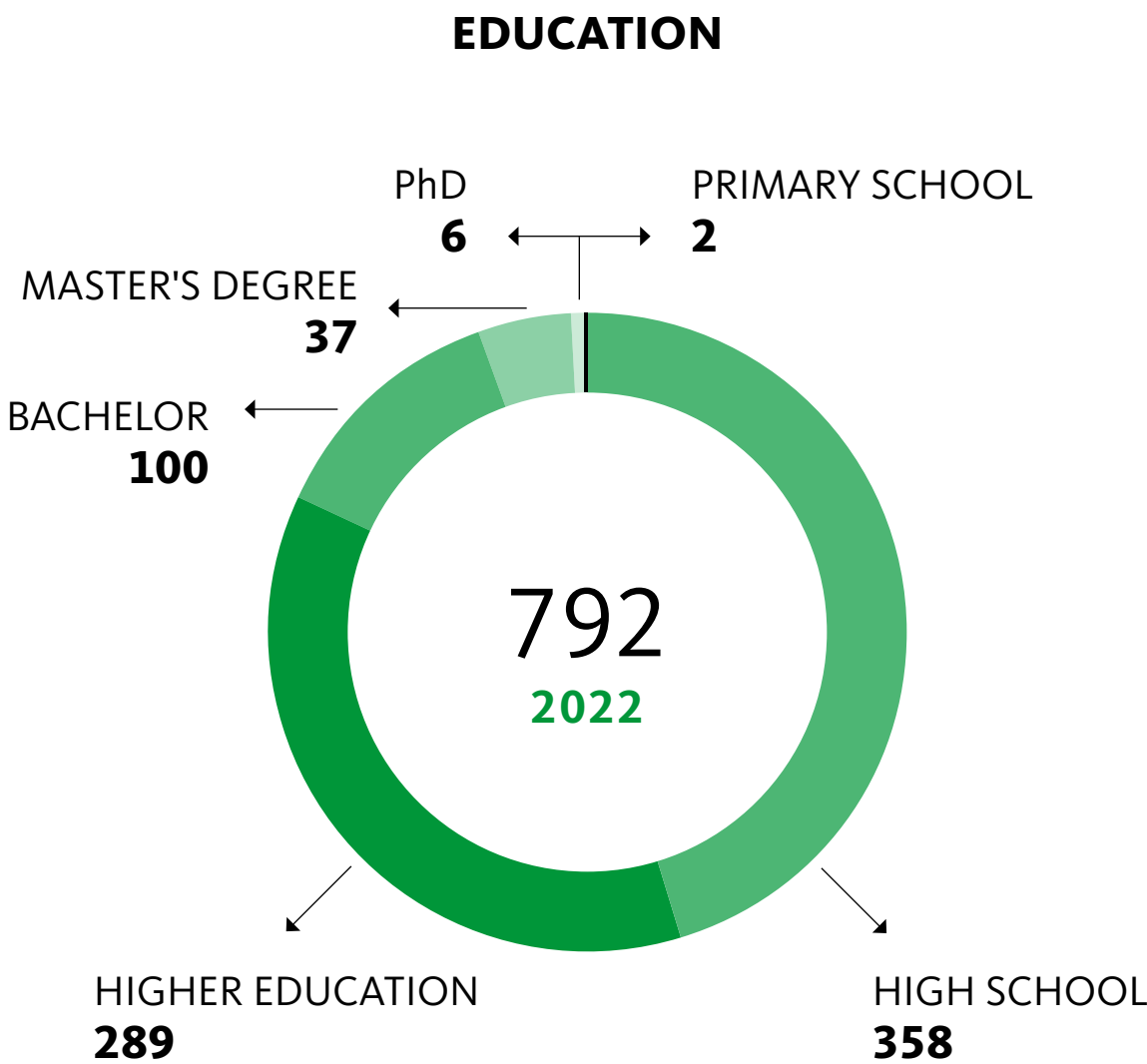
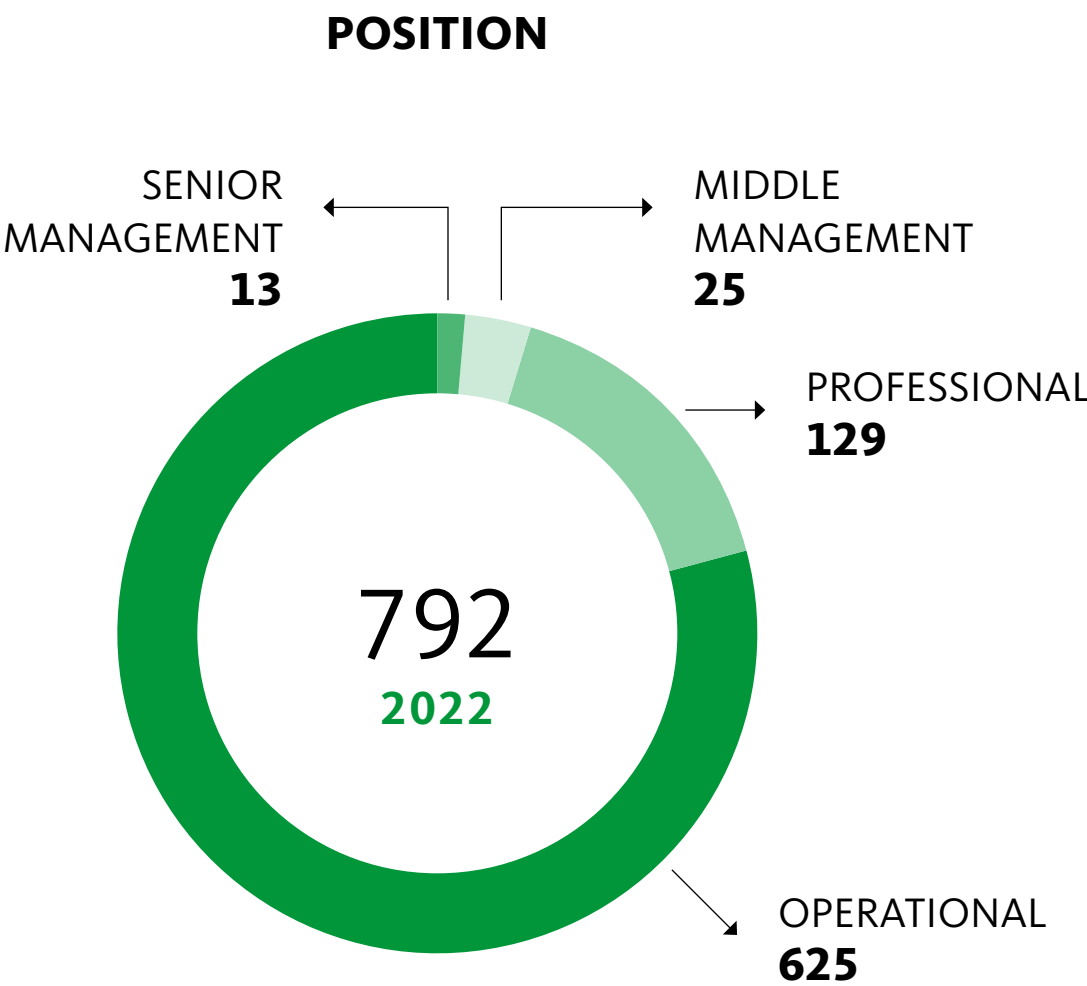


OPERATIONAL
TÜRKİYE



GENDER







OCCUPATIONAL HEALTH AND SAFETY

Employee safety and well-being is an important priority

DowAksa has an agile and highly aware workforce that spreads the development of knowledge, skills and competence from individual to company goals, and the company attaches great importance to the health, safety and happiness of its employees.

Complying with all laws, international regulations and customer requirements at DowAksa facilities, creating a safe working environment through continuous improvement and employee participation form the basis of the company's OHS Policy. Occupational safety processes are carried out by a 16-person Health, Safety and Environment team.

OHS Policy

As DowAksa Advanced Composite Material Industries Limited Company;

- We abide by all the Legal Regulations and Standards in all our activities, in line with our health and safety approaches.
- We aim at preventing potential incidents, injuries and health deteriorations by effective health and safety management.
- We evaluate all potential risks due to the working environment. In order to reduce the risks to an acceptable level, we implement actions.
- We believe that processes can be realized successfully only by the mutual effort of all the company employees. We plan, develop and implement training programs and actions in order to make sure that health and safety activities are adopted as a life style.



OCCUPATIONAL SAFETY PROCEDURES AND PRACTICES

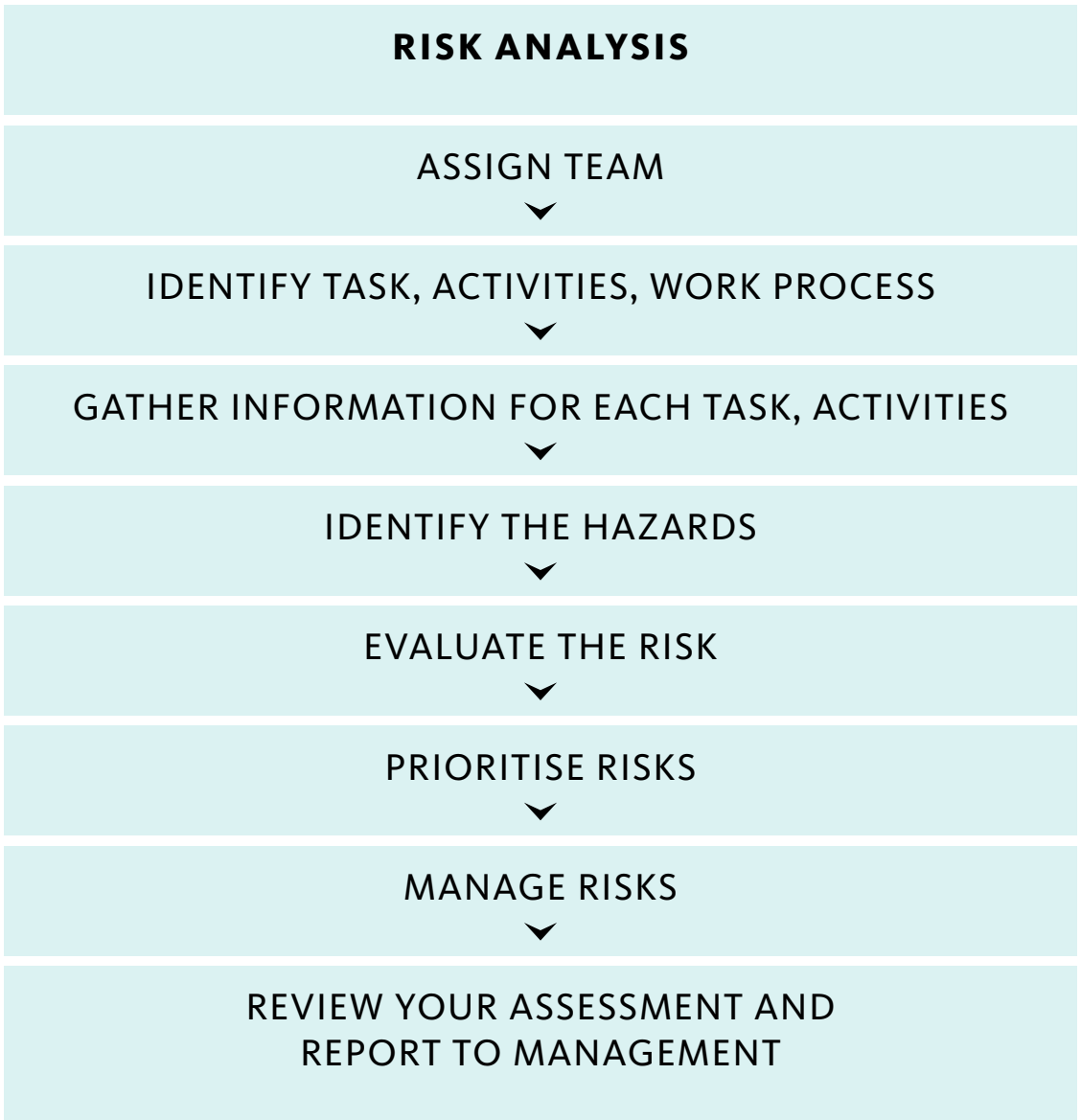
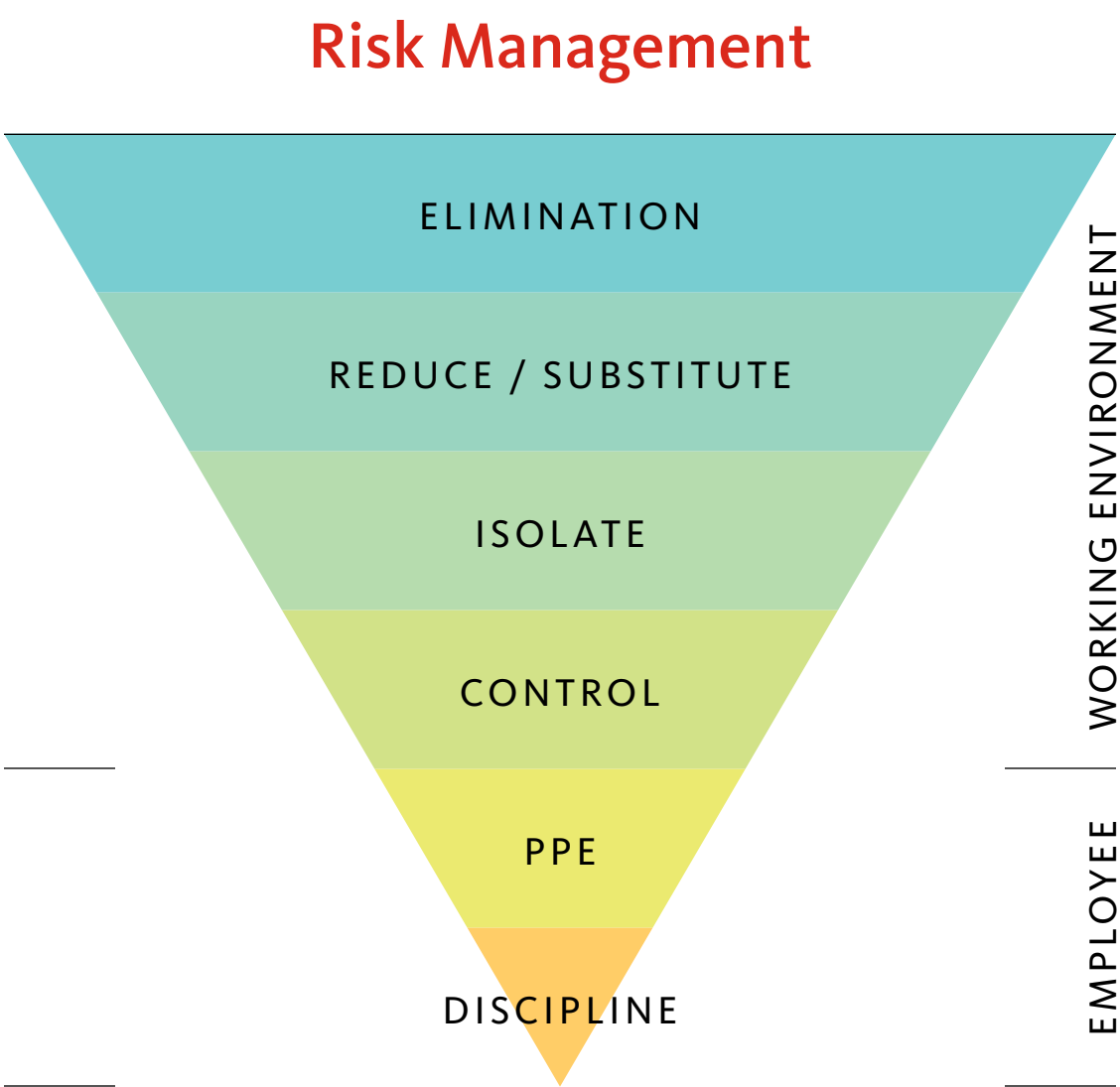
With its occupational health and safety procedures and practices, DowAksa raises awareness about hazardous situations and safe behaviors that may adversely affect people, the environment and the continuity of operations, and ensures safety.



Risk Assessment Procedure

This procedure, prepared in accordance with the Occupational Health and Safety Risk Assessment Regulation issued on the basis of Articles 10 and 30 of the law to cover workplaces within the scope of the Occupational Health and Safety Law, aims to evaluate the possible negative effects of the hazards within the scope of DowAksa activities on people, the environment and the continuity of activities, and to determine the officials and carry out the practices that will ensure that the identified risks remain at an acceptable level.

As seen in the table, the method followed in mitigating the effects of risks starts from the source of the risks and moves towards the person exposed to the risk. Risk assessment forms and actions taken against risks are based on the risk hierarchy.



Occupational and Environmental Incidents Management Procedure

This procedure, which covers the responsibility of DowAksa employees and its subcontractors' and contractor companies' employees, aims to determine the principles of the application to be made in case of any incident (occupational incident, environmental incident, fire and near-miss incidents) that may occur at DowAksa.

Workplace Health Unit Procedure

This procedure, which aims to ensure that the work of the Workplace Health Unit is organized in accordance with regulations and that work and training activities are carried out in a quality manner, makes sure that the Unit, which provides continuous service at DowAksa Yalova Facilities, operates in line with certain principles.

Health, Safety and Environment Directorate

Employees can always communicate verbally or in writing (e-mail, message) with Health, Safety and Environment Department employees. In addition, communication between employees and departments is ensured through methods such as communication boards, the QDMS Document Management System, near-miss and hazardous situation and behavior evaluation forms, a recommendation system, digital training platforms, and the DowAksa portal.



Striving to raise awareness about the implementation of our occupational health and safety culture through training and different practices every year, DowAksa’s activities included (but were not limited to):

Safety Management Review

A safety review program has been implemented for the contractor site and facility. The program covers temporary accommodation, workshops and production units. The purpose of this inspection/audit program is to identify potential hazards and corrective action options for building occupants and personnel, and to conduct on-site inspections to implement a safe working environment and culture for company personnel, contractors, maintenance and investment department. DowAksa believes that the management review will help raise management awareness and demonstrate commitment.

Fall Protection

Working at height is one of the biggest causes of death and severe injuries. Aware of this danger, DowAksa implemented this vocational training program and completed the current situation analysis. The current situation has been improved where some measures need to be taken.

Traffic Safety

A quarterly inspection program was implemented for transport buses. Under scrutiny were legal documents, the physical condition of buses, spare kits, tires, etc. The inspection team was formed from members of different business units. Traffic arrangements were made on the approach roads to the factory, and necessary warning signs and improvements were made on the roads.

Change Management

Change Management is used to ensure that health, safety and environmental risks are carefully assessed and controlled before significant changes are implemented. The Change Management process gives employers the chance to identify potential new hazards that could arise from these changes. Online interactive training is conducted to raise awareness of operational and professional staff.

Emergency Response Drill Program

A total of 30 emergency drills were conducted to raise awareness and ensure that staff were familiar with the organization's emergency procedures.

Participation in National Drill

Aware of its responsibility towards all its stakeholders, DowAksa participated in the national earthquake drill held across Türkiye at 18:57 on November 12, 2022.

DowAksa Observation Report and Near Miss Notification System

Health and safety environmental observations play a critical role in helping to identify and control exposure risks, reinforce safe behaviors, create a culture of communication and ultimately reduce employee injuries. For this reason, DowAksa has implemented the QR code and easy observation-near miss reporting system.

Commitment of Family Members

During the May 4-10, 2022 Occupational Health and Safety Week the Health, Safety and Environment Directorate gave home safety training to children, hosted with their families. The children’s paintings on the subject were celebrated.

Pedestrian Worker Safety

To minimize the risk of collisions between vehicles and pedestrians, a speed-controlled RFID system was implemented at nine locations in the factory. The RFID zones offer safe applications with different speed limits in open and narrow areas or areas close to pedestrians.

Industrial Air Pollution and Waste Management

Industrial air pollution and chimneys are closely monitored to ensure that DowAksa complies with legal and international standards. In addition, DowAksa is setting a good example for its stakeholders by improving the physical condition of the existing waste area.

Environmental and Social Due Diligence

Two audits were conducted within the scope of Environmental and Social Due Diligence (ESDD) due to ongoing new investment facility activities, and DowAksa successfully complied with ESDD requirements and principles.

Audits and Internal Audit Program

983 unsafe situations and/or behaviors were reported. Trends were outlined and detail research was completed to create a roadmap for 2023 to raise staff awareness.

Occupational Health and Safety Committee Meeting

The Occupational Health and Safety Committee Meeting was held on a regular monthly basis. At the meetings, the following (non-exhaustive list of) topics were discussed:

- Incidents, near-misses and health data occurring in the organization or a similar organization are systematically presented to members.
- Occupational health and safety findings and closing performance of each department
- Updated regulations
- Monthly training records, percentage of participation
- Contractors and DowAksa KPIs

OCCUPATIONAL SAFETY TRAINING

DowAksa considers the internalization of occupational health and safety culture in all business processes, technical equipment, training and audits related to occupational health and safety as an important priority.



Legal training

Since DowAksa's operations are classified as very hazardous, employees are required to receive at least 16 hours of occupational health and safety training every year. This training, the content of which is determined by regulation, is provided online by the DowAksa Academy Platform and face-to-face for new employees.

Induction training

On the same day, every new employee is given induction training by the Health, Safety and Environment Department. During the 2-hour training, DowAksa's general rules on occupational health and safety and preliminary information about the emergency plan are shared.

Return to work training after injury and other necessary legal training

In the training, what went wrong to prevent similar incidents, what needs to be reported, issues and other consequences of the incident are explained and conveyed. Those who have been away from work for more than six months for any reason are also given refresher training before they re-start work.

Temporary and permanent assignment training

Information on previous incidents at the workplace, special precautions to be taken regarding occupational health and safety, unit-specific hazards and risks, and personal protective equipment (PPE) to be used at the workplace are provided in the unit/department where the relevant employees will perform their duties.

Special training presented to the organization

In addition to all the above training, specialized training are also provided on a regular basis, including but not limited to the following topics:

- Safe minutes training
- Laws and regulations
- Scaffolding safety awareness
- Forklift and pallet truck safety
- Safe loading and unloading
- Visible leadership in occupational safety
- Working at height and rope access
- REACH KKDIK
- Environmental debris
- Chemical safety
- Environmental legislation
- Waste management

2022 OHS data

OHS training per employee*
56.357 hours

Working hours
1,598,048 hours

Incident severity rate (ISR*)
28.91

Lost time incident rate (LTIR*)
1.00

Number of near misses
27

Non-lost time incident rate (nLTIR*)
2.00

Occupational illness rate
0

(*per 200,000 person/hours)

CORPORATE SOCIAL RESPONSIBILITY

Supporting social development and the national economy
Considering corporate social responsibility as part of its corporate strategy, DowAksa supports the economy and development of the country in which it operates as well as social development through its CSR activities.

In addition to its activities throughout Türkiye, DowAksa attaches great importance to supporting the social development of the communities in the region where its production facility is located, i.e. where it operates. DowAksa carries out various activities to support both the development of the local economy through the exploration of local employment opportunities where possible, and the social activities and thus the social development of local communities through sponsorship. DowAksa senior management also attaches importance to being in active communication with stakeholders living in the region.

As reported in the Environmental and Social Due Diligence Report prepared for the company's new planned investment, DowAksa carried out the following social responsibility activities:





DowAksa embraced the future of Taşköprü Sports

Within the scope of the three-year sponsorship agreement signed with Taşköprü Sports, which competes in the Yalova Super Amateur League, DowAksa renovated the social facilities inside the Gökhan Güney Stadium owned by Taşköprü Municipality. Taşköprü Sports Club President Samet Ilgaz stated that they highly value the voluntary support of DowAksa, one of the most important industrial organizations of the city, and said, "With our renewed facility, our biggest goal is to offer better opportunities to our youth in our infrastructure and to move up to higher leagues. I would like to thank DowAksa for taking care of our youth, the future of Taşköprü Sports."

Strong support from DowAksa to Yalovaspor Basketball Team

Continuing to support Yalova, DowAksa has assumed the sponsorship of Semt77 Yalovaspor, which represents the city in the ING Basketball Super League. Yalovaspor Club President Orbay Tuna thanked DowAksa for its sponsorship. Noting that Semt77 Yalovaspor is preparing to achieve new successes with its young people on the park, Tuna said, "With the success of our club, basketball has become one of the most followed sports activities among our young people in Yalova. We trust our young people to reach our goals in the Super League. DowAksa's contributions to our city and our club are very valuable."



Hope against disabilities with blue caps

DowAksa employees, who have been supporting the blue lid campaign carried out by the Spinal Cord Paralytics Association of Türkiye since 2019, sent 500 kg of blue lids collected in 2022 to the Association, enabling one person to have a wheelchair.

DowAksa employees ran for goodness at the Istanbul Marathon

On November 6, 2022, the DowAksa running team ran for goodness for children in cooperation with the Educational Volunteers Foundation of Türkiye (TEGV). For 27 years, the DowAksa team has been providing qualified education to children all over Türkiye. The DowAksa team took steps for 7 thousand children who will receive educational support through TEGV's 'One Child Changes, Türkiye Changes' project, and helped 31 children to receive qualified education.

We donate and support education

DowAksa and company employees donated their environmentally hazardous electronic wastes as part of TEGV's 'Don't Waste, Donate!' campaign. With the money gained by recycling these wastes, children who cannot access quality education were supported.



Occupational Safety Week activities

During the May 4-10, 2022 Occupational Safety Week, children made paintings of employees. The Health, Safety and Environment Department provided home safety training to children, hosted with their families, during the celebrations.

Environmental mottoes compete

As part of the Environment Week on June 5-11, 2022, the company organized the 'Environmental Motto Competition'.

Other projects

- Collecting books in the Book Box within the scope of the book collection campaign and delivering them to those in need
- Delivering food and food leftovers that are not consumed in the cafeteria to Yalova Municipality Animal Shelter
- Sapling donation to the Tema Foundation for newborn babies of employees, wreath donation to the Turkish Education Foundation (TEV) to commiserate the death of first-degree relatives of employees
- Sponsorship for Yalova Orthopedics Sports Club (YOSK)
- Sponsorship of the DowAksa Earthquake Simulation Center in Kidzania Istanbul, which aims to raise children's awareness of earthquakes and provide them with teamwork, sense of responsibility and awareness
- Sponsorship of the Historic Fevziye Oil Wrestling organized in Altınova district of Yalova
- Yalovaspor sponsorship

GOVERNANCE



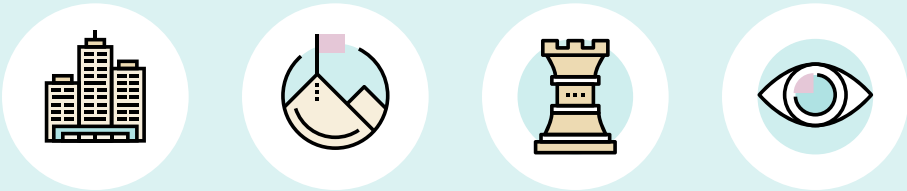
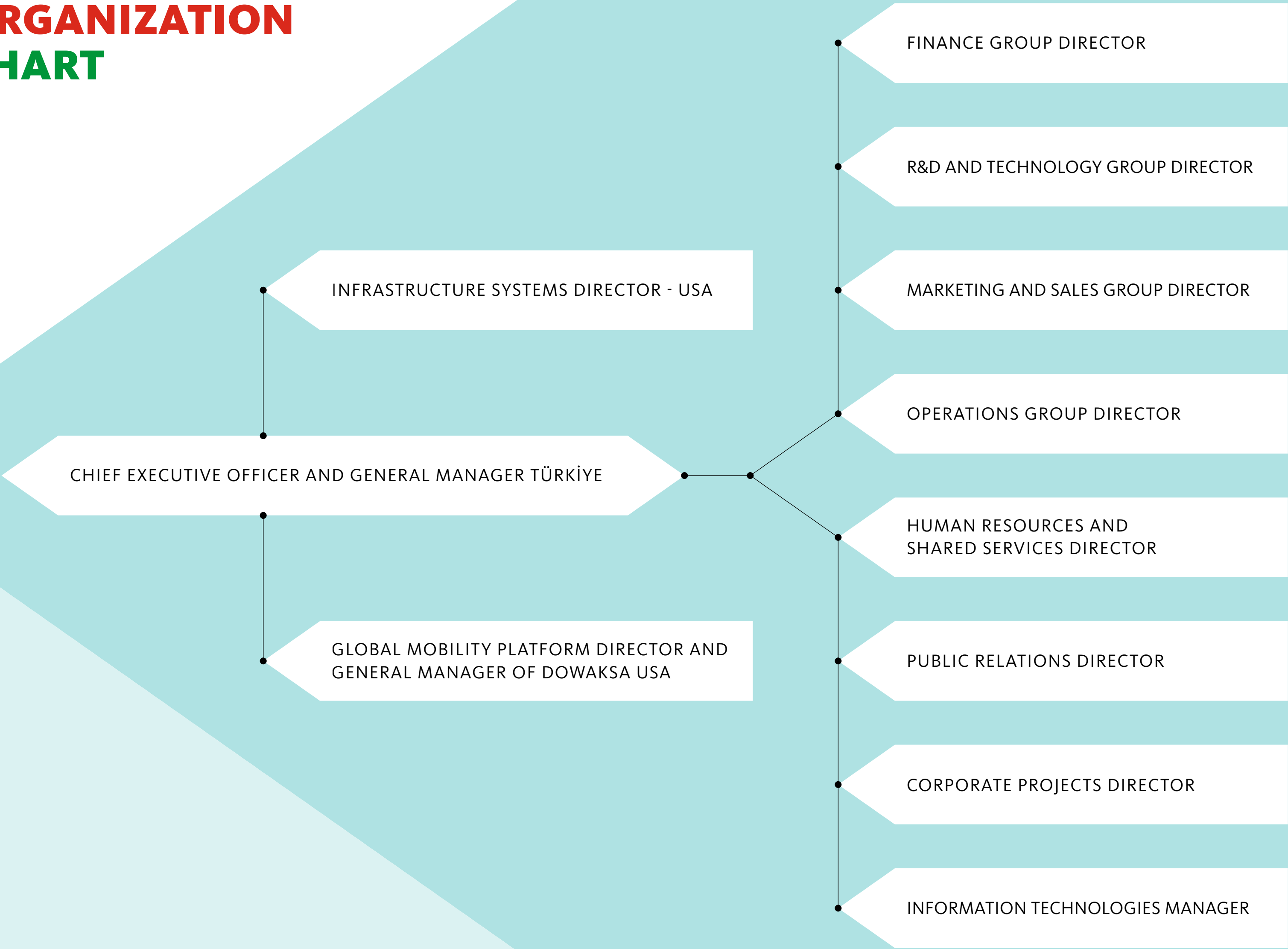
STRENGTH OF TRANSPARENCY

Behind DowAksa's success and leadership,
there is the power of transparency it has
adopted and the trust it provides.

MANAGEMENT STRATEGY

As a global company and industry leader, DowAksa conducts all of its activities in its worldwide organization within a legal and ethical framework. As a corporate citizen, DowAksa conducts all of its activities within a framework of openness, transparency and accountability towards its stakeholders. The health and safety of its employees, care for the environment and for society at large, diversity, integrity and honesty are among the indispensable values of DowAksa. These values, and the management strategy it has built accordingly, form the basis of DowAksa's Ethical Principles and Policies.

ORGANIZATION CHART



SUPPLY CHAIN MANAGEMENT

DowAksa considers criteria such as quality, savings, safety, security, ethics, community and environmental protection in its procurement processes and maintains its relations with its business partners within the framework of ethical values such as integrity, honesty, fairness and transparency.



Taking a proactive approach in supply chain management, DowAksa creates all production and sales plans on an annual basis based on the forecasts it receives from its customers and periodically monitors their currency. In order to create supply plans integrated with these sales and production plans, DowAksa uses an in-house MRP program and software that work according to minimum-maximum stock parameters for the supply of consumables.

Procurement, warehousing (raw materials, sub-products, final products, investment, spare parts), planning, sales operations and import units are directly involved in supply chain management.

Sustainable collaborations

Attaching great importance to the selection of suppliers and the development of business processes, DowAksa prefers to work with companies that can develop long-term and sustainable collaborations. DowAksa pays utmost attention to ensure that its suppliers comply with regulations and ethical rules in the fields of health, safety and the environment.

Using customer forecasts, production parameters, purchasing and storage constraints to ensure healthy processes, DowAksa also carries out projects to substitute the company’s consumables with recyclable alternatives.

After the COVID-19 pandemic, DowAksa reviewed its supply sources and redesigned its working style and ecosystems for business continuity and sustainability. The company began working much more closely with its business partners and increased the level of information flow between partners.

Some examples of business continuity and sustainability are as follows:

- Storage tanks have started to be used instead of small disposable drums for some chemicals in order to use sea transportation and ISOtanks, which will significantly reduce the consumption of waste drums.
- Efforts are being made to change the type of some consumables in packaging by using reusable (plastic) materials instead of disposable paper packaging.
- Transportation within the factory is carried out by electric trucks that can load large volumes on each route.

Number of suppliers	2021	2022
Local TR	809 (89%)	817 (88.2%)
Local Yalova	101 (11%)	109 (11.8%)
Total	911	926

Of the 926 suppliers worked with in 2022, 88.2 percent were local TR and 11.8 percent were local Yalova TR.

By volume, approximately 58 percent of supply was from local TR suppliers and approximately 14 percent from local Yalova TR.

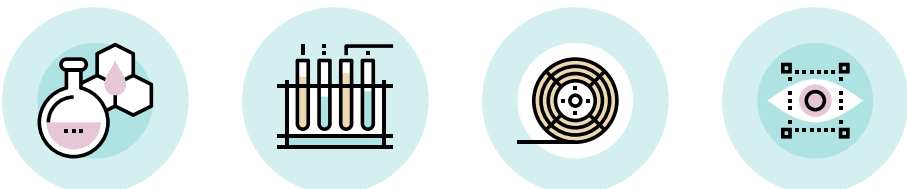
R&D

Carrying out innovation, continuous improvement and waste reduction activities within the scope of R&D, DowAksa creates significant added value in terms of reducing energy consumption and carbon footprint, and increasing efficiency.

DowAksa differentiates its carbon fiber and composite solutions with an integrated production approach for all the sectors it serves by using its R&D strength and competencies. It attaches great importance to product and process excellence. With expertise in materials science, product design, data analysis, test method development, process engineering and application development, DowAksa prioritizes studies that focus more on improving the performance of both fiber and composite products and expanding capacity to meet market demand with cost-effective processes.

Sustainable and efficient production that meets expectations

DowAksa aims not only to create products that will meet customer expectations in the best way possible, but also to produce these products in a sustainable and efficient manner. DowAksa undertakes most of its R&D projects under the main strategy of increasing the capacity and quality of carbon fiber and composite production, and conducts many studies in the wind energy, automotive, aviation and construction sectors. DowAksa focuses on wind energy in its R&D studies, especially with the increasing demand and new investments in recent years, and aims to continuously reduce the waste generated during the processes while realizing its targets of increased capacity and quality.



R&D activities

DowAksa's R&D research is carried out by a team of 31 people, 19 professionals and 12 operationals, with experience in chemistry, machinery, textiles, polymers, process development and materials science. In addition to their qualifications, the R&D team stands out with their expertise in the effective use of data analytics, Lean Six Sigma, design for six sigma and advanced experimental design practices.

DowAksa's R&D efforts comprise a broad portfolio that includes innovation, continuous improvement and waste reduction.

R&D employees	2021			2022		
	Total	Female	Male	Total	Female	Male
Operational	6	0	6	10	1	9
Professional	14	8	6	20	12	8
Specialist & Engineer*	10	7	3	13	9	4
Manager**	4	1	3	7	3	4
Total R&D employees	20	8	12	30	13	17

* All professional employees without team management responsibilities

** All managers leading a team

In 2022



19
professional
employees



12
operational
employees





CUSTOMER RELATIONS MANAGEMENT

DowAksa aims to ensure absolute customer satisfaction by managing and monitoring the entire process from the customer's order to the final point of use of the material.

As a material supplier to the global composites industry, DowAksa offers fully integrated carbon fiber reinforced composite material solutions to various industries and value chains such as wind energy, automotive, defense, aerospace and construction.

Due to the increasing demand for carbon fiber reinforced composite laminated plate products in parallel with the wind energy industry's trend to grow with simultaneous increased efficiency, DowAksa decided to focus on this sector as its main market and first developed the material to meet the needs of this sector and adapted its operations to changing business conditions. To this end, DowAksa works with the industry's leading global Original Equipment Manufacturers on a contractual basis and with the principle of long-term cooperation, and continues to work with 'Tier 1' suppliers determined by the OEMs themselves in their own facilities on three continents. In addition, in order to support the growth of the defense industry in Türkiye, DowAksa produces versatile fabrics, woven fabrics and pre-preg products, along with related development activities, and works with leading OEMs in this sector on a contractual basis and in long-term cooperation.

The 6 people in DowAksa's Marketing and Sales Group Directorate, which meticulously carries out customer relations processes in a customer-focused manner, operate in two main departments: the Sales, Marketing and Business Development Department and the Customer Compliance/ Technical Service Department. The team of 6 prioritizes listening to customers, understanding their needs through open communication, and responding to all requests in a timely manner, while also taking responsibility for after-sales services. The team aims to ensure absolute customer satisfaction by managing and monitoring the entire process starting from the order to the final point of use of the material, periodically measuring customer satisfaction and evaluating customer feedback as development points.

The Marketing and Sales Group Directorate assigns a responsible DowAksa employee to all locations where products or solutions are supplied and tries to ensure smooth and profitable communication with customers. Thanks to its proactive, fast, solution-oriented and innovative approaches, DowAksa makes a difference in sales and after-sales services.

ETHICS AND TRANSPARENCY

For DowAksa, a company that conducts everything it does in its worldwide organization within a legal and ethical framework, the health and safety of its employees, care for society, diversity, integrity and honesty are indispensable values.

DowAksa conducts all its activities in line with the DowAksa Code of Conduct, which is in compliance with global standards. In addition to the Code of Conduct, which must be observed by all employees and business partners in all business processes, DowAksa prioritizes compliance with laws, regulations, bylaws, guidelines and good practice standards related to safety, quality and research.

High standards of ethics and integrity in all activities

DowAksa conducts research, development and production according to high ethical and honesty standards in all of its operations. DowAksa does not tolerate unethical behavior and its employees undertake regular mandatory training on ethical operations..

DowAksa's Legal and Compliance Directorate guides the company and employees on issues related to ethical principles. The e-mail address etik@dowaksa.com is used for complaints and notifications regarding ethical issues. Incoming complaints and notifications are examined confidentially and meticulously by the department and necessary actions are taken.

DowAksa's internal audit activities are carried out by the internal audit manager within the Legal and Compliance Directorate. The internal audit manager performs audit activities according to the audit plan approved by the audit committee of the company's board of directors and regularly submits audit reports to the audit committee. In addition, audit activities are also carried out by the company's shareholders Dow and Aksa.

[Click here to read DowAksa's Ethical Principles and Policies.](#)

STAKEHOLDER RELATIONS

MANAGEMENT

Believing in the importance and impact of stakeholders in progress in sustainability, DowAksa establishes effective communication with all internal and external stakeholders and shapes its business processes with the feedback it receives.

EMPLOYEES

Methods of communication

- > Stakeholder Engagement Program
- > E-mail
- > Telephone and face-to-face interviews
- > Intranet
- > Meetings
- > Training events
- > Social club activities
- > Sporting events
- > Volunteering activities
- > Employee assembly
- > Employee satisfaction surveys in message form (SMS)
- > Suggestion system
- > Orientation program
- > Career development program
- > Performance interviews

Communication frequency

- > Regular

CUSTOMERS

Methods of communication

- > E-mail
- > Telephone and face-to-face interviews
- > Customer satisfaction surveys
- > Visits
- > Meetings
- > Conferences
- > Fairs

Communication frequency

- > Regular

INVESTORS, BUSINESS PARTNERS

Methods of communication

- > E-mail
- > Phone and face-to-face meetings
- > Visits
- > Meetings
- > Conferences
- > Fairs

Communication frequency

- > Regular

SUPPLIERS

Methods of communication

- > E-mail
- > Telephone and face-to-face meetings
- > Supplier program
- > Visits
- > Audits
- > Evaluation system

Communication frequency

- > Regular

GOVERNMENT, STATE INSTITUTIONS AND RELEVANT PUBLIC AUTHORITIES, LOCAL AUTHORITIES

Methods of communication

- > E-mail
- > Phone and face-to-face meetings
- > Meetings
- > Conferences
- > Audits

Communication frequency

- > Regular

CIVIL SOCIETY ORGANIZATIONS AND PRESSURE GROUPS

Methods of communication

- > E-mail
- > Phone and face-to-face meetings
- > Project partnerships
- > Memberships
- > Meeting attendance

Communication frequency

- > Regular

MEDIA

Methods of communication

- > E-mail
- > Telephone and face-to-face meetings
- > Press conferences
- > Press releases
- > Interviews
- > Special news studies

Communication frequency

- > Periodical

COMMUNITY

Methods of communication

- > Corporate social responsibility projects
- > Social contribution activities
- > Sponsorships

Communication frequency

- > Periodical

LOCAL COMMUNITIES (LOCAL COMMUNITIES AND GRIEVANCE MECHANISM COMMUNICATION)

Methods of communication

- > E-mail
- > Phone and face-to-face meetings
- > Meetings
- > Conferences
- > Audits

Communication frequency

- > Regular



CORPORATE MEMBERSHIPS

International Investors Association (YASED)

YASED is the sole and effective representative of international direct investors in Türkiye and works to contribute to the improvement of the investment climate in our country. DowAksa, which through its investments has made Türkiye one of the world's leading carbon fiber producers, is an active member of YASED.



American Chamber of Commerce (AmCham Türkiye)

AmCham Türkiye is a trade association and non-governmental organization comprised of US companies operating in Türkiye. DowAksa is a member of the association, which provides a platform to meet and share ideas with prominent leaders in the business and investment world.



Composite Industrialists Association

The Composites Industrialists' Association represents the raw material, semi, intermediate and final product manufacturers, suppliers and academic institutions of the Turkish composites industry. DowAksa, Türkiye's only carbon fiber producer, has been a member of this association for many years. The company also participates in the Turkish Composites Fair organized by the Association every two years and exhibits its innovative products and services.



SAHA Istanbul

Operating in the defence, aerospace and space sectors, SAHA Istanbul, as the largest cluster in the sector, aims to strengthen the sector with products and services based on domestic capabilities and national technologies by further enhancing the competitiveness and capabilities of its members with its strong prime contractors, SMEs and sub-industrialists. DowAksa is one of the important players in the sector and a member of SAHA Istanbul with its high-performance products developed for the aviation and defense industry, focusing on domestic needs.



Ethics and Reputation Society (TEID)

Founded in 2010 and currently with more than 170 corporate members, TEID carries out activities in line with the adoption of business ethics principles into corporate culture. The society aims to guide member and stakeholder organizations in creating and implementing business ethics policies and aims to ensure that ethical values become a corporate way of doing business. Signing the TEID Ethics Declaration in 2022, DowAksa is committed to implementing the highest ethical principles in all of its business processes and to supporting efforts to spread these principles among its stakeholders.



Turkish Wind Energy Association (TÜREB)

The Turkish Wind Energy Association was established to follow scientific, technical and applied research on wind energy, to carry out activities to popularize the use of wind energy resources and to bring the wind potential in our country to the economy. The wind energy sector, which accounts for 20 percent of the world's total carbon fiber market demand, is the sector in which this advanced material is used the most after aviation. DowAksa also helps Türkiye raise the bar for local content creation in wind energy projects by domestically producing a significant amount of laminated plates required for carbon fiber bearing beam parts in wind turbine blades.



GRI CONTENT INDEX

GRI Standards	Disclosure	Page, resource and/or explanation
GRI 1: Universal 2021	DowAksa has reported the period of 1 January 2022 - 31 December 2022 according to GRI Standards.	
GRI 2: General Disclosures 2021	2-1 Organizational details	7-25
	2-2 Entities included in the organization’s sustainability reporting	4
	2-3 Reporting period, frequency and contact point	1 year, 4
	2-4 Restatements of information	There is no restated statement regarding the previous period report.
	2-5 External assurance	There is no external assurance.
	2-6 Activities, value chain and other business relationships	7-25, 48
	2-7 Employees	35-39
	2-8 Workers who are not employees	35-39
	2-9 Governance structure and composition	47
	2-10 Nomination and selection of the highest governance body	47
	2-11 Chair of the highest governance body	47
	2-12 Role of the highest governance body in overseeing the management of impacts	47
	2-13 Delegation of responsibility for managing impacts	47
	2-14 Role of the highest governance body in sustainability reporting	21
	2-15 Conflicts of interest	51
	2-16 Communication of critical concerns	47
	2-17 Collective knowledge of the highest governance body	47
	2-18 Evaluation of the performance of the highest governance body	47
	2-19 Remuneration policies	36
	2-20 Process to determine remuneration	36
	2-21 Annual total compensation ratio	36

GRI Standards	Disclosure	Page, resource and/or explanation
GRI 2: General Disclosures 2021	2-22 Statement on sustainable development strategy	2, 21-22
	2-23 Policy commitments	15, 26, 40, 51
	2-24 Embedding policy commitments	15, 26, 40, 51
	2-25 Processes to remediate negative impacts	51
	2-26 Mechanisms for seeking advice and raising concerns	https://www.dowaksa.com/corporate-governance.html
	2-27 Compliance with laws and regulations	51
	2-28 Membership associations	53
	2-29 Approach to stakeholder engagement	52
	2-30 Collective bargaining agreements	38
GRI 3: Material Topics		
GRI 3: Material Topics 2021	3-1 Process to determine material topics	23
	3-2 List of material topics	23
	3-3 Management of material topics	23
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	48
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	51
	205-2 Communication and training about anti-corruption policies and procedures	51
	205-3 Confirmed incidents of corruption and actions taken	51
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	51

GRI Standards	Disclosure	Page, resource and/or explanation
GRI 302: Energy 2016	302-1 Energy consumption within the organization	31
	302-2 Energy consumption outside of the organization	31
	302-3 Energy intensity	31
	302-4 Reduction of energy consumption	31-32
	302-5 Reductions in energy requirements of products and services	No data is reported on energy consumption of sold products
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	28
	303-2 Management of water discharge-related impacts	28
	303-3 Water withdrawal	28
	303-4 Water discharge	28
	303-5 Water consumption	28
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	DowAksa does not have operations in high biodiversity areas.
	304-2 Significant impacts of activities, products and services on biodiversity	
	304-3 Habitats protected or restored	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	DowAksa has no activities in the habitats included in the IUCN Red List
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	33
	305-2 Energy indirect (Scope 2) GHG emissions	33
	305-3 Other indirect (Scope 3) GHG emissions	33
	305-4 GHG emissions intensity	Other indirect emissions originating from DowAksa activities are included under the corporate carbon footprint and are not reported as intensity.
	305-5 Reduction of GHG emissions	33

GRI Standards	Disclosure	Page, resource and/or explanation
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	29-30
	306-2 Management of significant waste-related impacts	29-30
	306-3 Waste generated	29-30
	306-4 Waste diverted from disposal	29-30
	306-5 Waste directed to disposal	29-30
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	48
	308-2 Negative environmental impacts in the supply chain and actions taken	48
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	13, 38-39
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	36
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Minimum notice periods due to operational changes are in full compliance with laws and regulations.
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	40-43
	403-2 Hazard identification, risk assessment, and incident investigation	During the reporting period, there have been no work-related accidents that have caused death or serious injury.
	403-3 Occupational health services	DowAksa does not have any work procedures that could ex-pose its employees to high-risk diseases.
	403-4 Worker participation, consultation, and communication on occupational health and safety	40-43
	403-5 Worker training on occupational health and safety	43
	403-6 Promotion of worker health	40-43
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	40-43
	403-8 Workers covered by an occupational health and safety management system	40-43
	403-9 Work-related injuries	43
	403-10 Work-related ill health	43

GRI Standards	Disclosure	Page, resource and/or explanation
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	37
	404-2 Programs for upgrading employee skills and transition assistance programs	36-37
	404-3 Percentage of employees receiving regular performance and career development reviews	37
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	36
	405-2 Ratio of basic salary and remuneration of women to men	36
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	There were no cases of discrimination in the reporting period.
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	There were no child labor in the reporting period.
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	There were no forced or compulsory labor in the reporting period.
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	36
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	44-45
	413-2 Operations with significant actual and potential negative impacts on local communities	44-45
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	48
	414-2 Negative social impacts in the supply chain and actions taken	48
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	51
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	51
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	51
	417-2 Incidents of non-compliance concerning product and service information and labeling	51
	417-3 Incidents of non-compliance concerning marketing communications	51



BIBLIOGRAPHY

DOWAKSA CONTACT

For more detailed information about the DowAksa Sustainability Report and to submit your comments and suggestions:

DowAksa Türkiye

Miralay Şefik Bey Sokak, Akhan, No: 15
34437 Gümüşsuyu / İstanbul / Türkiye
Tel: +90 212 251 45 00

DowAksa Production Facility

Merkez Mahallesi, Akasya 2 Sokak, No: 3/1
Taşköprü-Çiftlikköy / Yalova / Türkiye
Tel: +90 226 353 21 60

info@dowaksa.com

www.dowaksa.com/tr

youtube.com/dowaksa

linkedin.com/company/dowaksa

Sustainability and Reporting Consultancy

Metsims Sustainability Consulting

Sultan Selim Mahallesi Hümeysra Sokak
Nef09 B Blok No: 7 / 46-47
Kağıthane / İstanbul / Türkiye
Tel: +0212 281 13 33

info@metsims.com

www.metsims.com



Content and Design

Editorial

Merkez Mah. Bağlar Cad. No: 14
Kağıthane Ofispark, C2 Blok, Giriş Kat
Kağıthane / İstanbul / Türkiye
Tel: +90 212 939 38 26

editorial@editorial.com.tr

www.editorial.com.tr



LEGAL NOTICE

The DowAksa Sustainability Report (Report) has been prepared in accordance with the Global Reporting Initiative (GRI) Reporting Principles. This Report is prepared solely for the purpose of informing the stakeholders of DowAksa İleri Kompozit Malzemeler San. Ltd. Şti. has been prepared using information and sources believed to be accurate and reliable at the time the report was prepared. The information and content contained in the Report cannot be interpreted as any statement, guarantee and/or commitment, nor is it guaranteed that the information and content are complete and unchangeable. All rights of the Report belong to **DowAksa İleri Kompozit Malzemeler San. Ltd. Şti.**

