National Hydrogen Association

NEWSLETTER

November 2021 E- Newsletter:12

23rd World Hydrogen Energy Conference WHEC-2022



As the conference chairman of the 23rd World Hydrogen Energy Conference (WHEC2022), it is my great pleasure to cordially invite you to Istanbul to attend this prestigious conference. WHEC is a unique event for all researchers, scientists, academicians, and professionals working in the field of hydrogen energy systems, from production to storage and end-use options such as fuel cells. This conference will provide a useful platform for contributions to the development and enhancement of hydrogen energy systems and a place to interact with researchers from all around the world to gain a better understanding of the use of hydrogen energy systems for a sustainable future. Much like past WHECs, WHEC2022 will not only provide an outlook on the current research activities but also will shape the future of hydrogen energy systems. As a city that connects two continents, Istanbul has always been strategically important. Hosting the 23rd WHEC in Istanbul will bring researchers from different continents together to promote hydrogen energy systems and share their innovative ideas. Turkey is dedicated to increasing the share of renewables in its energy supply, and hydrogen energy systems are promising candidates. Therefore, Turkey has expanded its research, innovation, and technology development activities to produce, store, and use hydrogen in an affordable, reliable, safe, clean, and sustainable manner. Given these activities as well as the financial investment and dedication to hydrogen energy systems in Turkey; Istanbul is undoubtedly the perfect host city for this event. Given the influence of the prestigious International Association of Hydrogen Energy (IAHE), the support of the Turkish National Hydrogen Association, International Energy Agency (IEA) and International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE), the reputation of the WHECs, the launch of Hydrogen Council, and the historic and strategic importance of the beautiful host city, Istanbul, it is expected that WHEC2022 will turn out to be a success story with strong participation and global influence.

I look forward to welcoming you to Istanbul between June 26-30, 2022.

Prof. Dr. Ibrahim Dincer
Chairman of WHEC2022
Vice President for Strategy, International Association for Hydrogen Energy
Vice President, World Society of Sustainable Energy Technologies
President, Turkish National Hydrogen Association

The Sixth International Hydrogen Technologies Congress (IHTEC-2022)



Dear Academicians, Researchers, Industrialists,

The Sixth International Hydrogen Technologies Congress (IHTEC-2022), which is a multi-disciplinary international congress, will be held between 23-26 January 2022 in Çanakkale, Turkey.

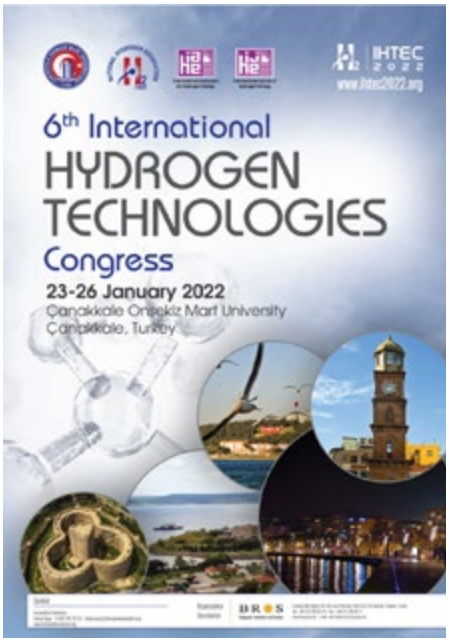
This congress, including presentations, plenary essions and keynote talks, serves as a forum that promulgates ideas, experience, and knowledge of fellow researchers and engineers working on hydrogen energy and its technologies.

It is our pleasure to invite you to be part of this important event which focuses on many aspects of hydrogen technologies, including but not limited to hydrogen economy, infrastructure, management, safety, production and conversion.

We would like to thank you in advance for your invaluable contribution to this important conference hosted by Çanakkale Onsekiz Mart University and coordinated by Hydrogen Technologies Association.

Best Regards

Prof. Dr. Sedat Murat
Rector of Çanakkale Onsekiz Mart University



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Future of Hydrogen and Renewable Energy in the World



Prof. Dr. İnci Eroğlu

What is happening in the world? Hydrogen is shining in 2021. Japan organized the 4th Ministerial Meeting on October 4th, 2021, online. Mr. Hirose Naoshi, who is the Vice Minister for International affairs, explained the hydrogen energy strategy of the Japan Government. Hydrogen and ammonia are considered to be the future energy carriers for Japan. Although they are both more expensive than fossil fuels today, their production from renewable energy will change the world's energy production and consumption habits. Japan is planning to import renewable hydrogen by transmarine from overseas countries. Their target is to increase the efficient hydrogen production from clean energy sources and reduction of its cost. Proper heat distribution is a crucial factor in improving efficiency.

On the other hand, synthetic methane production is a hot research topic, and its application is expected to be confirmed soon. Twenty-two countries are members of IPHE in the world; within this, Japan is collaborating with USA and India with the twenty-two countries who are the members of IPHE. Hydrogen was the fuel of the Olympics in 2021. Besides the well-known companies like Toyota, Toshiba, Mitsubishi, the government is planning to establish HYDROGEN VALLEY and HYDROGEN CITY in Japan. Commercialization of fuel cells and spreading hydrogen supply chain are the critical factors for forming a hydrogen society.

The international energy agency is very active this year. Many countries, including Turkey, have presented their renewable energy and zero-emission strategies on the ministerial level at different times within the organization of IEA and broadcasted online, and linked live connections. You may reach to their recorded copies. IEA Director Dr. Fatih Birol explained hydrogen deployment global. IEA has lent Hydrogen 2019 landmark report which has been a good reference to see the global future on hydrogen. Shall we have a sufficient supply chain? Can we reduce CO2 emissions? In 2019 only Japan and South Korea had declared their hydrogen strategies, however, today 20 countries have their hydrogen strategies. Government confidence has increased to hydrogen within 3 years. The recent IEA 2050 report includes heavy industry and long-distance transport targets. The purpose of this report is to develop on the ground hydrogen plants, providing clean energy. Key recommendations are; countries should develop strategies and road maps, produce clean H2, mobilize H2 infrastructure for end-users, construct facilities, establish safety, and other requirements.

Dr. Megan Woods who is the minister of energy and resources for New Zealand gave their vision for the development of hydrogen. They have alternative scenarios for future applications. Steps are taken for regulations. Start-up H2 projects are on their way. Additional governmental support is needed to green H2 production facility projects as they are going on. Their shortcoming list includes low carbon emission, renewable energy, and mixed fuel. The price of H2 is high but as the production technology develops, it is expected to be reasonable especially for H2 transport. They support international cooperation, and the work of other organizations is followed. She concluded by saying " Green Hydrogen is for decreasing global pollution".

Australia is another country having a target to continue clean technology, reduce emissions, and reach zero emission in 2050. Mr. Angus Taylor who is the minister of industry, energy, and emission reduction said that the Australian government has invested 40 billion Australian dollars in clean energy. They are planning to produce 800 MWE H2 for 2030. Key recommendations are to develop strategies and roadmap, produce clean H2, mobilize H2 infrastructure for end-users, facilities, establish safety and other requirements, and understand H2 energy.

Hydrogen production and export are agenda topics for South America. Mr. Martin Guzman who is the minister of economy said that Argentina has 3000 GW wind potential and abundant water sources besides gas reserves, therefore in their road map they consider a transition from blue H2 to green H2, energy mix, export, and decarbonization. Minister of Energy Chile Mr. Eluchans declared that Chile has made a leap with 20 green H2 projects in 2020 and 60 green H2 projects in 2021. There are local applications and permanent firm facilities. Research and industrialization projects are focused on upscaling, upgrading and requirements. Export of green H2 and green ammonia is considered between Chile to Japan. They are looking forward to increasing international cooperation and trade.

Ms. Kadri Simson who is the commissioner for Energy in European Union put forward the proactive role of Japan. There is global momentum for Hydrogen Energy. In 2030, it is expected to reduce CO2 emissions at least by half for the industry. Ships are also needed reduction. EU is working on taxation proposals, regulatory framework, technical standards, and adaptation to H2 from a global perspective for sustainable growth. Transport of H2 from non-EU countries is on their agenda. Germany is the second proactive country for hydrogen energy development and application. Mr. Peter Altmaier who is the German minister for economic affairs and energy mentioned their profound affords for domestic green H2 production by offshore wind electricity. They are involved in common EU projects. Germany assigned 33 billion euros for hydrogen from generation to transport. Standards and grading for green hydrogen are to establish for global hydrogen. International partnership is supported, and the hydrogen economy will emerge very fast.

Ms. Tina Bru who is the minister of petroleum and energy of Norway said that they have reached a milestone in 2020 by developing of H2 strategy.CCS projects are under construction. In total, they spare 75 million for those projects. The hydrogen roadmap is ready in 2021. There are 4 governmental and 5-10 industrial project dedicated funds. Their aims are to reach low to zero-emission, increase international cooperation, develop rules and standards, establish a hydrogen market to achieve secure energy for all. Dr. Michot Kurtyka is the minister of climate and environment of the Republic of Poland. They are the biggest H2 producer in the EU and 5th in the world. They have knowledge and technicians. Zero-emission energy systems are on the way. Their challenge is to construct 8000-11000 MW offshore wind plants and photovoltaics. The use of hydrogen is not limited to energy. It is an alternative fuel for transportation, 1000 H2 busses are on the way. A feasibility study for hydrogen highways is carried out. Ms. Dilan Yesilgoz Zegerius who is the state secretary for economic affairs and climate policy for the Netherlands mentioned the importance of regulations, safety, certification, clarity, and certainty. They plan to use a natural gas grid to distribute hydrogen in the EU. Global share of hydrogen brings basic market conditions. Spain's government has invested 8.9 million euros for hydrogen, 20% of this investment is for transportation. Green hydrogen is more competitive to blue hydrogen.

There were two presentations from Middle East countries. The United Arab Emirates is aware of their solar potential, while a 44GW solar plant is planed. The first commercial-scale will be ready for 2030. Their strategy is complete for 2050. Collaboration with industry and academy is supported. They are after supplying adequate energy to the world. Therefore they are promoting the use of hydrogen. The first solar green hydrogen facility is in MW scale, including production, storage, and gas delivery. A Memorandum of understanding is signed for low carbon aviation fuel, mega-scale blue H2 plant, ammonia delivery to Japan, join affords, and reduction of cost to remove borders. Saudi Arabia is planning large-scale clean hydrogen production. They are giving importance to international cooperation and long-term strategy.

I would like to add some of the comments of well-known companies on the future of hydrogen. Main question is the establishment of global market; how can they expand. Market expansion studies are closely related to projects, legislations and decarbonization targets. Companies support turnkey solutions for customers. Knowledge is very important, customer should learn how to use hydrogen vehicles, and facilities. Therefore, education of customer is necessary even in small scale fuel cell devices. Additional services are needed, hydrogen deployment in roadmaps are important to show customer that this technology is available, easy, and safe. Standardization is essential for scale up of hydrogen usage. Safely utilization of hydrogen is a prerequisite for customers. They also mind quality, security and efficiency. Collaboration of industry and academia play an important role in future of hydrogen.

National Hydrogen Association
Esentepe Mah. Sağlam Fikir Sok. Esen Palas Apt. A Blok No:2 D:9 Esentepe / Şişli / İstanbul
Communication Association Coordinator: Fatma Taşçı / 0 533 726 72 55 / fatma.tasci@hidrojenteknolojileri.org
www.hidrojenteknolojileri.org

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Steps Taken to the Hydrogen Age with the Fifth International Congress of Hydrogen Technologies IHTEC 2021



Prof. Dr. Bora Timurkutluk, *IHTEC2021 Congress President, Niğde Ömer Halisdemir University, Head of Mechanical Engineering Department, Manager of Prof. Dr. T. Nejat Veziroğlu Clean Energy Research Center, Niğde*

I believe that we have already entered Hydrogen Age and currently, we are going through a transition period from fossil fuels to carbon-free, high-efficient, and clean energy generation with hydrogen energy technologies. I think that this is in fact not an option for energy diversity, but it should be a part of energy policy for our future due to the irreversible damages of fossil fuel usage. In this respect, as Nigde Omer Halisdemir University, we founded the Clean Energy Research Center named Prof. Nejat Veziroglu who is known as the father of hydrogen. Although the center was established in 2014 with a vision of improving science and technology with innovative research and development studies in the fields of new and renewable energy, we have been studying Hydrogen and Fuel Cell Technologies since 2004 together with Vestel Defense Industry, which is one of the biggest companies of Turkey. This collaboration was also awarded by the Turkey Council of Higher Education with an Outstanding Achievement Award in 2018 under the category of University-Industry Cooperation.

In order to once again draw attention to Hydrogen Energy Technologies and raise awareness, hosted by our university Prof. Dr. T. Nejat Veziroğlu Clean Energy Research Center and under the coordination of the Hydrogen Technologies Association, The Fifth International Hydrogen Technologies Congress-IHTEC-2021 was held in a virtual environment on 26-28 May 2021. 150 participants from 10 different countries showed interest in the congress, which provides a unique platform for researchers, scientists, engineers, and professionals from all over the world to present their latest research results and new ideas in the fields of Hydrogen Energy. 130 scientific studies were presented on "Hydrogen Storage and Hydrogen Purification/Separation", "Hydrogen Production", "Hydrogen Energy Technologies", "PEM Fuel Cells", "Materials for Hydrogen Energy Technologies", "Hydrogen Economy", "Hydrogen Energy Applications" and "Solid Oxide Fuel" Battery" main themes under two parallel sessions with a total of 21 sessions. Joint sessions focusing on key issues of hydrogen energy technologies were also held at the congress with 7 keynote speakers. In the closing program of the three-day congress, "Nejat Veziroğlu Special Award", "Technology Award", "Young Researcher Award" and "Student Researcher Award" awards were given by the Hydrogen Technologies Association. Vestel Defense Industry, which has been in cooperation with our university for many years on hydrogen energy, was awarded the "Technology Award" for their contribution to the science and the technologies they developed in this field. After the closing ceremony, the congress was successfully concluded with a panel held with scientists and industrialists on the "Hydrogen Strategies Roadmap for Turkey".

We wish to formally put on record our sincere thanks to numerous key people and organizations that have been instrumental in ensuring the success of IHTEC2021 in Nigde Omer Halisdemir University in Nigde. We would like to thank Professor Muhsin Kar, Rector of Nigde Omer Halisdemir University, and his management for their full support. We would like to register our sincere appreciation to Professor T. Nejat Veziroğlu, Founding President of International Association for Hydrogen Energy, Founding and Honorary Editor of International Journal of Hydrogen Energy (IJHE) and Honorary chair of this congress, and Professor Ibrahim Dincer, President of National Hydrogen Association and his management. Finally, we would like to thank all keynote speakers, presenters, all participants, and the organizing committee members, as well as Bros Congress members for their exemplary contribution and support.

NATIONAL HYDROGEN ASSOCIATION 2021 AWARDS

NATIONAL HYDROGEN ASSOCIATION **NEJAT VEZİROĞLU SPECIAL AWARD 2021:**

Prof. Dr. Ramazan Solmaz

Prof. Dr. Ramazan Solmaz won the National Hydrogen Association 2021 Nejat Veziroğlu Special Award. We congratulate him and wish him sucsess in future studies.

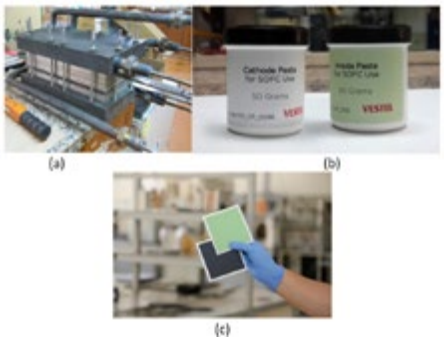
NATIONAL HYDROGEN ASSOCIATION **TECHNOLOGY AWARD 2021:**

Vestel Defense Industry Inc.

Vestel Defense Industry Inc. won the National Hydrogen Association 2021 Technology Award. We congratulate the company and wish them to continue their reseach and development for new products for hydrogen technologies. Mr. İbrahim Pamuk who is the director of Hydrogen Research in the company received the award. İbrahim Pamuk

completed his education in Tarsus American College (1968), in Ankara Science High School (1971), Bachelor (1975) and Master's Degree (1977) in METU Chemical Engineering, respectively. He has been working at Fuel Cells and Hydrogen Technologies Department at Vestel Defense Industry Inc. since 2003. He worked as a researcher and coordinator in more than 20 projects (seven national, seven international and more than 6 equity projects).Vestel Defense Industry Inc. information is given on E-Newsletter 8. Moreover, as a UAV manufacturer, there are ongoing system development projects for UAVs with both microtubular SOFC and PEM fuel cell with metallic bipolar plate. Likewise, R&D studies continue on fuel cell applications for buses, trains and sea platforms, and even on-site hydrogen production and purification for larger platforms. Some of the Vestel Defense Industry Products are shown below; Metallic Bipolar Plate for PEM FC , 1.3kW SOFC Stack, Anode ve Cathode Pastes, Electrolyte Supported SOFC Membrane Electrode Assembly with 81 cm2 Active Area.





NATIONAL HYDROGEN ASSOCIATION **YOUNG RESEARCHER AWARD 2021:** **Dr. Bilge Coşkuner Filiz**

Dr. Bilge Coşkuner Filiz won the National Hydrogen Association 2021 Young Researcher Award. She is Assistant Professor in Metallurgical-Materials Engineering Department Yıldız University, İstanbul Turkey. She is also assistant director at the Energy Application and Research Center of the same university.We congratulate and wish her success in her future studies.



" Dr. Bilge Coşkuner Filiz conveyed her resume to us as follows:

"I completed my undergraduate educations at Yıldız Technical University-Chemical Engineering in 2010, Yıldız Technical University-Mechanical Engineering and Anadolu University-Business Administration in 2012. I studied my master and PhD at the Department of Chemical Engineering at Yıldız Technical University with TÜBİTAK-BİDEB supported national success scholarship programs (2210-A and 2211). Within the scope of my master's work that I completed in 2012, I worked on the development of Co-B-based catalysts for hydrolysis-based hydrogen production from sodium borohydride (NaBH4), one of the prominent chemical hydrides in hydrogen storage. In 2017, I finished my PhD studies, within the scope of the project supported by the National Boron Institute-BOREN, on the synthesis of ammonia borane (NH3BH3) compound with high hydrogen content in solid state hydrogen storage, the development of a multi-component heterogeneous catalyst for hydrolysis-based hydrogen production and the examination of reaction performance tests. During my doctoral studies, I worked as a researcher in 5 different projects on heterogeneous catalyst design for the production of sustainable and renewable fuels at the University of Amsterdam, van't Hoff Molecular Science Institute, Sustainable Chemistry and Heterogeneous Catalyst Group. I actively participated in research in many national and international projects in Turkey and Holland. My postdoctoral studies mainly focus on solid-state chemical hydrogen storage, heterogeneous catalyst design for boron-based fuels, their characterization and performance testing of catalysts used in solvolysis-based hydrogen production systems.

I have been published more than 30 publications, which are mainly about hydrogen energy, in international peer-reviewed journals with high impact value journals such as International Journal of Hydrogen Energy, Applied Catalysis B, Applied Catalysis A etc. I have made presentations at many international and national conferences on this topic. I have six book chapters and one encyclopedia chapter published in international publishers. Together with this, two of my master students that I co-supervise are developing catalysts for the catalytic production of hydrogen stored in chemical form.

I was awarded the 2021 "Young Researcher Award" of the National Hydrogen Technologies Association for my work on chemical hydrogen storage and the development of active catalysts for hydrogen production. I would like to thank the National Hydrogen Technologies Association for honoring me with this prestigious award. This award has been a great source of motivation for my work on hydrogen technologies as a young scientist. It also encouraged me to train young scientists who are willing to do research on hydrogen technologies.

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NATIONAL HYDROGEN ASSOCIATION **STUDENT RESEARCHER AWARD:**

Mert Temiz

Mert Temiz is the winner of the National Hydrogen Association 2021 Student Researcher Award. Mert pursues a PhD study under the supervision of Professor Dr. Ibrahim Dincer at Ontario Technical University, Canada.



He always takes an eager interest in technology and environment under the influence of his science teacher father and engineer mother. During his early educations, he actively joined his mother's engineering activities in remote villages, focused on mathematics and physics, attended many times to the Turkish Informatics Olympiad as the captain of his school's team. He graduated from the mechanical engineering department night education program at Yildiz Technical University. He received Erasmus grant from the European Union to study his second year in Technical University of Darmstadt. He explored major industrial hubs and scientific institutions during his 12 months education in Germany. During his education, he met with the energy department chair of Bogazici University, a Princeton alumnus, Professor Dr. Haluk Ors. He exploited the night-education's advantage and worked in Dr. Haluk Örs's renewable energy technologies company during and after his undergraduate education. He started as an intern and became the chief project engineer in Renko Energy, where he developed $18.2M worth of renewable energy projects and a domestic tracker structure.

At the end of his undergraduate education, he designed his graduation project, under the influence of his Professor, Dr. Ibrahim Dincer, by integrating his industrial experience with hydrogen energy technologies. While graduating from his undergraduate study under the supervision of Dr. Nader Javani, he presented three international conference papers and published his first journal paper, which became a highly cited paper on Web of Science.

He participates in studies in areas such as sustainable energy, exergy, integrated systems, hydrogen technologies and energy storage in the Clean Energy Research Lab (CERL) of Ontario Technical University, Canada. He actively pursues his doctoral studies on the development of a variety of original and innovative technologies with industry partners, commercial projects and research-oriented applications. He has more than 10 international articles and conference presentations during his doctorate education. As an engineer and researcher working in the field of energy, he thinks that his biggest obligation is to carry out studies to reduce fossil fuel dependence in mitigating climate change. We congratulate Mert Temiz and wish him success in his work.

CONGRESS AND WORKSHOPS

Fifth International Hydrogen Technologies Congress IHTEC2021 May 26-28, 2021. ihtec2021.org

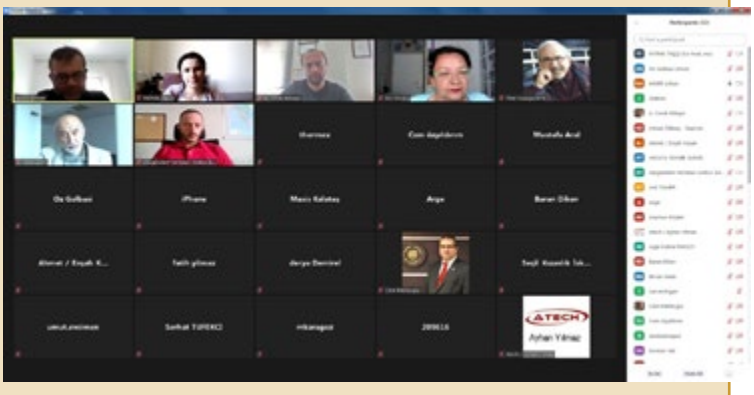
TUBA World Congress on Energy Science and Technology, Aug 8-12, 2021. http://tuba.gov.tr/tr/haberler/akademiden-haberler/tuba-world-conference-on-energy-science-and-technology

3RD INTERNATIONAL HYDROGEN ENERGY CONGRESS AND EXHIBITIONS, IHEC2021 was held online in June 14-16, 2021 / GAZI UNIVERSITY, ANKARA, TURKEY. You can watch the presentations from Youtube ihec 2021. Abstract book of the congress is published. Manuscripts are sent to journals.
https://www.youtube.com/channel/UCJvutNg2WnJ5fwhB4rnUZdw

Future of Hydrogen and renewable energy: 4th Ministrial Meeting was organized by Japan on October 4th 2021, online. Hydrogen-related efforts are gaining pace globally. Delegates from 29 countries, regions, international organizations, etc. (among them 18 ministers) and company representatives delivered messages and shared information about their efforts, challenges, and policy directions toward furthering the cause of using hydrogen globally in the future.
https://www.meti.go.jp/english/press/2021/1008_001.html

You can watch Canada-Turkey Hydrogen Technologies Workshop October 26-27, 2021, for two days' presentations. Recordings of the different sessions are on the website
https://hydrogen2021.com/

TUBA Biomass Energy Workshop and Panel, November 3-4, 2021.
http://tuba.gov.tr/tr/haberler/akademiden-haberler/tuba-biyokutle-enerjisi-calistayi-ve-paneli



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Esentepe Mah. Sağlam Fikir Sok. Esen Palas Apt. A Blok No:2 D:9 Esentepe / Şişli / İstanbul
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www.hidrojenteknolojileri.org

PUBLICATIONS

In the special issue of ARGE Magazine 2021-1/issue:29, publications on Green Hydrogen are included. Articles on the innovations brought by the hydrogen era, the production of hydrogen from nuclear energy as a sustainable energy source in the fight against climate change, clean production technologies of hydrogen, its storage and usage applications have been published. The article on Marmara Research Center Energy Institute studies was on the hydrogen value chain. In this issue, exclusive interviews featured were with National Hydrogen Association President Prof. İbrahim Dinçer, Aspilsan R&D unit manager Emre Ata, and Sabancı University Prof. Dr. Serhat Yeşilyurt. https://figes.com.tr/arge-dergisi

Journal of Science and Utopia (September 2021 / issue 327, page 55) is published an article, entitled "Hydrogen Energy and Fuel Cells" written by İnci Eroğlu.

The "International Renewable Energy Workshop" proceedings book (editor Dr. Recep Akdağ), which was held online on March 1-3, 2021, was published as Mardin Artuklu University Publications in August 2021. The 14th Session, held on the third day, is on the "Innovations that Hydrogen Energy Technologies Will Bring to Our Lives in the 21st Century". This session, attended by National Hydrogen Association members was moderated by Prof. Dr. Reşit Yıldız. Prof. Dr. Inci Eroglu, Prof. Dr. Kadir Aydin, Prof. Dr. Ramazan Solmaz and Prof. Dr. Adnan Midilli made presentations at the workshop (Proceedings Book, pages 293-321). You can watch the presentations of the 14th session on Youtube.

https://www.youtube.com/watch?v=im9wU2tLQEM

NEW INSTITUTIONS AND COMPANIES MEMBER OF NATIONAL HYDROGEN ASSOCIATION

AKSA ENERJİ

Kazancı Holding ranks among the leading companies in the energy industry, with operations in energy production, electricity distribution and sales, natural gas distribution, and generator production via affiliates who are leaders in their respective sectors. The company has built and operated more than 30 power plants using various energy sources, including coal, fuel oil, biogas, natural gas, wind, and hydroelectricity. Taking its experience abroad with power plant installations in countries that require urgent energy, Aksa Energy provides fast and reliable solutions in much energy.

For more information please click the link.

ZORLU ENERJİ

Zorlu Enerji is an energy company that aims to operate in different fields of the energy sector, providing a global scale integrated service. Zorlu Enerji, which is a subsidiary of Zorlu Enerji companies and the only publicly open company operates on various fields of the sector with an integrated corporate combination including electricity and steam generation and their retail, electricity sales, electricity distribution, solar panel sales and installation, natural gas sales and distribution, construction, management and maintenance of power plants and EV charging stations network.

Established in 1993, Zorlu Enerji operates in various fields of the sector with its experience of 25 years. In our areas of operation, we combine our well-established expertise with our corporate values and make a difference among other sector players in engineering, supply, construction, management, maintenance, and repair.

For more information please click the link.

GK ENERJİ

With more than 20 years of project planning and application management experience in the energy sector, on behalf of the development of our country's industry and industry; It started its activities under the name of GK Energy to provide consultancy, consultancy, and project implementation services in Energy Generation, Transmission, Distribution, and Management. It is a consultancy and contracting firm founded by Gürsel Kızıloğlu. With the experience gained by taking part in hundreds of project activities, it aspires to present the solutions needed by the investors whose paths somehow cross with energy, develop projects with high added value in this field, and be one of the leading institutions in this its field.

For more information please click the link.

OZENERGY

Headquartered in Izmir, OzEnergy operates in local and international energy markets. In addition to projects in Turkey, OzEnergy is actively involved in projects in various world regions such as Ukraine, Albania, the Turkish Republic of Northern Cyprus, Iraq, and Ethiopia. With OzEnergy's fast, flexible and expert photovoltaic professionals and industry-renowned installation, analysis, and security partner network, it offers all services for the building and profitable operation of solar power plants. As of 2021, OzEnergy experts have been actively involved in the engineering, procurement, installation, and operation maintenance processes of more than 300 MWp solar power plant projects in total. OzEnergy is the authorized regional partner of German Enerpac AG, which is the largest EPC and investor in Europe.

For more information please click the link.

ASPİLSAN ENERJİ A.Ş

ASPİLSAN ENERJİ, was established in Kayseri Organized Industrial Zone on May 21, 1981 with the donations made by the citizens of Kayseri. The company started with the aims to meet the basic needs of the Turkish Armed Forces, charged nickel cadmium batteries and has made great improvements in the past time, increasing its product range to more than 150 types of batteries which has been used for all kinds of civil and military requirements.

Main Products and Service Areas:

- All Kinds of Ni-Cd, Ni-MH, Li-Ion, Li-Po Batteries
- Solar Cell, Thermal Cell and Fuel Cell
- Renewable energy
- Energy Storage Systems
- Chargers
- Battery / Battery Laboratory Test Systems
- Nickel Cadmium Complete Aircraft Batteries and Cells

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