

The NEWS

SPECIAL NEWS THE FUTURE OF OUR ENERGY |

INTERVIEW

EROL UÇMAZBAŞ

INTERVIEW ARIF KÜNNAR



ALARKO



Dear friends,

Our efforts to reform, transform and digitalize intensified in 2022, thanks to our Board of Directors' vision and the coordination of our esteemed CEO, Ümit Nuri Yıldız.

On the one hand, we provided all of our staff with digital tools so they could work from anywhere, and on the other, we completed our office's decorating project to make it more responsive to the demands of the new generation.

While our head office units underwent this renovation, we attempted to further solidify our connections with our businesses and subsidiaries. Synergistic strategy discussions and training sessions for all levels were jointly organized and considerably strengthened this connection. I'd want to take this opportunity to share with you my observation that our

most valuable resource, our personnel, is developing a stronger sense of belonging to our organization.

We accelerated the restructuring of our Company's management in 2022, and continue our business in 2023 with this new structure. We consolidated the new management structure under the coordination of four senior executives to streamline management and decision-making processes since we need agile management skills in light of global trends and changing needs. The new Group Presidencies of Finance, Strategy and Business Development, Information Technologies and Digital Transformation, and People and Organization, and their teams are actively involved in fostering synergy throughout the Group. They are young, dynamic, idea-generating, and quick to make decisions.

Successful cash management, as we have long recognized, is centrally controlled and structured by optimizing financial processes and providing the necessary support, whereas the Group companies' organic and inorganic growth efforts are assessed by the Strategy and Business Development Group Presidency. The Investor Relations and Corporate Communications units were merged under the Strategy and Business Development Group Presidency in order to develop projects that will contribute to value generation through societal activities and strengthen communication with all

CHAIRMAN OF THE BOARD OF DIRECTORS

stakeholders. Throughout the year, we noticed the positive effects of transparent and open communication within our new organization. The Group Presidency of Information Technologies and Digital Transformation has made important contributions to increasing digital literacy across the Group and promoting awareness of innovative thinking, all while actively improving and securing the existing infrastructure. The People and Organization Group Presidency, on the other hand, has ensured that employee satisfaction is carried to the highest levels with the structure it has reconstructed while taking the current level and demands of employees within the Group into account.

Our energy-generating and energy-distribution business lines contributed significantly to Alarko Holding's growth throughout 2022. Due to strategic positioning, planning, and foresighted operations, our energy generation business line generated a historic operating performance in the current challenging conditions, realizing an 11% increase in power generation in 2022 compared to 2021. The efficient production strategy and high output resulted in significant cash generation. Throughout the year, our energy generation and distribution companies successfully drove our consolidated turnover. Our consolidated indebtedness has fallen to its lowest level in recent years as a result of this success, enabling a favorable financial position for our new investments. With

the renewable energy and energy storage initiatives we are pursuing, we believe our Company will be able to achieve a more balanced portfolio structure. Our electricity distribution and retail business line continued its successful operations. While our asset base in our distribution activities exceeded TL 6 billion by the end of 2022, we have become an exemplary organization not only for the residents of the region but also for all public authorities and consumers with the added value and service we create.

Alarko Holding stock performed well in 2022 as a result of these changes being reflected in our financial results. I'm pleased to see that everyone on our team is motivated to make sure that these levels can be maintained. As a result of these developments, which were also monitored by the stock exchange administration, Alarko Holding was added to the ISE-30 index. Being one of the top 30 companies on the stock exchange has been a source of pride for us.

In 2022, our strategy and business development group worked hard to build new business lines and make additional investments in current ones. For 2023, we will continue looking for suitable investments in new industries and our existing business lines. As developments in this regard evolve, we will inform you and the public through our CEO's statements and PDP disclosures.

Our Tourism Group and Alarko Real Estate Investment Trust (ALGYO) started the renovation of the hotel we purchased in Bodrum Gündoğan together. When these renovations are completed, we will have a new sister facility to our Fethiye Hillside Beach Club site. We anticipate that this project, for which we secured investment incentives and incentivized investment loans last year, will be the first example of our future tourism investments. I also wholeheartedly support the new tourism projects that our Tourism Group is seeking in Turkey and abroad.

Due to the increasing volume of online trade, there have been new developments in the warehousing and logistics sector. In line with these developments, our Land Development Group will continue to study the prospects for warehousing development and will seek to form collaborations that will allow such investments to be made on our existing properties.

Our Industry and Trade Group, on the other hand, will get closer to its goal of growing export turnover by increasing production capacity with the pump and combi boiler factory that will be created with the additional investment planned in Central Anatolia. The production and turnover numbers attained in 2022 as well as the level of profitability they attained are outstanding.

Our Contracting Group is working hard to rapidly complete the contracting

projects undertaken in Turkey and overseas as planned. The Kazakhstan-BAKAD Motorway, constructed as a BOT (Build-Operate-Transfer) project, has reached the commissioning stage. We are still looking into potential PPP (BOT and BOO) projects in Kazakhstan, and we anticipate seeing the results of these discussions in 2023. While the Bucharest Beltway Project, which we have undertaken in Romania, is nearing completion, the Bucharest Metro Project, which we are conducting in addition to the Bucharest Beltway Project, is growing in importance in our Romanian business volume.

Dear friends,

We are proud to have finished the year 2022 successfully as a Group. I heartily thank all Alarko employees who have worked diligently and devotedly despite many uncertainties and high inflation around the world. In 2023, I hope that we will always prioritize health issues and that our country and the world will experience a much more successful and tranquil period in a peaceful environment.

May God Almighty bring all of our friends, health, happiness, peace, success, abundance, prosperity, and good fortune in the new year.

Please accept my warmest regards and best wishes,

İzzet Garih

Chairman of Board of Directors

CHAIRMAN OF THE BOARD OF DIRECTORS

The NEWS

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As Alarko Holding, we are also on social media, which is an important part of communication during the fast-moving digitalization process. You can keep up-to-date with the latest announcements on our social media platforms.



<https://www.facebook.com/alarkoholding>



<https://twitter.com/alarkoholding>



<https://www.instagram.com/alarkoholding>



<https://www.linkedin.com/company/alarko>



<https://www.youtube.com/@AlarkoHoldingTR>

In 2023, when we will enthusiastically celebrate the 100th anniversary of our Republic, we will continue to add value for Turkey by working with all our Group companies.

Dear Readers;

We are beginning a new year, leaving behind a year that was defined by actions planned and practices adopted for economic development and sustainability while the world was still recovering from the pandemic's aftereffects. In 2023, when we will enthusiastically celebrate the 100th anniversary of our Republic, we will continue to add value for Turkey by working with all our Group companies. Digitalization, which is taking up more and more space in our lives every day, and efforts to ensure the world's future sustainability are among the concerns that will affect our work in the coming year.

In this last issue of the year, we bring you the latest news about our Group companies and a section dedicated to energy, one of our largest business lines. You can find our articles and interviews on the present and future of energy on the following pages of our magazine.

We wish you a healthy and happy new year,

EDITOR

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OUR GUSTO

FORKED ARMS OF THE RIVER OF
ART: ART MOVEMENTS



ALARKO HOLDING HOLDS A MEETING TO DISCUSS STRATEGY, BUDGET, AND RESOURCE PLANNING

Alarko Holding Strategy, Budget, and Resource Planning Meeting was held at NG Sapanca Hotel between October 14-16 with the participation of Holding Board members and all Group companies. Murat Salar, General Manager and Board Member of Azimut Portföy, participated as a guest speaker and provided his analyses on the financial sector during the meeting, where

all Group firms evaluated their strategies and action plans and presented their goals for the future. The meeting will be held regularly each year beginning in 2022 in order to examine the Group's strategy holistically and to improve coordination and synergy amongst Group companies.



CONSTRUCTION OF BUCHAREST RING ROAD IS IN FULL SWING

Construction of the 33 km long highway, which consists of two separate sections of the Bucharest Ring Road Project, is continuing. By the end of October 2022, 56.52% of physical progress was achieved in Lot 2 and 45.70% in Lot 1. 62 items of infrastructure works in our Lot 2 project have been completed and 62 of the 67 transfers in total in Lot 1 have been completed. Earthworks are 80% complete in Lot 2 and 50% complete in Lot 1. The national press is closely following the production and progress we made in our projects in 2022. According to Economica, Romania's most popular business news website, which examines the physical progress of road construction companies across the country on a monthly basis, our project is still in the top three of the projects with the most progress in 2022.

ÜMİT NURİ YILDIZ SPEAKS AT THE ULUDAĞ ECONOMIC SUMMIT

This year, the Uludağ Economic Summit, which the Turkish business world follows with interest every year, took place in Sapanca between 6-9 October. Alarko Holding Group CEO Ümit Nuri Yıldız spoke on the panel "Seeking Balance in Energy: Transition to New Sources" at the meeting where the Turkish and global economies were analyzed with the participation of all major Turkish firms.

In his assessment of the energy industry's future, Yıldız said; "The security problem in energy has two dimensions. The first one is the security of supply and the other one is how we can ensure this security of supply. We can do this both through investments and energy efficiency. In the coming period, renewable energy-related technologies will be developed. Unfortunately, renewable power plants are not likely to become base power plants in their current form. We all started working on energy storage and alternative fuels More importantly, we have started to think about how we can turn these power plants into base plants by investing in renewable energy."



FULL SUPPORT FOR ART FROM MEDAŞ

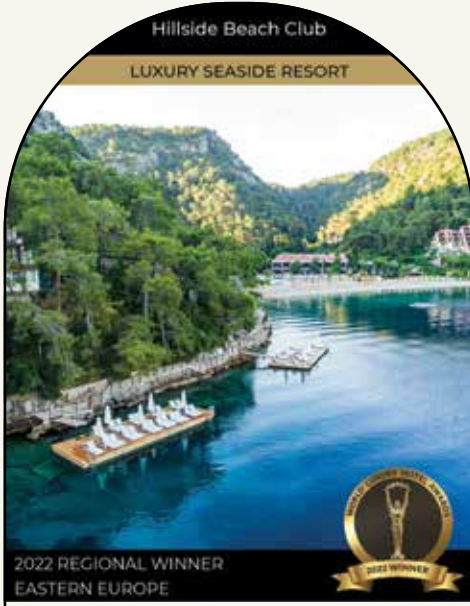
MEDAŞ, which has built a name in a broad range of social and cultural domains, continues to bring art to art enthusiasts in Konya. The exhibition "From Dream to Labor," which was created masterfully by relief artist Betül Öncel and her pupils, debuted on 12 September at MEDAŞ Art Gallery, which has hosted 60 major exhibitions since its opening. MEDAŞ General Manager Erol Uçmazbaş was also present at the opening event of the exhibition and made a speech. Uçmazbaş said; as MEDAŞ, they work in all areas from sports to the arts, from education to social responsibility initiatives



ALARKO HOLDING A.Ş. ENTERS THE BİST 30 INDEX

The BIST 30 index now includes Alarko Holding A.Ş., whose shares were first issued to the public in 1974. Alarko Holding, which posted a net profit of 4.2 billion TL with a more than tenfold increase in the third quarter, is set to conclude 2022 with a strong financial performance. BIST 30, BIST 50, and BIST 100 are indices that measure the performance of the stocks of the 30, 50, and 100 firms traded on Borsa Istanbul with the highest market capitalization and trading volume. These indices determine the stocks every 3 months, with the index recalculated in January, April, July and September.

NEWS IN BRIEF



HILLSIDE BEACH CLUB RECEIVES A NEW AWARD

Hillside Beach Club, which considers every detail to create unforgettable memories for its visitors, has added a new international award to its collection. It won the "Luxury Seaside Resort" award at the World Luxury Hotel Awards, where the best luxury hotels and spas around the world are determined by guest votes, and chains such as The Ritz-Carlton, Kempinski and Mandarin Oriental also compete in various categories. Hillside Beach Club was chosen by the World Luxury Hotel Awards, one of the industry's most prestigious awards, after a one-year rigorous evaluation procedure, and it continues to be a favorite of the sophisticated clientele with its services and new applications that outperform the previous year.

ALARKO RECEIVES TWO GOLDEN LEADER AWARDS AT TURKEY'S MOST ADMIRER GOLDEN LEADERS AWARD CEREMONY

Alarko Holding was granted the «Golden Leader» award in two categories at the KREA M.I.C.E. Golden Leader Awards, where the most admired leaders of 2022 were decided by the votes of 46,615 business professionals. At the award ceremony where the most admired company leaders of 2022 in Turkey were announced, Alarko Holding CEO Ümit Nuri Yıldız and Alarko Holding Chief People Officer Pinar Yamaner got the Golden Leader Award in the CEO and CHRO categories.



CENAL A.Ş PORT FAREWELLS ITS 100TH SHIP

CENAL Elektrik Üretim A.Ş. has been generating power at Karabiga District since November 2017 and it unloads the coal it consumes in power generation with its own operational team at its own port. CENAL has successfully unloaded over 16 million tons of coal without facing any problems. 292-meter long M/V MAGIC ORION, one of the Capesize coal ships carrying coal to the port of our company, discharged 165,293 tons of coal cargo as the 100th coal ship and left our port safely on October 2, 2022.



ALARKO HOLDING UPGRADES ITS CORPORATE RATING

Alarko Holding, which was included in the Borsa Istanbul Corporate Governance index in 2021 with a Corporate Governance Principles Compliance Rating of 8.99, increased its corporate governance rating to 9.22 with the ratings it received under the headings of "Shareholders," "Public Disclosure and Transparency," and "Board of Directors" in light of the improvements it made throughout the year.

LEYLA ALATON AT THE GLOBAL MARKETING SUMMIT

As part of The Global Marketing Summit, one of the biggest events in the marketing world, a leaders' summit was held on Friday, 21 October 2022 at Çırağan Palace Kempinski, İstanbul with the participation of C-level leaders. A large number of national and international C-level executives, industry employees and stakeholders, academics, and opinion leaders participated in the live meeting of the Summit, whose main theme was "Marketing 5.0, Sustainable Business".

Leyla Alaton, Board Member Alarko Holding, had a delightful talk about new concepts that define leadership and marketing trends during the Leaders Summit 22' CMO Circle Meeting session, moderated by Özge Bulut Maraşlı. The talk covered topics such as responsible leadership, the concept of leadership in the arts, the effectiveness of leader-brand partnerships, the role of marketing leaders in sustainability, and the social issues that women face.



LEYLA ALATON SPEAKS AT TUGEM COMMERCIAL NETWORK EVENT

The meeting, which is hosted every month by the TÜGEM Commercial Network group and is open to commercial real estate employees from all provinces, regardless of brand, was held on Wednesday, 23 November 2022 at Maltepe Days Hotel By Wyndham, with about 125 individuals in attendance. Leyla Alaton evaluated the domestic and foreign real estate markets and provided examples of sales and marketing operations in Alarko Holding's real estate projects. Alaton also provided advice to female entrepreneurs and discussed her thoughts on the proper usage of social media in business and its benefits.

NEWS IN BRIEF

**LEYLA
ALATON
PARTICIPATES IN THE
WORLD BUSINESS ANGEL
INVESTORS CONGRESS AS A
SPEAKER**

The World Business Angel Investors Congress 2022, organized by the World Business Angel Fund (WBAF), which is one of the most important platforms working to find solutions to critical issues on the global agenda and other global concerns in the United Nations, European Union, and G20 countries. was held this year in Antalya on October 25-16, with the theme "Digital Transformation for Post-Pandemic Economies".

Alarko Holding Board Member Leyla Alaton attended the congress held at Antalya Nirvana Cosmopolitan Convention Center on 26 October 2022 as a speaker. Leyla Alaton stated that she was honored to be a speaker at the conference, which was attended by many important business people from Turkey and throughout the world, and she kept her followers up to date by publishing snippets from the congress on her social media accounts.



YILDIZ AND FULYA STATIONS TO BE COMPLETED SOON

The finishing works and electro-mechanical works at Yıldız and Fulya stations, which constitute Stage-2a of the Kabataş-Mecidiyeköy-Mahmutbey Project, and scheduled to be opened as of the end of 2022, are about to be completed. Between Mecidiyeköy and Yıldız, the track and catenary works have been completed, and railcars have been placed on the line for controls. On 7 November 2022, as part of their technical visit, general information about the project and the ongoing construction at Yıldız station was given to Sofia Mayor Ms. Yordanka Asenova Fandkova, IBB Deputy Secretary General and Head of Rail System Department Ass. Prof. Pelin Alpkökin and the accompanying delegation. On 10 November 2022, Mr. Ekrem İmamoğlu, the Mayor of the İstanbul Metropolitan Municipality, along with Mr. İzzet Garıh, the Chairman of the Board of Directors of Alarko Holding, and the project management visited the Yıldız Station construction site and received updates on the project's overall status and advancements. İstanbul Metropolitan Mayor Mr. Ekrem İmamoğlu and the accompanying delegation expressed their appreciation for outstanding effort and performance.



ALARKO COMBI ADVERTISING CAMPAIGN SPARKS INTEREST

The 2022 fall combi-boiler campaign has started. The advertising campaign, which runs on national radio stations and thematic channels between 23 October and 3 November, was also last through the end of the year on digital platforms. The campaign continued with advertising works developed in three different themes to remind people of the well-known Alarko combi-boiler jingle and increase brand recognition.



ALARKO CARRIER MEETS PRESS REPRESENTATIVES

A meeting with press representatives was held at Grand Hyatt Hotel on 24 October, 2022, hosted by Cem AKAN, Alarko Carrier General Manager, Hirant KALATAŞ, Assistant General Manager of Marketing System Sales and After Sales Services, and Koray FEDAR, Assistant General Manager in charge of Sales and Exports. At the meeting, Akan said, as Alarko Carrier, they had a better year than we expected with a better turnover and profitability than last year. Hirant Kalataş, also gave detailed technical information on the new products and services that have been launched since the pandemic and Koray Fedar provided information on e-commerce, exports and new dealership organization. He underlined that their primary goal is to export to Europe and America.



MERAM ENERGY GROUP MEETS AT SCHOOL PAINTING AND LANDSCAPING EVENT

60 volunteers from MEPAŞ employees took part in the event held for supporting education, and painted the school's walls and landscaped the Üçhüyük Primary School in the Üçhüyük Neighborhood of Konya's Çumra District. In addition to the renovation works, a school library was created with books donated to the school, where students can both learn and have a pleasant time.



"LONDON JAZZ IN THE SUN" MOVES TO HILLSIDE BEACH CLUB FOR THE FIRST TIME!

The EFG London Jazz Festival, one of the most prestigious festivals in Europe and widely covered in the Financial Times, organized "London Jazz in the Sun" with specially selected artists and program at Hillside Beach Club between Friday, 30 September and Monday, 3 October. The festival program was specially designed to include experiential activities such as a workshop by Ghanaian percussionist Abass Doodoo, who performed with jazz icon Van Morrison, followed by a mini concert with participants, jazz talks with program curators, and Jazz Yoga at Serenity Beach with Polish harpist Marysia Osu.



MEDAŞ CONTINUES ITS WINTER PREPARATIONS AT FULL SPEED

In order to provide better quality and uninterrupted electricity distribution service to its consumers in the upcoming winter season, Meram Elektrik Dağıtım A.Ş. (MEDAŞ) continues to carry out maintenance works on 13,300 substations and 94,000 km of line in its 80,000 km² service area. As of the end of August, maintenance and repair works were carried out on 1,950 distribution substations, 14,500 kilometers of power transmission lines and 164,000 power poles with 300 personnel as part of planned maintenance works for 2022. In addition, as part of the maintenance work, improvement and maintenance works were completed on approximately 5.5 km long energy transmission line by using insulation materials under the project "Domestic and National Production and Application of Medium Voltage Overhead Line Insulation Materials" developed by MEDAŞ R&D team in order to prevent migratory birds and other bird species from being caught in the electric current.



MEDAŞ, which continues field maintenance work to reduce the frequency and duration of failures, stated that the number of failures in the network under maintenance has dropped and customer satisfaction has grown to a large extent by eliminating the sources of permanent failures.

ALARKO CARRIER'S NEW WEB SITE IS ON THE AIR

Alarko Carrier has updated its online sales and corporate website to reflect current trends in order to provide its clients with a better sales experience and to ensure that they can get the help they need as quickly and easily as possible. The redesigned website strives to enable quick access to the most recent product and service information. With product selection wizards or live discovery opportunities, customers can shop online much more safely and easily.



THE BEST DIGITAL HR PROJECT AWARD GOES TO ALARKO HOLDING

Alarko Holding was awarded in the "Best Digital HR Project" category with its CloudOffix project at the award ceremony held at the Mechsoft Digital Experience Summit'22 event. Alarko Holding Chief People Officer Pinar Yamaner focused on the concept of "Digital Maturity" in her presentation at the award ceremony.



ATA PLAZA SELECTS CARRIER

Ata Plaza which is one of Turkey's first glass-clad structures, located in the Dikilitaş neighborhood of Istanbul's Beşiktaş district, selected the Carrier AquaForce 30KAV Cooling Group. Ata Plaza has selected Alarko Carrier as its solution partner once again due to its satisfaction with its achievement in satisfying its air conditioning needs.



MEDAŞ REDUCES OUTAGE HOURS

Conductors may contact each other due to wind force, ice load, etc., and may cause malfunctions. Failures caused by the deflection of the overhead line cause long-term interruptions. With the EMRA-supported "Interphase Spacer" R&D project, MEDAŞ aims to minimize the possibility of conductors shaking and touching each other due to wind force by ensuring that open conductors remain separate from each other during their movement. It is planned to increase customer satisfaction and reduce operational costs as a result of preventing failures caused by environmental conditions and contact of conductors and the loss of life and property that may arise as a result of these failures and reducing the frequency of interruptions.

TOSHIBA AIR CONDITIONER COMPLIMENTING THE HOUSE DESIGN: HAORI

Toshiba Haori adds dazzling beauty, first-rate efficiency, silent operation, and unrivaled air quality to individual air conditioning systems. Toshiba, a global leader in products that deliver excellent efficiency and performance in air conditioning systems, distinguishes itself with its Haori product, which reinterprets air conditioning aesthetics. The world-famous design, which goes beyond conventional air conditioning concepts, is appropriate for house décor, transforms the mood of the place where it is positioned, and can become a part of it. With its fabric pattern kit, Haori allows the user to "customize" design alternatives that are compatible with modern, playful, comfy, luxury, trendy, or retro room types.



PICKLEBALL, NOW AT HILLSIDE CITY CLUB

Hillside City Club, which always makes you feel the best in town with its activities designed with an innovative perspective and by shaping its curricula with the latest world trends, begins the 'Pickleball' era this fall, which has been declared "the sport of the year" by the New York Times and has influenced the entire world. This new generation racket game, which stands out with its captivating and entertaining aspects, has recently come to the fore with many famous names from Leonardo DiCaprio to Bill Gates, Serena Williams to Jamie Foxx. Pickleball, a mix of tennis, badminton, and table tennis, can be played in doubles or singles by anyone, regardless of age or ability level. The motto of this sport is "easy to learn, hard to master."



MEDAŞ RANKS THE FIRST IN MUKHTAR SATISFACTION SURVEY

Meram Elektrik Dağıtım A.Ş. ranked first for the third time in a row in the Electricity Service Satisfaction Survey among 21 electricity distribution companies across Turkey.

MEDAŞ, which always prioritizes the requests from the mukhtars, put some extraordinary solutions into practice such as Mukhtar Whatsapp Line, direct communication opportunity with MEDAŞ regional manager, and priority right at the 186 call center.

TÜRKİYE GENELİ
50 BİN MUHTAR İLE YAPILAN
MUHTAR MEMNUNİYET ANKETİNDE

BİRİNCİ 1 OLDUK

TÜM MUHTARLARIMIZA TEŞEKKÜR EDERİZ

MEDAŞ



“WE ENSURE THE LIFETIME TRACEABILITY OF OUR PRODUCTS..”

Speaking to ST Automation Magazine about Alarko Carrier’s recent success, General Manager Cem Akan revealed the company’s R&D-oriented investment plans for heating, cooling, ventilation and water pressurization. Akan said “We can ensure the traceability of all of our goods’ processes, from design to manufacture and after sales, using PLM software.”



CHIEF PEOPLE OFFICER PINAR YAMANER RECEIVES AN AWARD

Alarko Holding was awarded in the “Best Digital HR Project” category with its CloudOffix project at the award ceremony held at the Mechsoft Digital Experience Summit’22 event. We applaud all of our colleagues who contributed to the project’s success. Alarko Holding Chief People Officer Pınar Yamaner focused on the concept of “Digital Maturity” in her presentation at the award ceremony.

TIME FOR RENEWING MANAGEMENT CERTIFICATES

Our energy production company CENAL Elektrik Üretim A.Ş. started working on the Integrated Quality Management System in 2019, and by meeting the requirements every year, it has registered and certified this system with TSE authorities. We have used the standards’ requirements as a guide throughout this time as we have sought to advance CENAL Elektrik Üretim A.Ş. TSE completed the renewal audits for the ISO 9001 Quality Management Systems, ISO 14001 Environmental Management Systems, ISO 45001 Occupational Health and Safety Management System, and ISO 50001 Energy Management System certificates after three long years filled with procedures, instructions, forms, training, risk analyses, and internal audits. As a result of these successful audits, all our certificates were renewed and their continuity was ensured.

ALARKO HOLDING'S 3RD QUARTER NET PROFIT REACHES TL 4.2 BILLION

Alarko Holding announced its financial results for the third quarter of 2022, exceeding expectations by increasing its net profit to TL 4.2 billion.

Alarko Holding, which recorded a significant progress in the beginning of the year, disclosed its consolidated financial results for 2022-Q3. The Holding increased its net profit by more than 10 times to TL 4.2 billion on a consolidated basis.

Alarko Holding CEO Ümit Nuri Yıldız assessed the third quarter results, and underlined that with its diversified business lines, superior executive ability, effective financial policies and digitalization strategy Alarko Holding was operationally and financially successful in a challenging operating environment. Yıldız

continued his words as follows: "In the third quarter of 2022, we continued to grow and create value for our investors and all our stakeholders. In this period of heightened uncertainty, we are taking each step with careful consideration, while striving to fulfill our pledge to all our stakeholders to increase shareholder value. We achieved outstanding operational and financial outcomes in a challenging business environment thanks to our diverse business lines, superior execution capability, prudent fiscal policies, and digitalization strategy. On a consolidated basis, our net profit increased 10-fold to TL 4.2 billion in the third quarter and reached TL 7.5 billion in the first nine months of the year, a 15-fold increase compared to the same period last year.

Our quarterly financial results show that our operational and financial performance is in line with our expectations. I would like to state that we have taken all necessary measures to ensure our business continuity in line with our commitments to our stakeholders. Our strategic map and plans, which we developed based on our projections at the start of the year, are progressing as expected.

We remain cautious in the remaining limited time of the year, aware of potential challenges. Nonetheless, our performance in the first nine months, combined with our managerial qualities and the unwavering efforts of our staff, validates the effectiveness of our business model and allows us to retain our goals for the full year. We expect sustainable growth and a strong free cash flow in the rest of the year."



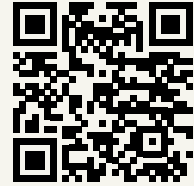
9. ALARKO CARRIER ANNOUNCES "GLOBAL CLIMATE CHANGE PHOTO CONTEST" WINNERS

The winners of the 9th Global Climate Change Photography Contest organized by Alarko Carrier, the pioneer of the air conditioning industry, have been announced.

Nearly 1500 photo works participated in the Global Climate Change Photo Contest, hosted for the ninth time this year by Alarko Carrier, where photos were submitted via Instagram and Twitter with the hashtag #AlarkoCarrierGlobalClimate2022. In the first stage of the applications, 90 photographs were selected by the pre-selection jury. Afterward, 30 photographs

were selected as finalists by the selection committee; 20 photographs competed in the general category and 10 photographs competed in the recycling special award category. The 13 winning photographs were selected after the selection committee reviewed all of the photos. Photographers of the first 13 photos that qualified for a ranking will get very special prizes.

You can access all the winning photos of the contest from this link:



1. Bahadır Sansarcı



2. Arzu İbranoğlu



3. İbrahim Şimşek

Below are the photographers that made it to the top 13

1. Bahadır Sansarcı
2. Arzu İbranoğlu
3. İbrahim Şimşek
4. Aytül Özdemir Akbaş
5. Nazım Özdemir
6. Ufuk Turpcan
7. Ramazan Çırakoğlu
8. Mutlu Taşpınar
9. Özgür Şahin
10. Hasan Urey
11. Muharrem Bahadır
12. Ekrem Şahin

Special prize for recycling:
Bilal Eskioğlu

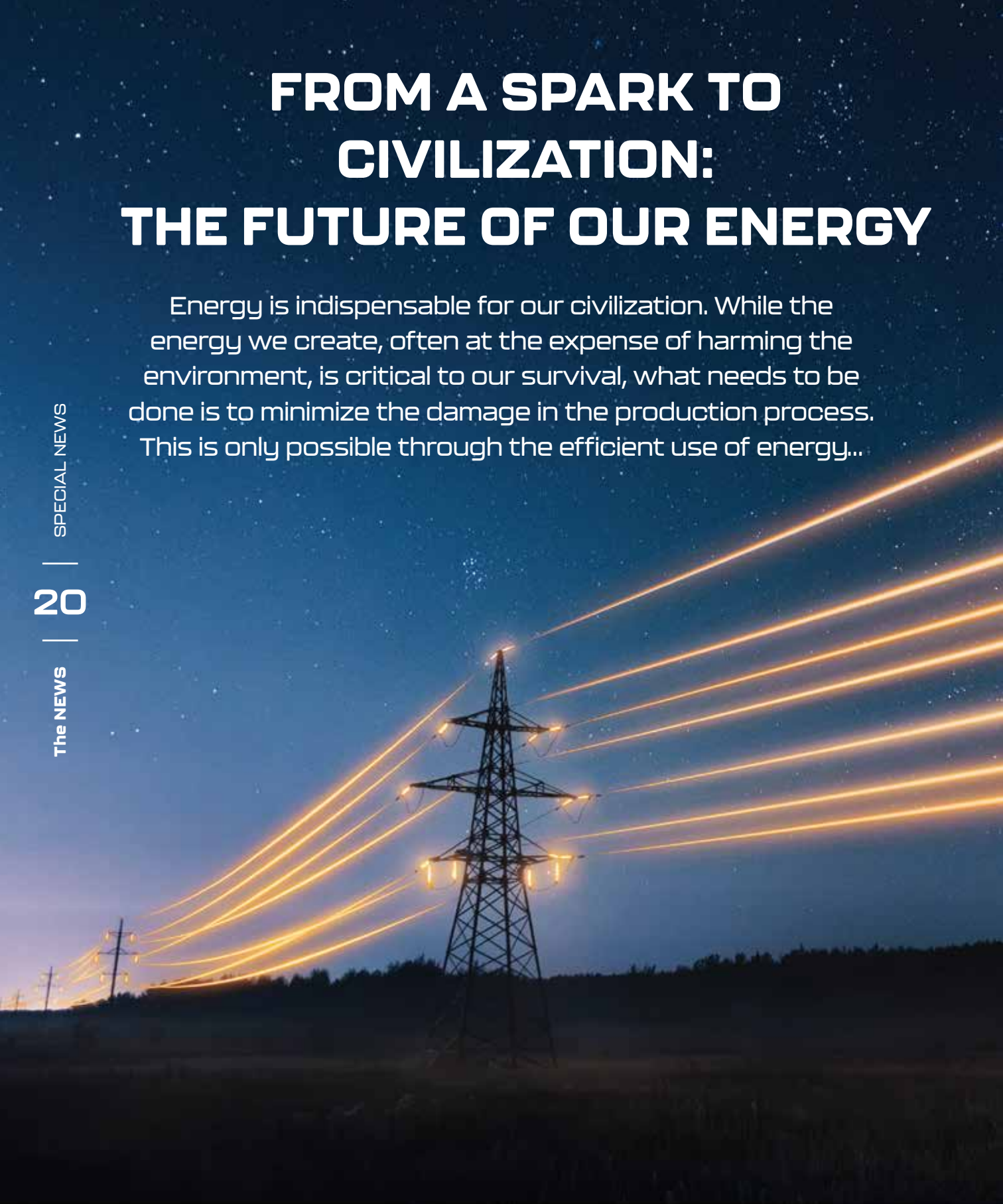
FROM A SPARK TO CIVILIZATION: THE FUTURE OF OUR ENERGY

Energy is indispensable for our civilization. While the energy we create, often at the expense of harming the environment, is critical to our survival, what needs to be done is to minimize the damage in the production process. This is only possible through the efficient use of energy...

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The NEWS



Energy, defined by the Turkish Linguistic Society as the power that exists in matter and manifests in the form of heat and light, is one of the most difficult concepts to define in physics. Because it emerges as a result of all chemical or physical events and never disappears. However, we shall not talk about this broad definition, but rather about the energy we utilize to sustain our civilization.

If we go all the way back to the beginning of human civilization, we can witness the presence of energy in every step taken toward advancement. And as civilization develops, so does the need for energy.

Energy, which was initially generated by using water and wind power, changed shape over time as requirements increased. The biggest leap was the discovery of direct current electricity about two hundred years ago. Today, it has become an indispensable part of life. Imagine a dystopian reality in which all electricity production suddenly stops. Our thin TVs would be mere decoration, and our computers, which allow us to conduct business, would be little more than paperweights.

WHAT ARE THE TYPES OF ENERGY WE DEPEND ON?

Wind and water energy are the types of energy we continue to use. Solar power is added to them with the advancements in technology. We should also count in geothermal and nuclear energy. This is followed by energy derived from conventional fuels such as coal, natural gas, and oil, which are currently the most widely used. Unfortunately, the energy generated through all these sources cannot meet the needs. Add to that the environmental damage caused by the most extensively utilized conventional industrial methods, and energy efficiency appears as one of the most pressing issues that contemporary man must address.

Our top priority is to use the energy - we generate by harming our environment - as efficiently as possible. For this, it is necessary to use all the energy produced and not waste it. Given that energy should generally be utilized as soon as it is produced and the difficulties in achieving a supply-demand balance, how this will be accomplished is a critical question to answer.

Energy, which was initially generated by using water and wind power, changed shape over time as requirements increased. The biggest leap was the discovery of direct current electricity about two hundred years ago.

This is a topic that is being debated all over the world right now. Energy storage is almost as important as energy generation. So, everything started with a spark, and now the future of energy is energy storage...

STORING ENERGY

On the one hand, conventional fuels harm the environment and are not renewable, and on the other production of energy from renewable sources is dependent on weather conditions, and therefore unpredictable. Thus, storing energy emerges as a solution to meet the ever-increasing energy demand. In short, it has become clear that conventional methods will not be enough to meet our energy needs in the long run. Therefore, everyone is focusing on storage technologies that enable us to reserve excess energy generated from renewable sources during peak periods and use it later. It would also be possible to store so-called waste energy, for example, the heat generated during industrial production.



TYPES OF ENERGY STORAGE

In modern life, everyone has common expectations: Energy must be available when and where it is needed. In this context, storage comes to the fore. Storage units are sought for various features such as high charge/discharge efficiency, high capacity, long life, low losses and self-depletion rate, and price/performance.

The most commonly used methods in energy storage are thermal, mechanical, chemical, and electrical storage. Today, electrical energy storage stands out in particular.

TYPES OF ELECTRICAL ENERGY STORAGE

- Ultracapacitors / Supercapacitors
- Superconducting Magnetic Energy Storage
 - Fuel Cells
 - Lithium-ion
 - Lead Acid
- Nickel-Cadmium
- Nickel-Metal Hydride



ALARKO HOLDING

Alarko Holding, which has made sizeable energy investments in Turkey and intends to diversify these assets in the future, has made energy storage a priority on its agenda. Alarko Holding concentrates on three issues in particular when preparing to take this significant step for the future of our globe while taking into account the circumstances in Turkey.

HOME BATTERY SOLUTIONS

Home battery energy storage systems, which we can define more as individual storage, not only meet electricity needs but also reduce

costs. Excess energy is stored in batteries, reducing the need for the grid.

ON-GRID BATTERY SOLUTIONS

These batteries, which are used on the grids used in energy distribution, ensure that surplus electricity is stored and made available through the grid when needed. Thus it is more broadly applicable and its influence rises as a result.

POWER PLANT BATTERY SOLUTIONS

The power plant energy storage systems, which cover energy storage in much greater detail, store electricity right away once it is generated and send it back to the grid when it is required. This maximizes the benefit.

RENEWABLE RESOURCES AND STORAGE



The ever-increasing demand for energy, as well as the challenges in supplying that demand, have raised energy generation to a new dimension. We talked about this new dimension and the future of the energy sector with MEDAŞ General Manager Erol Uçmazbaş.

Interview: **Erol Uçmazbaş** / *MEDAŞ General Manager*

Energy, specifically electricity, is critical to our civilization. With the world's population rising, resources becoming scarce, and environmental issues looming, efforts to meet this demand are diversifying and developing. In this setting, what is your opinion about the transformation in energy, as the general manager of a large energy company like MEDAŞ?

The demand for energy in Turkey and around the world is growing in tandem with population growth and industrialization. Turkey, like other countries, aims to reach sustainable energy sources. As you know, we are generally dependent on energy imports. We are closely following the various efforts being made to reduce the dependency on imports and to reduce energy costs. Over the last decade, the environmental friendliness of power grids has been an important goal in the electricity sector. In particular, the use of renewable energy sources such as wind and solar energy has started to play an important role in electricity generation. The use of these resources attempts to reduce the use of fossil fuels, and move away from ecologically harmful electricity generation. In addition, electric vehicles and energy storage systems will make a significant contribution to the future development of the electricity sector. With the advent of all of these systems into our life, smart grid technology has begun to evolve to more efficiently control both electricity generation

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We cooperate well with official institutions and local governments in our business practices. We meet with scientists and farmers in our area on a regular basis to shape our business approaches through mutual dialogue.

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and electricity consumption. This technology allows for more efficient management of electricity use and more adaptable distribution networks. The European Green Deal, which seeks to achieve net zero carbon emissions, reduce global warming, and boost energy efficiency by 2050, is another initiative to alter the global energy industry. The European Green Deal is an important step to tackle global warming and climate change. Through this agreement, the countries of the European Union will have a roadmap to reach net zero carbon and will take various measures to achieve this goal. These measures include various policies aimed at improving energy efficiency, promoting the use of renewable energy sources, and reducing carbon emissions. Regulations to reduce the use of imported energy resources and to encourage the generation of electricity from renewable energy sources in order to benefit from domestic resources are crucial advances in Turkey's power sector liberalization process. The Law on Renewable Energy Resources (YEK), enacted in 2005, has been amended over time to promote renewable energy-based electricity generation. One of them is the amendment published and entered into force in 2011. This Law established the Renewable Energy Resources Support Mechanism (YEKDEM) and regulated

the feed-in tariff in US dollars for electricity generated from renewable energy resources. This regulation was successful in drawing investor interest, and renewable energy generating capacity has grown over the years. In short, we are witnessing and following a rapid transition away from fossil fuels and toward sustainable and renewable resources, both globally and in our own country.

Konya is a really important region for the Turkish economy, especially in agriculture. As MEDAŞ, you operate in a large area covering Konya, Karaman, Niğde, Nevşehir, Kırşehir, and Aksaray, which corresponds to about ten percent of Turkey. The demands and needs that arise in electricity distribution must differ in such a vast territory. Can you tell us about the region's electricity distribution qualities and how you respond to them?



As you know, the electricity sector consists of four main components: generation, transmission, distribution, and sales. The power industry is challenging because electricity cannot be stored like other commodities, it must be used immediately after generation, and supply and demand must be balanced for sustainability. Therefore, a distribution company's existence is crucial for the effective operation of this system. As you indicated, our region has a high demand for electricity from agriculture. Agricultural irrigation subscribers account for approximately 25 percent of annual electricity consumption. We have been working arduously to manage and control the grid in a region with a very broad geography and a high density of third-party substations ever since the privatization. In the initial years following the takeover, we tackled problems including voltage drops and frequent power outages that had a severe impact on the technical quality of agricultural irrigation systems. We have worked hard to prioritize the rehabilitation of power distribution infrastructure, the installation of new distribution lines, and the need for and supply of additional substations. Based on the premise of zero interruption, we prioritized energy continuity and quality in our investment efforts. Our customers are our top priority in the investments we make each year. We cooperate well with official institutions and local governments in our business practices. We meet with scientists and farmers in our area on a regular basis

to shape our business approaches through mutual dialogue. On the other hand, we digitalize our processes by trying to use technology in every field. We've made it possible for our customers to complete many of our processes, from energy permits to project approvals, and lighting requests to unlicensed generation applications, using digital channels without even visiting our sites. We also launched OSOS software for agricultural irrigation subscribers to monitor their consumption even from their cell phones. When planning our investments, we now take into account the bidirectional producer-consumer energy flow. Unlicensed producers-consumers, charging stations, and electricity storage facilities, which are also on the agenda, are all significant components of investment planning. Another issue we attach importance to in our region is accessibility and satisfaction level. Therefore, we consistently rank in the top three in TEDAŞ' monthly satisfaction surveys.

The climate crisis is one of the most pressing issues of our day, if not the most pressing. As a result, sustainable energy sources come to the fore as an alternative to the use of fossil fuels. While the rest of the globe is accelerating its transition, Turkey is just getting started. What do you think are the factors slowing down Turkey's transition to sustainable energy?

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We consistently rank in the top three in TEDAŞ' monthly satisfaction surveys.

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To begin with, in recent years, the concept of sustainable energy has resulted in a more widespread and active use of renewable energy sources as an alternative. In terms of renewable energy sources, we see an increase in installed power plant capacity, particularly in solar, wind, and hydraulic resources. Turkey ranks sixth in Europe and 12th in the globe in terms of renewable energy resources, according to government data. As a result, when comparing Turkey to the rest of the globe, it may be a little unfair to state that Turkey is just getting started. However, this should not be interpreted as "Our country has come to a good place now, it is enough". Looking at our existing renewable resources, it is possible to conclude that hydraulic resources are not sustainable in times of drought, as was the case last year. The same can be said for the wind or the sun, depending on the weather conditions. However, with new regulations, it is attempted to assure sustainability through advancements such as hybrid power plant installations and energy storage systems. Equipment manufacturing is one of the primary reasons Turkey trails behind nations like China, the USA, and Germany in this process. Much of the equipment for renewable energy power plants is sourced from abroad. The bottleneck here naturally makes you less agile.

When we talk about sustainable energy, as you mentioned, there are various alternatives from solar to wind. What can you say about the sector in regards to the transformation of energy production in Turkey generally and the MERAM Region specifically?

In this region where we provide electricity distribution services, we are in a very important place in Turkey, especially in the field of solar energy. In terms of installed capacity in Turkey, 75 percent of licensed solar power plants and approximately 19 percent of unlicensed solar power plants are located in Meram Region. Unlicensed solar power plant applications and installations in our region have increased in comparison to prior years, particularly with the rise in electricity prices and the amendments in the legislation at the beginning of this year. There has been a lot of demand from outside the region, notably from large industrial zones because the regulation issued by EMRA in August eliminated the requirement related to regions of consumption-generation points. We continue to place a high priority on grid security and energy quality while using the systems we have in place to manage these processes as efficiently as possible.

Energy production and consumption are important issues. However, energy storage is another important topic that also serves sustainability at

the time of this climate crisis. Accordingly, can you tell us how energy storage will change the current energy market?

Renewable energy is becoming more and more necessary due to rising energy demand, inadequate energy resources, and environmental consciousness. It is deemed essential to create methods that will make renewable energy permanent in order to deliver thirty percent of production from renewable sources in accordance with our nation's 2023 targets. Storage systems are at the forefront of these solutions. Energy storage maintains a balance between energy generation and consumption and contributes to the efficiency and flexibility of the energy market. This is particularly important for increasing the use of variable energy sources (e.g. solar and wind). Energy storage systems collect the energy generated from these variable sources, saving more energy and storing it for later use when it is needed. This means less waste in energy generation and a more efficient energy market. In the near future, we anticipate that storage systems will be employed more frequently to maintain the supply-demand balance, contribute to the market for ancillary services, postpone expenditures, and operate in an island mode (microgrid). Energy storage systems also make the energy market more transparent and require fewer reserves in energy generation. This reduces energy generation costs and can help set energy prices in a more balanced way.

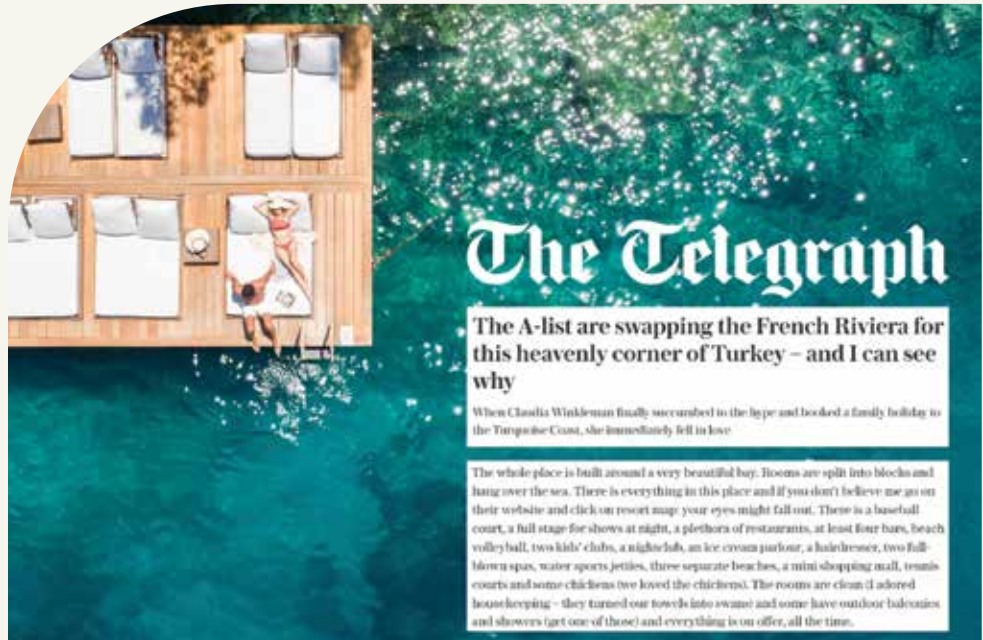
Energy storage technologies thus contribute to the energy market's increased flexibility and efficiency, which reduces waste in power production and results in reduced prices and more equitable pricing. In this context, storage systems are expected to provide both technical and financial benefits.

New methods are being developed to improve performance in energy storage. Can you tell us about these new methods?

For energy storage, a variety of technologies, including lithium-ion batteries, sodium-ion batteries, hydrogen fuel cells, and lead-acid batteries, are being developed. As MEDAŞ, we closely follow these technologies with our R&D department. Among these, lithium-ion battery technology has become more widely used than other electricity storage technologies. Lithium-ion batteries are preferred for their light weight, compactness, and high energy density, as well as their long lifespan due to their high charge-discharge rate. Other electricity storage technologies are also being developed and their use is being expanded. For instance, technologies such as liquid electricity storage systems and supercapacitors could also potentially play an important role and become more widely used in the future. As it is an emerging field, we follow the developments closely.

Ümit Nuri Yıldız, CEO of Alarko Group, stated on various platforms that Alarko Holding will work on energy storage in the new period. As the general manager of a key energy company of the Holding, what are your efforts in this direction?

System operators must take steps to eliminate technical issues that may occur as a result of the ever-increasing demand for electrical energy. These technical issues are congestion and voltage change parameters. As a result of an increase in power level, congestion (inability to transmit sufficient power) may occur in distribution lines (cables or overhead lines) or substations due to overload and heating. To overcome this congestion problem, operators are often forced to make costly distribution/transmission system investments. In some areas, congestion and voltage variations can occur, especially seasonally. This occurs more frequently in irrigation-intensive regions such as the MEDAŞ region. In regions with seasonal or episodic congestion, the assets cannot be utilized as efficiently as desired. As MEDAŞ, we established a storage facility with a remote control system in the General Directorate campus. The batteries used in the system consist of lithium-ion phosphate. The main purpose of the storage system installed as part of R&D activities is to exemplify how microgrid management and ancillary services management can be performed. We aim to see the advantages and disadvantages of the storage system in the first place and to determine in which areas it can be used in the distribution network and what improvements it can support. As a result, we intend to be the industry leader in the use of storage space and its integration with the grid.



HILLSIDE BEACH CLUB'S PIONEERING APPLICATIONS FEATURES IN THE TELEGRAPH

The most popular and famous newspaper in the UK, The Telegraph, ran an article about Hillside Beach Club, which has been highlighted in numerous worldwide publications for its heartfelt service and innovative applications.

The newspaper's well-known editor, Claudia Winkleman, wrote the piece about Hillside Beach Club. The Telegraph, a well-established British newspaper with a daily circulation of over 400,000, featured Hillside Beach Club's friendly staff, service beyond expectations and unique location. The editor rates Hillside Beach Club based on its location, the amenities it provides for families and children, the variety of food and beverage options, and the activities it offers for adults, and she mentions that after her stay, she now understands much better

why it has won so many awards. Hillside Beach Club has managed to surprise its guests every year by continually increasing its quality and attractiveness.

Hillside's popular mobile app is also covered in the piece, along with a section on food and beverage selections. The editor compliments the hotel's mobile app for making life simpler for visitors, pointing out that it enables them to place orders and check the schedule for the day without getting up from their sun loungers.

ALARKO CARRIER MAINTAINS GROWTH IN THE THIRD QUARTER

Alarko Carrier, the pioneer of the air conditioning industry, continued its growth in 2022Q3. The Company's net profit for the first nine months of the year increased by 620 percent compared to last year and reached TL 228 million, whereas its turnover increased by 94 percent to TL 1 billion 500 million.

Alarko Carrier, a well-known air conditioning company, has announced its results for the first nine months of 2022. The Company's turnover surpassed TL 1 billion 500 million in the first nine months of the year, and its net profit exceeded TL 228 million liras, whereas total shareholders' equity amounted to TL 805 million.

Alarko Carrier General Manager Cem Akan stated that as a well-established company functioning in the air conditioning sector for 68 years, it declared this year as the year of R&D and innovation. "Our goal is to achieve sustainable growth above inflation with earnings from high-value-added products developed through R&D research. Accordingly, we achieved healthy growth with prudent measures as a result of our robust financial structure and correct actions. Despite the global supply chain interruption, we anticipated what could happen and mitigated the negative impact with the measures we took. On the other hand, developing high-value-added, technological products allowed us to differentiate ourselves from the price-oriented competition led



by the Far East, and consolidate our position among the sector's premium players. Our R&D approach centered on efficiency, sustainability, and digitization not only strengthened our domestic market leadership, but also boosted our company's global market size. The share of exports in turnover was 12%. We intend to grow the share of exports in turnover to 30% in the coming years particularly by focusing on the export of heating and water pressurization products."

INSPECTION AND THANK YOU VISIT FROM ÇANAKKALE DIRECTORATE OF ENVIRONMENT, URBANIZATION AND CLIMATE CHANGE

The Ministry of Environment, Urbanization, and Climate Change maintains the "2022 Combined Audit" programs, in which businesses with a high environmental impact are examined together for compliance with the Environmental Law and all with regulations on air, water, soil, waste, chemicals, sea, and noise enacted under this law.

As part of the 2022 Combined Audit Program, a visit was made to CENAL Elektrik Üretim A.Ş. on Tuesday, 25 October by a delegation consisting of Bekir Çelen, Provincial Director of Çanakkale Provincial Directorate of Environment, Urbanization and Climate Change, Funda Yalın, Deputy Provincial Director and the expert staff of the Environmental Management and Audit Department.



During the visit, a technical presentation and information about our facility's activities, its environmental vision, and the advanced technology systems it has built to prevent air, water, and soil pollution, as well as the operation and efficiency levels of these systems, were given, followed by a site visit and a detailed audit in compliance with the legal requirements. The examination was conducted as a reciprocal exchange of knowledge and experience, and it went extremely well. All official permits, continuous analyses, periodic analyses, periodic/continuous declarations, and documentation that were to be presented were in complete accordance with all environmental legislation.

Bekir Çelen, Provincial Director of Environment, Urbanization, and Climate Change of Çanakkale, attended the first part of the visit and presented a plaque of appreciation to İhsan Acar, Operations Manager, for the support provided by CENAL Elektrik Üretim A.Ş. to the activities as part of the 5 June World Environment Day Events, which are celebrated with various organizations in Çanakkale throughout the year.

CENAL Karabiga Power Plant was happy to be able to demonstrate to the Ministry the care it takes to work in accordance with its goal of "Green Energy, Advanced Technology" during this visit and inspection program.

ALARKO CARRIER TAKES ACTION AGAINST ECO-ANXIETY

Dilara Koçak, a nutritionist and advocate for a sustainable lifestyle, and Ceyda Düvenci, a presenter, actress, and co-founder of Taş Kât Makas Workshop, met with parents in Kadıköy as part of the social responsibility project "Take Care of Nature, Smile for the Future," conducted by Alarko Carrier in collaboration with Taş Kâğıt Makas Workshop. At the project's first parent meeting, where Koçak answered Düvenci's questions, Koçak underlined that sustainability stems from our tradition, and Düvenci emphasized that fears can be transformed into positive energy.

In another project-related activity, Dr. Gizem Sürenkök, a Member of the Scientific Board of Yuvam Dünya,



provided crucial information regarding how eco-anxiety occurs and what can be done to cope with this feeling in a webinar moderated by Düvenci. Aylin Alagöz, a Member of the Scientific Board of Yuvam Dünya, gave striking information on solutions to the climate crisis during the third meeting of the series. Giving advice to parents, Alagöz said, "We should insist that every product we buy is recycled and reused at the next stage."



NEWS FROM THE GROUP



ALARKO LIFE VOLUNTEERS RUN FOR THE EDUCATION OF CHILDREN WITH AUTISM

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Alarko Yaşam Gönüllüleri katıldıkları 44. İstanbul Maratonu'nda adımlarını, otizmli çocukların eğitimi için Tohum Otizm Vakfı yararına attı.

Alarko Life Volunteers Club, an internal volunteering platform within Alarko Holding A.Ş. that gives Alarko employees who want to create social benefit the chance to realize their goals with the projects they plan, participated in the 44th Istanbul Marathon in support of the Tohum Autism Foundation, which seeks to include children with autism in the society by providing special education.

Alarko Holding Board Member Leyla Alaton and Alarko Holding Chief Executive Officer Ümit Nuri Yıldız also supported the event, which attracted a large number of runners and donors from across the Group. While volunteers from Group companies in Istanbul participated in the marathon and collected donations, volunteers working in companies outside Istanbul also supported the campaign with a virtual run organized with the Tohum Autism Foundation. Alarko Life Volunteers were excited to be a part of this project that contributes to the society.





ALARKO LIFE VOLUNTEERS FULFILL CHILDREN'S NEW YEAR WISHES WITH THE WISH TREE

Alarko Life Volunteers Club, aims to fulfill children's New Year's wishes conveyed through the AIP Foundation.

Alarko Life Volunteers Club, which plans its activities with the aim of responding to different needs of the society, started to implement the Wish Tree Project throughout the Group within the scope of its cooperation with the Project for Immediate Needs Foundation (AIP) for the new year. With this project, the Club aims to fulfill children's New Year's wishes conveyed through the AIP Foundation.



OUR RESPONSIBILITY



SOLAR SYSTEM

IN THE LIGHT OF INTERESTING FACTS

"I don't think the human race will survive the next thousand years unless we spread into space. There are too many accidents that can befall life on a single planet. But I'm an optimist. We will reach out to the stars."

As the renowned physicist Stephen Hawking has noted, as humanity's technological progress accelerates, so does its knowledge and planning for the future. As a result of the increasing speed of information dissemination, we can now watch NASA's images of distant galaxies posted on social media or listen to the eerie sound of a black hole being recorded. We have a deep knowledge of the Earth, acquired in school and developed over the years, but what about the Solar System?

Science is advancing unabated, even accelerating day by day. This allows us to learn a lot of new information. Not so long ago, about six hundred years ago, when Galileo said that the earth was round, people wanted to burn him. People believed that the Earth was flat and the center of the universe in those days. Today

we know a lot about our Earth. Even about the Solar System...

Although the abundance of information makes it difficult to learn, we are surrounded by interesting information waiting to be discovered. As the debate continues about how many years of life on planets other than Earth will be possible, we have compiled interesting information about the Solar System in this article.

Let's start with the center of the system, the Sun. The Sun, which is 4.5 billion years old, is the largest object in the system, 333,000 times larger than the Earth. While the sun's temperature can reach 6,000 degrees Celsius, it takes a million years for the energy from its core to reach the surface. It takes 26 days to make a full rotation around its equator and 250 million years to complete a full rotation around the galaxy.

HOT PLANETS

Mercury, the only planet with an unknown discoverer, is also unique in that it is still shrinking. Mercury, with its molten surface, is the closest planet to the sun, but the second hottest. Another interesting fact is that, unlike most other planets, Mercury does not have a satellite, both because of its proximity to the Sun and because of its low gravity.

Venus, the hottest planet in the system, has an average temperature of more than 450 Celsius degrees. The planet, where sunlight reaches in six minutes, is almost the same size as Earth. Due to its low axis tilt, it has almost no seasons and, like Mercury, is a moonless planet. It is one of the two planets rotating counterclockwise.

POSSIBILITY OF A LIFE THERE

Mars, which humanity has explored more than any other planet, is a hundred times less dense than Earth. While Mars has the highest mountain and the longest valley in the Solar System, it is one of the smallest planets overall. NASA intends to construct a colony in 2030 on the planet that it believes could provide a new home for humanity.

Let's talk about Jupiter, which is made entirely of liquid matter. Jupiter, the third brightest and largest planet in the system, has the strongest magnetic field after the Sun. This power comes from the high rotational speed and the hydrogen ocean. The planet also serves

an essential function for the Earth by deflecting comets and asteroids and preventing them from colliding with it.

THE JEWEL OF THE SOLAR SYSTEM

We started to get further and further away from the world. Saturn, the jewel of the solar system, is next. Saturn, the second largest planet, has seven rings with large gaps between them. But contrary to popular belief, it is not the only planet in the Solar System with rings. Another intriguing aspect is the observation of hexagonal-shaped storms on the planet. Titan, one of the planet's moons, is also known as the only moon in the Solar System with a significant atmosphere.

Uranus, which we cannot see with the naked eye from Earth, was discovered in 1781. The seasonal cycle on the coldest planet in the system is also quite interesting: The planet has 42 years of summer and 42 years of winter. Saturn, which has 13 weak rings, has an increasingly dense atmosphere. Uranus, along with Neptune, is an ice giant, and unlike many other planets, it stands on its side. To put it another way, the 90-degree oblique planet faces the Sun at its poles rather than its equator.

Neptune, the most distant planet in the system, is next. Neptune, which is also the smallest of the icy planets, is a blue planet like Earth. But that's because of the abundant methane. The planet, which officially has 13 moons, has one satellite that has not yet been confirmed. This shows that the discoveries are not yet complete. Neptune also has the fastest winds in the Solar System.



OUR FUTURE

WE SHOULD THINK ABOUT 'NEGAWATTS', NOT 'MEGAWATTS'



We discussed the state of energy and what has to be done with Arif Künar, one of the leading figures in energy efficiency, renewable energy, and urbanization.

Interview: **Arif Künar** / *Energy Consultant*

You are one of the important names of our country in the field of energy. You are an expert in energy efficiency and transformation in energy. What kind of changes has the energy sector undergone since you received your Electrical and Electronics Engineering degree from METU if we ask you to draw us the big picture first?

During the 1986 Chernobyl Nuclear Power Plant Disaster, I was the Coordinator of the Journal of Electrical Engineering of the Chamber of Electrical Engineers. I was not opposed to nuclear energy prior to this horrific event that occurred 37 years ago, as an engineer, because of the employment and energy production prospects it offered. As we began to write about this issue in the EMO Electrical Engineering Journal and as we learned more about it, we started to become opposed to nuclear and coal power plants and to think that wind and solar energy, which have recently gained attention, and energy efficiency can accomplish the same tasks while using less energy. We then started our transformation to demonstrate that these can be accomplished in our business. For the last 15 years or so, we have been trying to take part only in energy efficiency, energy management, solar projects, and green building-smart city projects. In the 1990s, nuclear and thermal power was all the rage, and the only talk was about production, growth, and supply. Energy efficiency and renewable energy were not yet well known and hardly ever talked about. When we said that "sun and wind" were enough for us, especially our esteemed professors and some of our "pro-nuclear

professors", used to make fun of us by asking "how come you can provide the energy of the whole country with those small solar panels and windmills?" labeling us as "romantics and dreamers". The energy crisis and the climate crisis were never thought of or foreseen in those years. Their plans and energy generation choices focused only on growth, development, and supply. We didn't begin utilizing renewable energy sources or discussing energy efficiency until the 2010s. But owing to the efforts of both the public and commercial sectors, the use and capacity of renewable energy have significantly increased in our nation during the past ten years. Still, energy efficiency hasn't yet been fully achieved at the intended level, notwithstanding this rise. In the last 4-5 years, significant projects-tenders for the public sector's transition to a more energy-efficient model have been launched, but for obvious reasons such as the pandemic and the economic crisis, exchange rate rises, and inflation, they have slowed and stalled once more.

We are at a turning point where it can be said that energy is never just energy. From food security to the right to shelter, from health to national security, the need for energy lies at the heart of every field. But with the climate crisis, the way we both protect and acquire this fundamental resource of our civilization has to change. Can you take a snapshot of sustainable energy efforts for us, starting with its generation?

To begin with, we will be able to take a complete picture of sustainable energy activities if we can do the same work by producing less energy, using energy efficiently and carefully,



INTERVIEW: ARIF KÜNNAR



that is, using “negawatts” as much as necessary, rather than “megawatts,” and abandoning energy generation at any cost in favor of only renewable energy resources. However, we still cannot do this. First of all, we must change and transform our consumption habits and lifestyles to tackle the mounting ecological difficulties of our resource-scarce planet and the climate crisis, or at the very least delay the process and avoid hitting the wall. If we cannot overcome our ego and ambition to have more and more houses, plazas, automobiles, goods, disposable packaging, to fly everywhere, and to have more and more things, we will, unfortunately, have to face the consequences of our actions and ultimately extinction.

Our second topic is the storage and efficient use of energy. Energy storage is a complex subject for those who don't know it. Could you please explain energy storage to us? What kind of developments are there in this field?

The most significant impediment to the shift to renewable energy is its lack of consistency and ability to provide electricity on demand. It is blocked by

coal, nuclear, and natural gas lobbies on the grounds that there is no base load and it is unreliable. In recent years, however, storage technologies, and fuel cells have improved a lot and are becoming increasingly affordable. As a result, the excess energy generated by solar power, wind, and green hydrogen will be stored and consumed at night or when there is no wind through these batteries and cells. In addition, salt lakes, hydroelectric power plants with pumping, and thermal storage will also be developed and used for storing energy. In other words, the transition to 100% renewable energy will become more feasible and practical in the coming years with the help of developments in energy storage.

Your specialty is green buildings and sustainable cities. In short, it is about using our energy efficiently and effectively. What are the basics of smart energy management? What kind of transformation awaits our cities?

We have to be smart first. Decisions and planning must also be made wisely. We need to start by producing net-zero-energy or near-zero-energy buildings and retrofitting existing ones accordingly. It is now imperative to replace coal and natural gas with heat pumps and electrification in homes and buildings, especially by 2030 (to achieve net zero carbon targets).

Then, in order to maximize the use of renewable energy in cities and to assure the most effective and sustainable optimization with energy monitoring, control, and management systems, it is important to launch digital city, digital twin, and smart city applications. This will make it feasible to optimize and manage

districts, campuses, and cities in a coordinated manner while also planning and implementing several issues related to energy, water, transportation, waste, air quality, and climate mitigation and adaptation. We must work toward more intelligent, sustainable cities where all systems—including self-sufficient buildings, electric cars and other forms of transportation, industry 4.0 factories, and facilities for the production of renewable energy—can interact, communicate, and be managed.

There are many people who are pessimistic about the future at a time when we are dealing with the climate problem. Additionally, data from research supports this pessimism day by day. How do you see the future in terms of energy and climate crisis?

To be honest, I am optimistic, and I believe we should support people who are stubborn, do not give up, and persevere. I think we have to be hopeful despite everything. I believe that being pessimistic, giving in, and merely criticizing while not putting forth enough effort, means being a part of the problem rather than a part of the solution. Everyone has to step up to the plate and do the best they can with what they know, what they have, and what they can do in their own lives, homes, neighborhoods, towns, and countries. Small transformations and efforts can spark large quantum transformations and help to launch large-scale change. The only way to achieve the 40 percent emission reduction target in 2030, the national net zero carbon target in 2053, and the national emission contribution targets is for each sector

“

We must change and transform our consumption habits and lifestyles to tackle the mounting ecological difficulties of our resource-scarce planet and the climate crisis, or at the very least delay the process and avoid hitting the wall.

”

to start its process of energy transformation and climate adaptation and for the state, the public, residences, schools, municipalities, the private sector, and citizens join together in this transformation. We should immediately start working on achieving these national emission reduction targets. Firstly and most immediately, we must launch a comprehensive national energy efficiency action plan, and all new energy sources should be planned and constructed with 100% renewable energy rather than fossil fuels.

And finally, you took part in the creation of the 12th Development Plan as a sector representative. How the future of our country was envisaged when drafting the development plan? How this will affect our future?

We took part in the 12th Development Plan Energy Efficiency and Supply Security Commission. Here we have tried to emphasize planning in line with our “National Climate Action and Adaptation Goals”. In this regard, it is very important to have both national targets and energy planning and management in line with these targets. The environment will become irreversibly unsustainable as a result of all investments and plans made without taking the climate crisis and climate adaptation into account. This will negatively affect us and our children, who are not to blame for this, and could result in sanctions against our nation. In this respect, our “12th Development Plan 2024-2028” will have a very important mission.

ALARKO CONTRACTING GROUP PARTICIPATES IN THE “MY FIRST HARDHAT” EVENT

Alarko Contracting Group participated in the “My First Hardhat” event, which was organized by the Yıldız Technical University Construction Club to introduce the industry and our company to future engineers.

The Alarko Group continues to meet with young candidate engineers in accordance with Dr. Üzeyir Garih’s principle, “In my opinion, it is a national duty for individuals who have reached a particular age and climbed to senior positions to pass on their experiences to future generations.”

During the event, Group representatives who joined young candidate engineers at the Alarko Contracting Group booth offered information about Alarko’s fields

of activity and contracting projects completed to date. It was stressed that Alarko, a pioneering company in the industry with extensive experience in contracting, is always willing to work with well-educated young and talented engineering candidates.

Health, Safety, Environment and Community Liaison Manager Savaş Çakıroğlu made a presentation and had the opportunity to share his experiences with young candidate engineers.





YENİBİRLİDER ASSOCIATION CELEBRATES ITS 10TH ANNIVERSARY!

The Yenibirlider Association, which was founded in 2012 to support university students and young professionals in their career journeys, celebrated its 10th anniversary.

On Tuesday, 4 October, the new generation leadership ecosystem of the Yenibirlider Association came together at The Seed at the Sakıp Sabancı Museum to celebrate the first 10 years of the association and its future. Nazım Salur, Founder of Getir, and Prof. Dr. Özgür Demirtaş, Chair of Finance at Sabancı University and member of the Board of Directors of Yenibirlider Association, delivered keynote speeches to the guests at the event, which brought together graduates of the association's programs, mentors and coaches who have contributed to the association thus far, association members, and all other stakeholders of the association.

Nazım Salur shared the success story of Getir and Prof. Dr. Özgür Demirtaş gave a speech titled "New World, New Money, New Leader". Cem Garih and Kerem Kamışlı, Co-Founders of the Association, also addressed the guests. The co-founders thanked the academics, mentors, business people, managers, valuable coaches, and

sponsors of the event who came together in Yenibirlider Association's programs to accelerate and strengthen the career paths of the next generation of leaders. Cem Garih and Kerem Kamışlı addressed the guests: "This journey, which began in 2012 with 22 people and a dream, has reached a point beyond our hopes throughout the years." Today, the Yenibirlider Association is one of Turkey's leading non-governmental organizations working in the field of leadership, with over 2,000 graduates in collaboration with 90 institutions from civil society, government, academia, and the private sector, and 35,000 people apply to its programs each year."

At the event Yasin Oral, the CEO of Paribu, awarded the winners of the "Hackathon for Social Good," which was organized before the event with the support of Paribu for university students to develop projects that will bring social benefit using new generation technologies.



ALARKO CARRIER SPONSORS ÇEDBİK

Alarko Carrier became the gold sponsor of the “Green Buildings and Cities Summit 2022 - Building Zero” event organized by the Turkish Green Building Council (ÇEDBİK).

Alarko Carrier became a gold sponsor of the ‘Green Buildings and Cities Summit 2022,’ which was organized by the Turkish Green Buildings Council (ÇEDBİK) with the cooperation of the Ministry of Environment, Urbanization, and Climate Change. Speaking at the event, Alarko Carrier Chairman of the Board of Directors Niv Garih said, “We took steps to emphasize opportunities in sustainability more forcefully.”

Alarko Carrier Chairman of the Board of Directors and Alarko Holding Board Member Niv Garih stated that Alarko Carrier considers sustainability not only in terms of the environment, but focuses on people, employees, and all stakeholders, and aims for social benefit and effective environmental awareness and added: “Alarko Carrier has played a pioneering role in numerous green or sustainable projects in its 70-year history. In the 1990s, Alkent Residences,

Turkey’s first planned and ecologically conscious project, came to fruition as a project that directs and molds the demands of the real estate industry”. Niv Garih also gave information about the power plant projects that Alarko built within the years and said; “in our Karabiga HEPP Project, despite the fact that the plant’s construction cost increased by approximately 20% and resulted in an additional cost of approximately \$150-200 million dollars in order to minimize the impact on the environment, we are able to continue our activities at the lowest point of the legal limits not only in Turkey but also in Europe and Middle East when the plant operates at full capacity.” Niv Garih said that they aim to expand into new areas of energy in the coming days and they are also working on new energy sources such as energy storage and hydrogen, and investigating potential investment opportunities.



TURKEY'S ENERGY HUB: KONYA

MEDAŞ Yenilenebilir Enerji Müdürü Seyit Mehmet Büyük, Konya'da bulunan Güneş Enerji Santralleri (GES) ve Rüzgâr Enerji Santralleri hakkında bilgilendirme yaparken, GES'lerde lisanslı ve lisansız üretimin mevzuat olarak birbirinden farklılıklar içerdiğini belirterek EPDK tarafından çıkartılan Lisanssız Elektrik Yönetmeliği ile ilgili yeni detayları paylaştı.

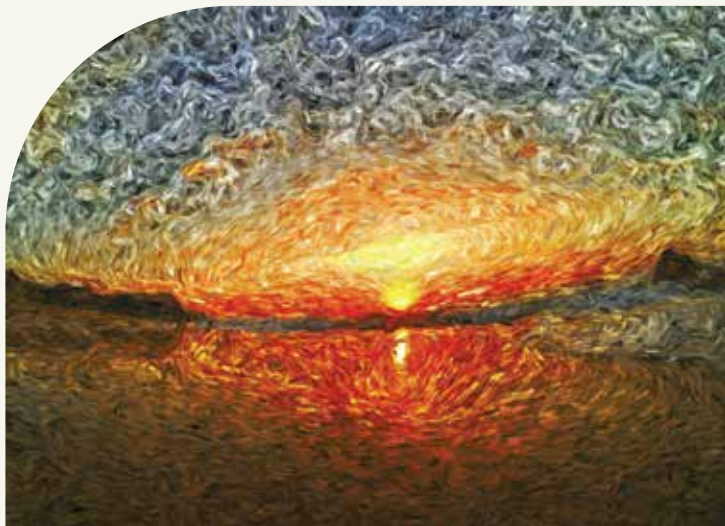
Açıklamasında ilk olarak lisanslı üretimden bahseden Büyük, yeni yönetmelikte yer alan değişiklikleri anlattı. Lisanssız üretimin lisans alma zorunluluğu olmaksızın tüketim tesisatına ilişkin kriterler ile elektrik üretimi yapılabilen bir model olduğunu anlatan Büyük, lisanssız üretim hakkında da detayları aktardı.

Büyük açıklamasında Meram'ın en gözde bölgelerin başında geldiğini vurgulayarak, Türkiye'nin yaklaşık sekiz saatlik ışınım süresi ile en iyi ışınım şiddetine sahip illerinin başında gelen Konya'nın, bu potansiyeli ile Türkiye'nin güneş enerji üssü olma yolunda ilerlediğini belirtti.



THE COUNTDOWN BEGINS FOR THE HYDROGEN COMBI BOILER

Alarko Carrier, which has been developing hydrogen-powered combi-boilers since the middle of last year, has rolled up its sleeves to become Turkey's first domestic hydrogen-powered combi-boiler producer, following in the footsteps of European counterparts. Cem Akan, General Manager of Alarko Carrier, emphasized that the company is particularly working on hydrogen in order to reach its net zero targets: "Hybrid systems are key technologies in reaching the net zero target. For this reason, we rolled up our sleeves to develop the first Turkish-made boiler that runs on hydrogen, which has examples in Europe." "We set out with the idea of producing a boiler that runs 100 percent on hydrogen. There is no Turkish company that has done this so far. We were able to reach the 20 percent level. 80 percent of the gas is natural gas and 20 percent is hydrogen. We will complete it in 2024."



FORKED ARMS OF THE RIVER OF ART: **ART MOVEMENTS**

The narrative forms of art that arose from the pursuit of aesthetics differ from one another. This leads to the emergence of different art movements. Let's take a brief look at the most important of these.

Art has been present in life since the dawn of time. However, artists express themselves and create their works through a variety of methods. These differences led to the emergence of art movements. Although many art trends have evolved throughout history, we will only briefly highlight the most essential ones in this article.

GOthic ART

In the Gothic Art Movement, which succeeded the Romanesque Art Movement and was characterized by ornamental walls, stained glass windows, and arches, high ecclesiastical structures were built to praise God.

The movement, which spanned the second half of the 12th century and the middle of the 15th century, focused on dramatic features in sculpture and painting and produced a somber mood in ecclesiastical structures.

BAROCH ART

The prominence of the landscape increased in Baroque Art, which emerged between the 14th and 18th centuries, in contrast to the Renaissance approach, which placed more emphasis on the individual. Vivid and bright colors were preferred more in the works where light and shadow plays were used very often. Important

families, mystical stories, portraits, and landscapes, as well as religious issues, became the principal subjects of the work in the movement, which revealed itself in every area from architecture to music and literature.

RENAISSANCE

The Renaissance, which began with the rise of trade, the strengthening of the merchant class, and the sponsorship of the arts by wealthy merchants and clerics, lay the groundwork for the establishment of today's world and was most visible in the 15th and 16th centuries. The Renaissance, which represents rebirth, saw a surge in interest in classical antiquity as well as the emulation of the past in



architecture, art, and sculpture. The works of this period are distinguished by their simplicity, moderation, proportionality, and perspective.

ROMANTICISM

Emotions took center stage in Romanticism, an intellectual movement that affected art and philosophy in Europe from the beginning to the middle of the nineteenth century, while rationalism asserted its influence. The movement, which emerged with the rise of the bourgeoisie during the French

Revolution, is notable for its opposition to the aristocratic system. The main subjects of artworks were nationalism, history, loneliness, love, fear, and daily life.

REALISM

People found a place for themselves in Realism, which evolved in the nineteenth century as a reaction to Romanticism following the industrial revolution. Daily life was portrayed in a realistic manner in the movement that developed as a result of the reality of existence when social classes were acutely apparent.

IMPRESSIONISM

The movement that arose in France at the close of the nineteenth century was born in defiance of scientific painting. As the scientific understanding of perspective was abandoned, artists went out of the ateliers and painted nature as they saw it. The main discourse of the movement was "Seeing with your own eyes".

FUTURISM

Futurism evolved in Italy in the first part of the twentieth century by taking Cubist inventions, forsaking the past, and making technology and the future the primary subjects of the works. Futurists attempted to create a form of future reflection by incorporating speed and movement into their creations.

ABSTRACT ART

The Abstract Art Movement, which originated in the early twentieth century, concentrated on colors and shapes with the goal of directly conveying emotion. In the Abstract Art Movement, artists abandoned the world of objects, moving art beyond the mimicry of nature.

POP ART

The Pop Art Movement, which emerged in the second part of the twentieth century, elevated consumer culture and advertising to the status of art. As the figure reappeared in the painting, works were created using readily available materials.

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