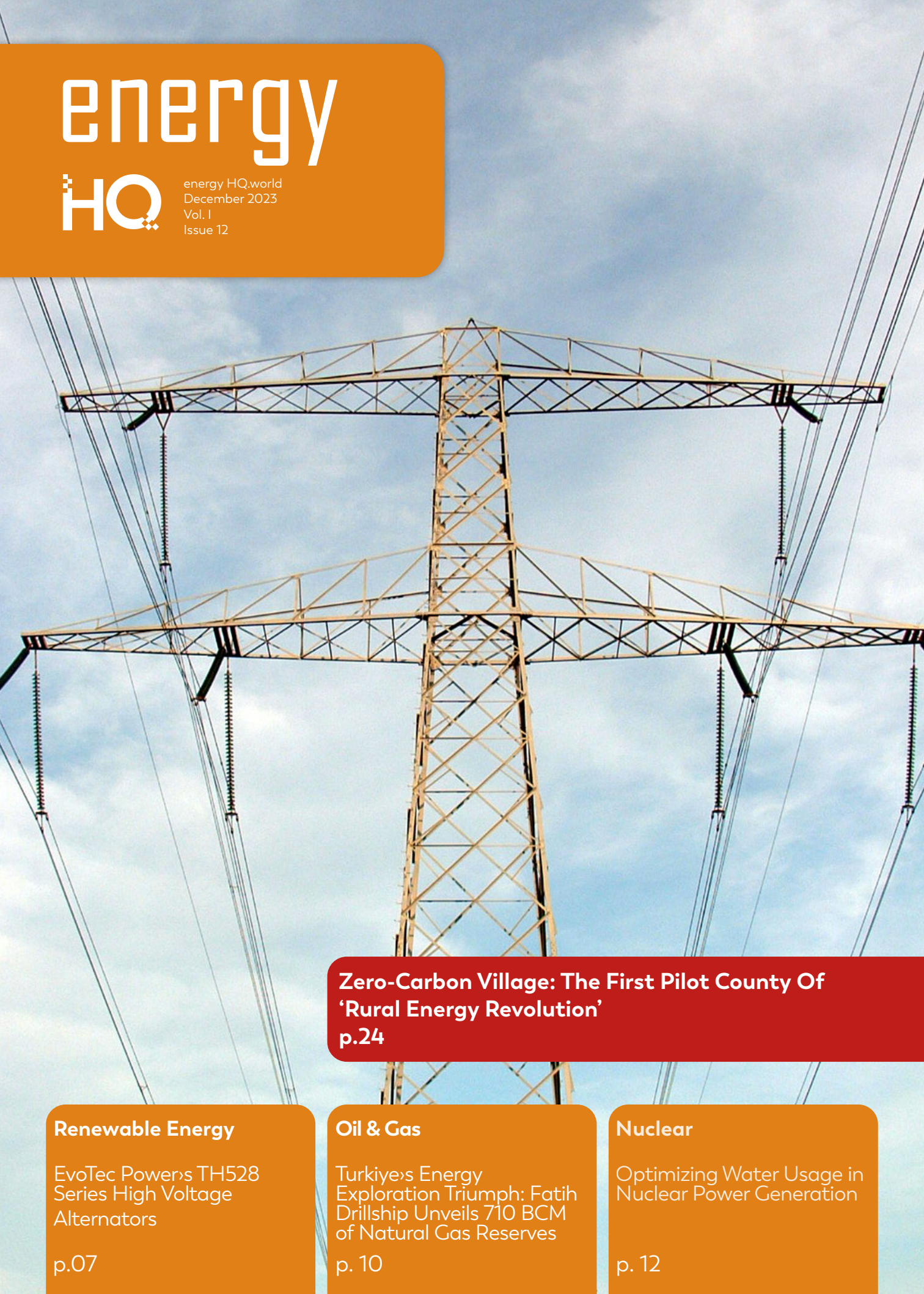
energy HQ

energy HQ.world
December 2023
Vol. I
Issue 12



Zero-Carbon Village: The First Pilot County Of 'Rural Energy Revolution'
p.24

Renewable Energy

EvoTec Power›s TH528 Series High Voltage Alternators

p.07

Oil & Gas

Turkiye›s Energy Exploration Triumph: Fatih Drillship Unveils 710 BCM of Natural Gas Reserves

p. 10

Nuclear

Optimizing Water Usage in Nuclear Power Generation

p. 12

HITACHI
Inspire the Next

Energy Saving Solution

50 years Experience!

Submersible Motors for Deepwell Pumps

Proven Reliability
Quality Construction
Excellent Performance
Friendliness

Electric Motor

Single Phase motor
High Efficiency
Low Vibration

3 Phase motor
High Performance
High Efficiency
Small Size
Light Weight
IE1, IE2 and IE3 available

Powerful Inverter

High Starting Torque
Network Compatibility
Environmental Friendliness

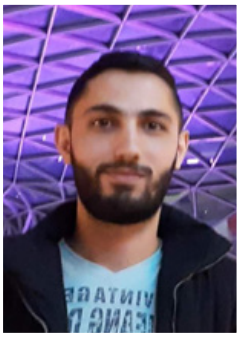
Easy Operation

Hitachi Ltd., Middle East Branch
301 Al Gurg Tower 1, Baniyas Road, Deira
P.O. Box: 5561, Dubai, U.A.E.
Tel: +971 (4) 228 3617 Fax: +971 (4) 221 1783
Contact Person: Ghanem Hamed – General Manager
Email: inquiry.mena.da@hitachi.com

Hitachi Asia Ltd.
30 Pioneer Crescent, #10-15 West Park Bizcentral
Singapore 628560
Tel: +65 6304 7426 Fax: +65 305 7401
Contact Person: James Fong
Email: jfong@has.hitachi.com.sg
URL: http://www.hitachi.com.sg/ice

Hitachi Industrial Equipment Systems Co.,Ltd.
http://www.hitachi-ies.co.jp/english/
AKS Bldg.,3,Kanda Neribei-cho, Chiyoda-ku, Tokyo, 101-0022 Japan International Sales Dept (SX Dept)
Tel: +81 3 4345 6527 Fax: +81 3 4345 6914 Email: kondoh-shimpei@hitachi-ies.co.jp

Unveiling the Advantages of Captured Methane for the Energy Sector



Capturing methane, a potent byproduct emitted from various sources like landfills, livestock operations, and natural gas facilities, offers a plethora of advantages for the energy sector beyond its sustainability benefits. Methane, known for its high energy content, presents a valuable resource that can be efficiently utilized to power various industrial processes and generate electricity, thus unlocking numerous economic and operational advantages.

Landfills, often viewed as mere waste disposal sites, are actually reservoirs of untapped energy in the form of methane gas. Through the implementation of advanced capture systems, this methane can be harvested and converted into electricity or used as a reliable fuel source. This not only reduces harmful emissions but also transforms landfills into productive energy hubs, generating revenue and offsetting operational costs.

Livestock operations, another significant source of methane emissions, can benefit immensely from methane capture technologies. By capturing methane emitted from manure management and animal digestion processes, farmers can not only mitigate environmental impacts but also harness a valuable energy resource. This presents a win-win scenario, where farmers can supplement their income through energy production while reducing their carbon footprint.

Natural gas facilities, including extraction sites and pipelines, also stand to gain from methane capture initiatives. By implementing efficient capture and utilization methods, these facilities can minimize wastage and enhance operational efficiency. Additionally, the utilization of captured methane can diversify energy sources, reducing dependence on traditional fossil fuels and enhancing energy security.

Moreover, the economic advantages of methane capture extend beyond direct energy production. Methane, when converted into electricity or utilized as a fuel, can create new revenue streams and job opportunities in sectors ranging from energy production to waste management. This stimulates economic growth while simultaneously addressing environmental concerns.

In This Issue!

energyHQ's December 2023 issue covers the most recent developments and events pertaining to the energy industry, as well as including valuable insights, details and spec sheets / peer reviews related to latest technologies, innovations, products, services, and projects of relevance to the industry and its audience.

Additional content is also available covering the latest activities of manufacturers, importers, and exporters – worldwide!
We hope you benefit from this issue's content and find it useful & actionable for your business. For any comments, suggestions, or feedback please don't hesitate to contact me.

Best wishes,
Hassan Mourtada
Editor-in-Chief / Content & Research Officer.
h.mourtada@1world.xyz

Issue Contents

Issue Contents

World Energy Digest

South Africa

Support for South Africa's Energy Transition

Development finance institutions like the World Bank and African Development Bank (AfDB) have recently pledged substantial loans to South Africa to support its controversial Just Energy Transition Plan (JETP).

The World Bank has approved a $1 billion loan to aid South Africa in restructuring its energy sector, allowing Eskom to focus on transmission and distribution while encouraging private investment in electricity generation, including rooftop solar adoption. Marie Francoise Marie-Nelly, the World Bank's country director for South Africa, expressed support for the country's energy reforms. Mmakgoshi Lekhethe, deputy-director general for asset and liability management at the National Treasury of South Africa, emphasized the loan's significance in providing fiscal and technical support for energy sector policy priorities.

The AfDB also confirmed a $300 million loan for the same reforms, joined by contributions from Canada ($551 million) and Germany ($91 million).

South Africa's JETP, initiated at the COP26 climate summit in 2021, aims to replace coal, which currently provides 70% of the country's electricity, with renewable energy sources, although concerns about coal-related employment persist within the ruling African National Congress.

Canada

Canada Expands Tax Credits for Biomass Energy

The Government of Canada announced on Nov. 21 its decision to extend Clean Technology Investment Tax Credit and Clean Electricity Investment Tax Credit benefits to systems utilizing waste biomass for heat and/or electricity production. Department of Finance Canada disclosed these plans in its 2023 Fall Economic Statement, aiming to bolster the economy, combat climate change, and foster job creation.

The proposed expansion of the 30% Clean Technology Investment Tax Credit would cover businesses investing in eligible property acquired after the 2023 Fall Economic Statement. Similarly, the 15% Clean Electricity Investment Tax Credit would now include waste biomass systems for projects not initiated before March 28, 2023, starting from Budget 2024. Drax Group plc praised this move, highlighting biomass's significance in clean energy and its potential to reduce diesel reliance in remote areas. CEO Will Gardiner emphasized biomass's role in climate mitigation, particularly through bioenergy with carbon capture and storage (BECCS).

Drax sees Canada as an ideal BECCS deployment site due to its abundant fiber resources, sustainable forestry sector, and suitable CO2 storage geology. The company, having invested over $830 million in Canada's forestry sector, anticipates significant job creation and economic growth opportunities, emphasizing collaboration with First Nations communities and businesses to advance the biomass industry further.

Egypt

Egypt and Siemens Collaborate on Renewable Energy

Egypt's Minister of Electricity and Renewable Energy, Mohamed Shaker, met with Andreas Matthe, CEO of Siemens Smart Infrastructure's Electrical Products Business Unit, alongside Mostafa El-Bagoury, CEO of Siemens Egypt, and Mohamed Badran, Head of Siemens Egypt's LV and MV business. They discussed collaboration opportunities in Egypt's electricity and renewable energy sector and investment prospects.

Shaker highlighted Egypt's strong relationship with Germany and ongoing partnerships with Siemens. He noted successful collaborations in constructing three large power stations, achieving 60.5% efficiency and significant fuel savings.

Shaker emphasized Egypt's strategy to achieve over 42% renewable energy share by 2030 and initiate green hydrogen pilot projects, with 23 MOUs signed during COP 27. He stressed Egypt's interest in becoming a clean energy gateway in Africa and supporting neighboring countries.

The Ministry aims to localize industries for renewable energy and green hydrogen projects and pursue electrical interconnection projects with neighboring countries, Cyprus, Greece, and electricity export to Europe.

Matthe praised Egypt's rapid progress in electricity and renewable energy projects and expressed Siemens' commitment to enhancing cooperation and investing in Egypt's energy sector. He commended Egypt's ambitious visions for energy transition and environmental preservation, pledging continued support and expertise.

Ethiopia

World Bank's MIGA Boosts Investment in Ethiopian Geothermal Project for Sustainable Energy Diversification

The Multilateral Investment Guarantee Agency (MIGA) of the World Bank has bolstered its support for Tulu Moye SAS of France by increasing guarantees for its investments in Tulu Moye Geothermal Operations Plc of Ethiopia. Originally standing at $67.5 million in 2021, the guarantees now amount to $117 million, with $49.5 million added to cover equity and quasi-equity investments. MIGA utilized the IDA Private Sector Window MIGA Guarantee Facility, with a shared first loss layer of up to $40.95 million, including IDA's share of $32.76 million.

This initiative focuses on Phase 1 of a 150-MW greenfield geothermal power plant in Ethiopia's Oromia Regional State. The project, set to deliver 50 MW of power to Ethiopian Electric Power under a 25-year agreement, aims to diversify Ethiopia's energy production. Employment opportunities have already been created, with around 280 workers, including 13% female employees, engaged in drilling and construction activities.

Ethiopia, heavily reliant on hydropower, aims to reduce its vulnerability to droughts by diversifying its energy mix. The successful completion of this geothermal plant will contribute to baseload energy production, aligning with Ethiopia's broader renewable energy ambitions. Scheduled for operation by the end of 2023, the project signifies a significant step towards a more sustainable energy future for the country.

Bahrain

Bahrain Unveils National Energy Strategy for Sustainable Future

Bahrain has unveiled its National Energy Strategy, outlining a clear pathway to meet its climate targets set at COP26. With a pledge to reduce emissions by 30% by 2035 en route to achieving net-zero emissions by 2060, the strategy focuses on decarbonizing the economy while ensuring reliable and affordable energy access to fuel growth.

Rooted in collaboration between government and industry, Bahrain's approach leverages partnerships to harness expertise for comprehensive planning across sectors. The strategy emphasizes optimizing energy demand, diversifying the power mix with cleaner sources, and deploying carbon abatement technologies.

Bahrain sees economic potential in its plan, aiming to become a regional hub for clean technology development and testing. His Highness Shaikh Nasser bin Hamad Al Khalifa emphasized the importance of this transformative journey towards a sustainable future, emphasizing shared responsibility and innovation in the domestic energy industry.

The National Energy Strategy offers a realistic pathway for Bahrain to decarbonize its economy, guiding the energy transition and fulfilling its net-zero commitments by 2060.

Portugal

Portugal Sets New Renewable Energy Records, Surpassing Electricity Demand for 149 Consecutive Hours

Portugal achieved a remarkable milestone from October 31 to November 6, with renewable energy production outstripping the nation's electricity demand for an unprecedented 149 consecutive hours, setting a new record. During this period, 1102 GWh of electricity was generated, surpassing the country's consumption of 840 GWh by a significant margin of 262 GWh, catering to both household and industrial needs. This achievement surpassed the previous record set in 2019 by 18 hours.

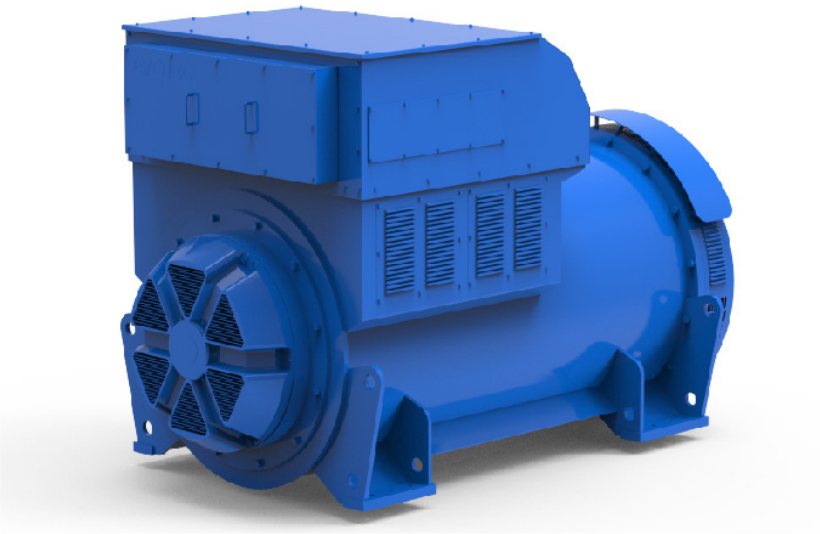
Moreover, for 131 hours starting on October 31, renewable energy exceeded the requirements of the entire National Electric System, including the needs for hydroelectric reservoir pumping, all without resorting to conventional thermal power sources. Additionally, between November 1 and November 5, there were 95 continuous hours where renewable production exceeded consumption, enabling Portugal to export electricity to Spain without relying on Natural Gas Combined Cycle Plants.

These records underscore Portugal's commitment to sustainable energy practices. With a target to generate 85% of electricity from renewables by 2030, Portugal aims to decommission all natural gas-fired power stations by 2040 and achieve carbon neutrality by 2045, five years ahead of schedule. October saw renewable energy contributing 67% of the country's power needs, with wind power registering historic highs and making up 24% of the renewable energy mix, followed by hydropower (18%), solar power (8%), and biomass (6%) since the beginning of the year.

Renewable Energy

07 Alternators

EvoTec Power's TH528 Series High Voltage Alternators



EvoTec Power stands as a leader in the realm of high voltage alternators and power generation solutions, boasting a commitment to innovation and excellence. Our relentless dedication to research and development has culminated in the creation of the remarkable TH528 Series alternators, equipped with independent intellectual property rights. In this piece, we will explore the cutting-edge features of this series, specifically tailored to fulfill the prevalent demand for 1500 kVA alternators.

Introducing the TH528 Series High Voltage Alternator

In industries where dependable and high-performance power generation is crucial, the requirement for 1500 kVA alternators is widespread. EvoTec Power addresses this need with our TH528 Series high voltage alternators, meticulously engineered to meet rigorous demands while offering exceptional efficiency and robust output.

The TH528 Series goes beyond conventional alternators, boasting the capability to support generators with a maximum high voltage of up to 13,800V and a top power output of 2750 kVA. Designed for heavy-duty applications, these alternators seamlessly integrate into 11KV generators, ensuring uninterrupted and reliable operation even in challenging conditions.

Advantages Setting EvoTec Power Apart

A standout feature of our TH528 Series alternators is their compact design, which not only saves space but also enhances ventilation and heat dissipation. This results in optimal performance and longevity, along with significant cost savings for operations. Additionally, the sleek and unique appearance of the TH528 Series reflects our commitment to originality and patented designs, ensuring that our products stand out in the market.

In the realm of high voltage alternators, the TH528 Series stands as a true heavyweight. With super high voltage output capabilities, these alternators provide the necessary power for the most demanding applications. Choosing EvoTec Power means opting for performance that surpasses expectations.

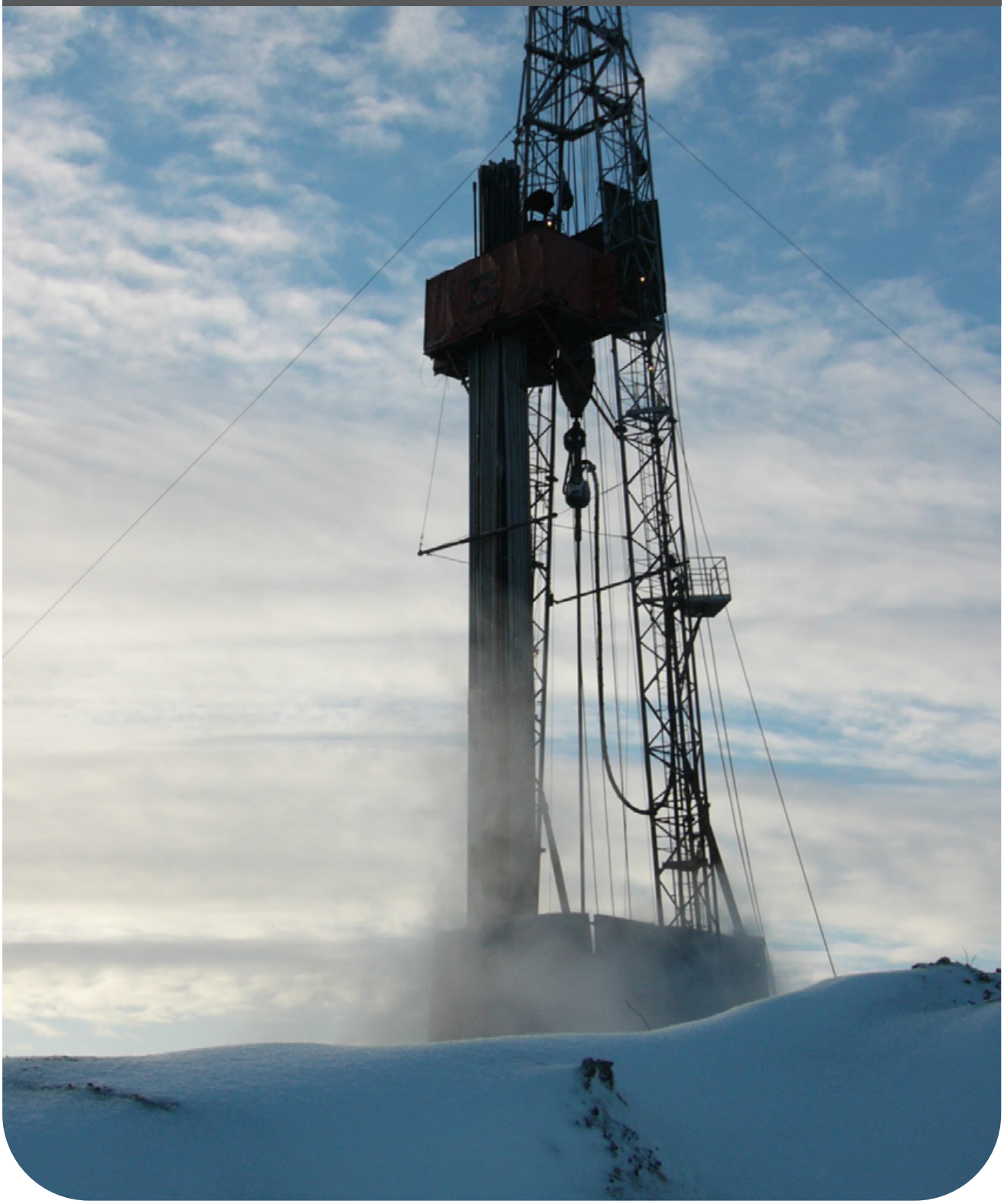
Quality Assurance and Certifications

At EvoTec Power, we uphold the highest standards of quality, as evidenced by our ISO 9001:2015 and ISO 14001:2015 certifications, showcasing our dedication to quality management and environmental responsibility. Furthermore, our alternators carry the CE marking, indicating compliance with European safety and environmental regulations.

https://en.evotecpower.com/

Oil & Gas

10 Drilling Ships



KELLER

IoT STARTS
WITH A SENSOR

keller-druck.com

Turkiye's Energy Exploration Triumph: Fatih Drillship Unveils 710 BCM of Natural Gas Reserves

Fatih Drilling Ship

COver the past four years, the Fatih drillship has made significant natural gas discoveries, uncovering a total of 710 billion cubic meters (bcm) of reserves in Türkiye's territorial waters. Türkiye's first drillship, Fatih, has played a pivotal role in this exploration, alongside other vessels like Yavuz, Kanuni, and Abdulhamid Han, all contributing to Türkiye's efforts to minimize energy dependency.

In line with this objective, Türkiye has expanded its hydrocarbon exploration activities, deploying a fleet of drilling and seismic research vessels in both the Black and Eastern Mediterranean seas. Notable additions to this fleet include the seismic research vessels Barbaros Hayreddin Pasha and Oruc Reis, joining in 2012 and 2017, respectively.

The Fatih drillship, a sixth-generation ultra-deepwater vessel, measures 229 meters in length and 36 meters in diameter. Built in South Korea in 2011, it commenced drilling operations in the Mediterranean Sea in 2017 before embarking on its pivotal mission in the Black Sea.

On May 29, 2020, coinciding with the 567th anniversary of the conquering of Istanbul, Fatih set sail from Haydarpasa Port for Türkiye's first national drilling expedition in the Black Sea. The ship underwent necessary preparations, including disassembling its rigs to navigate the Bosphorus, before reaching Trabzon Port for reassembly.

Fatih initiated Türkiye's inaugural deep-sea drilling in the Black Sea on July 20, 2020, at the Tuna-1 location near Zonguldak, aiming for depths between 3,500 to 4,000 meters. This endeavor proved fruitful, with the Tuna-1 well yielding 405 bcm of gas, marking Türkiye's first significant Black Sea discovery. Subsequent discoveries in the Amasra-1 and Caycuma-1 wells added to Türkiye's burgeoning gas reserves, culminating in a total of 710 bcm.

The ongoing mission of the Fatih drillship in the western Black Sea necessitates periodic maintenance and logistical support. Currently anchored at Filyos port in Zonguldak for routine maintenance, Fatih exemplifies Türkiye's commitment to energy self-sufficiency through relentless exploration efforts.

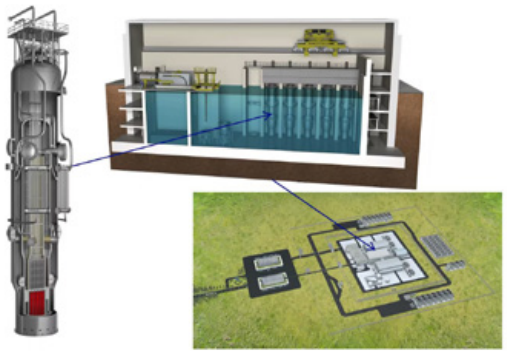
By Fuat Kabakci and Dilara Hamit
https://www.aa.com.tr/

Nuclear

12 Condensers

Optimizing Water Usage in Nuclear Power Generation

Nuclear power stands at the forefront of global energy discussions, offering a low-carbon alternative to traditional fossil fuel sources. However, as societies increasingly prioritize sustainability, the environmental impact of nuclear energy, particularly its water usage, comes under scrutiny. While solar and wind power installations tout minimal water consumption, the role of water in nuclear power generation, particularly through the condenser process, remains complex. This article delves into the nuances of condenser technology in nuclear power plants, exploring current practices, challenges, and promising innovations poised to revolutionize water usage and enhance the sustainability of nuclear energy.



NuScale Plant Site Overview

Understanding Condenser Technology in Nuclear Power Plants

Nuclear power plants today predominantly operate using two main designs: boiling water reactors (BWRs) and pressurized water reactors (PWRs). Both rely on water for critical functions within the reactor vessel. Water acts as a moderator, regulating neutron flow to sustain fission reactions, while also serving as a coolant, absorbing heat generated by fission to produce steam that drives turbines for electricity generation.

The Challenge of Condensation

Upon exiting the turbine, steam must undergo condensation back into water for reuse within the system. This crucial step requires additional water, typically sourced from natural bodies such as rivers, lakes, or oceans. Traditional nuclear plants employ various cooling systems, each with distinct water requirements and environmental implications.

Once-through cooling systems withdraw large volumes of water from natural sources, use it for condensation, and then discharge it back. While efficient in water usage, this method poses ecological risks, including fish mortality due to intake processes. In contrast, plants with cooling towers recycle water more efficiently, reducing overall water consumption but still requiring significant amounts for condensation.

Comparative Analysis with Fossil Fuel Plants

The water-intensive nature of condensation is not unique to nuclear plants; coal and gas-fired power plants employ similar processes. However, advancements in nuclear technology offer promising alternatives to mitigate water usage. For instance, upcoming small modular reactors (SMRs) may utilize air-cooled condensers, eliminating the need for water altogether. While this innovation reduces reliance on water sources, it introduces energy penalties due to the electricity required to operate fans for cooling.

Potential of Air-Cooled Condensers

Despite potential drawbacks, air-cooled condensers offer strategic advantages, particularly in arid regions where water scarcity is a concern. However, their efficiency diminishes in hotter climates, impacting electricity production during peak demand periods. Nevertheless, industries like coal power have already implemented air-cooled condensers, demonstrating their feasibility and adaptability.

Innovative Reactor Designs and Water Conservation

Advanced reactor designs show promise in further reducing water consumption. Reactors utilizing molten salt or molten metal to produce steam operate at higher temperatures, maximizing energy output per unit of heat. Similarly, gas-graphite reactors eliminate the need for water by re-heating inert gases without condensation. These innovations not only enhance efficiency but also diversify energy sources, contributing to a more sustainable energy landscape.

Integration of Heat Recovery Systems

Future nuclear plants may integrate heat recovery systems to utilize waste heat from condensation for beneficial purposes like water desalination or industrial processes. This approach maximizes resource utilization and minimizes environmental impact, aligning with broader sustainability goals.

Challenges and Opportunities

While challenges persist, such as fluctuating rainfall patterns and rising water temperatures, nuclear energy remains a viable solution with the potential to address water-related challenges while meeting growing energy demands sustainably. By embracing innovative condenser technologies, optimizing resource utilization, and embracing environmental stewardship, the nuclear industry can navigate the complexities of water usage while contributing to a greener and more sustainable future.

In conclusion, the condenser process in nuclear power generation plays a pivotal role in water usage and environmental impact. Advancing condenser technology holds the key to unlocking the full potential of nuclear energy as a sustainable power source. By leveraging innovative cooling technologies, optimizing resource utilization, and embracing environmental stewardship, the nuclear industry can navigate the complexities of water usage while contributing to a greener and more sustainable future.

https://thebreakthrough.org/

POWER FOR RENT

PRAMAC produces, develops and distributes portable and industrial generators from 1 to 2600 KVA in standard and customized solutions, to follow the customers' needs from heavy duty activities to major power engineering projects.

PRAMAC

www.pramac.com

Rental Generators

Stationary Generators

Lighting Equipment

Portable Generators

Material Handling

Racing Team

Electric

15 Panel Boards

Introducing ABB's Protecta Power Panel Board

ABB›s latest innovation, Protecta Power, represents a significant leap forward in panel board technology, seamlessly integrating cutting-edge digital monitoring and control features. This groundbreaking solution guarantees stable and reliable power distribution, empowering smart electrical management across various sectors including commercial, institutional, infrastructure, and residential buildings.

At the heart of Protecta Power lies the integration of advanced smart moulded case circuit breakers (MCCBs) such as the Tmax XT, equipped with built-in digital communication, protection, and control capabilities. This integration offers unparalleled flexibility, catering to diverse requirements across a wide spectrum of facilities. Additionally, optional remote monitoring and precise sub-metering functionalities enable convenient access to consumption and billing data from remote locations.

Kevin Lenton, ABB's UK Product Marketing Director for Smart Buildings, elaborates on the significance of Protecta Power: «Serving as the pinnacle of ABB›s Protecta product line, Protecta Power is engineered to deliver both flexibility and intelligence within electrical distribution systems. By incorporating smart devices and optimizing mechanical segregation within the panel, we›ve significantly enhanced our offering to meet the evolving needs of our customers.»

The latest iteration of Protecta Power boasts improved connectivity, flexibility, and mechanical segregation, alongside customizable layouts, enhancing user experience and longevity. Moreover, it complies with the stringent safety standards outlined in Form 4, types 2, and 6 under the BS EN 61439 safety standard, ensuring utmost safety and reliability.

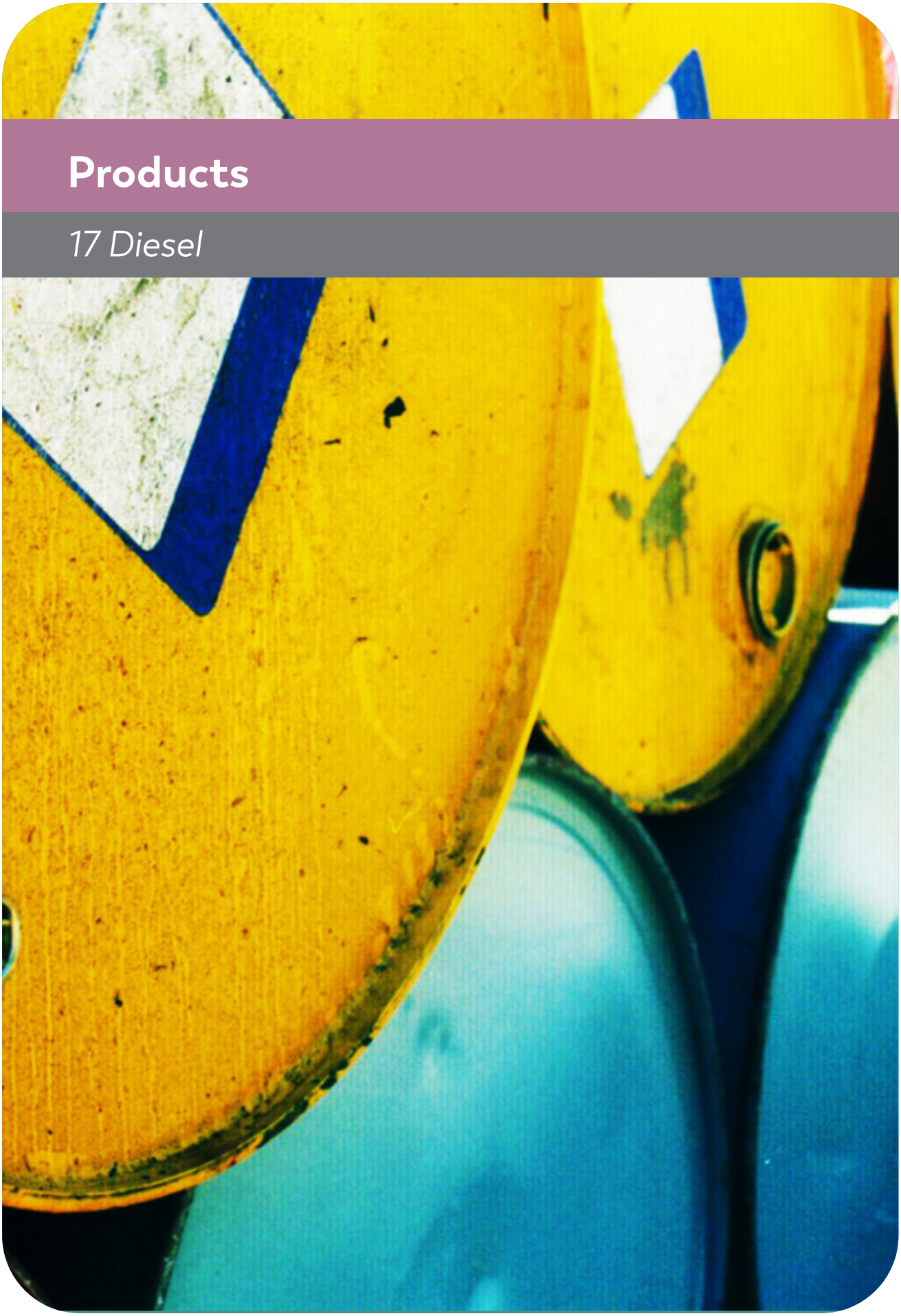
Protecta Power sets new benchmarks with its impressive specifications, offering incoming and outgoing current ratings of 800 Amps (A) and 630 A respectively, all within a compact footprint. This comprehensive solution completes the ABB Smart Buildings portfolio, providing end-to-end solutions ranging from grid management to individual switchboards.

Protecta Power stands as a testament to ABB›s commitment to innovation and excellence in the realm of electrical distribution. With its advanced features, robust design, and seamless integration of digital technologies, Protecta Power not only meets but exceeds the expectations of modern building infrastructure, ushering in a new era of efficiency and reliability.

https://new.abb.com/

Products

17 Diesel



Neste's Renewable Diesel Revolutionizes the French Market

Neste has entered into strategic partnerships with two prominent distributors in France, aiming to revolutionize the diesel market with the introduction of Neste MY Renewable Diesel™. This innovative step not only marks a significant milestone in the French fuel industry but also represents a pivotal move towards combating the pressing issue of greenhouse gas emissions in the transportation sector. Scheduled for availability from January onwards, this development holds promising implications for reducing emissions, particularly in a country where transportation accounts for a staggering 30% of all greenhouse gas emissions.

Neste MY Renewable Diesel offers a compelling solution, boasting an impressive reduction in greenhouse gas emissions ranging from 75% to 95% over the fuel›s entire life cycle compared to conventional diesel. Peter Zonneveld, the Vice President of Sales EMEA for renewable road transportation at Neste, underscores the profound impact this collaboration will have on emissions reduction efforts.

The collaboration with Altens and Bolloré Energy, two esteemed fuel distribution partners, underscores a shared commitment to effective decarbonization initiatives. Mohamed Bennama, Director at Altens, emphasizes the reliability and efficiency of Neste MY Renewable Diesel in significantly curtailing emissions, while ensuring compliance with relevant technical standards. This partnership reflects a mutual dedication to advancing sustainable practices within the industry.

Thibaut de Rivoire, Deputy CEO of Bolloré Energy, echoes this sentiment, expressing pride in the partnership with Neste and emphasizing its alignment with their overarching goals of reducing greenhouse gas emissions in the transportation sector. This strategic alliance signifies a collective endeavor towards fostering a more sustainable future, not only within France but also on a global scale. Through the combined efforts of these industry leaders, Neste MY Renewable Diesel is poised to play a pivotal role in shaping a greener, more environmentally conscious landscape for the diesel market.

https://biofuels-news.com/

“

Because a fluorescent lightbulb does not provide light through the continual heating of a metallic filament, it consumes much less electricity than an incandescent bulb—only one-quarter the electricity or even less, by some estimates.

Services

21 Communications

Huawei's Vision for Intelligent Power Distribution Networks

The power distribution network stands as the pivotal link between power grids and end-users, significantly influencing the quality and reliability of power supply. However, as new power systems emerge, challenges mount for medium and low voltage distribution networks in accommodating open and interactive service scenarios, including system operations, production technology, and marketing.

The proliferation of sites to manage places considerable strain on distribution networks, besieging them with numerous faults and labor-intensive inspections. Hence, the imperative to establish intelligent power distribution networks to harness the potential of digital power distribution.

Communication emerges as the lifeline for power distribution network services, serving as the bedrock for digitalization efforts. Yet, traditional power systems often operate in communication blind spots, particularly in scenarios of 10kV or lower, leading to inefficient control and adjustment mechanisms.

Embracing real-time power systems offers a paradigm shift, characterized by stability, reliability, efficiency, and distributed performance, facilitating extensive access. Establishing a robust power distribution communication network, coupled with simplified Operations and Maintenance (O&M), emerges as the linchpin for ensuring the seamless operation of distribution services.

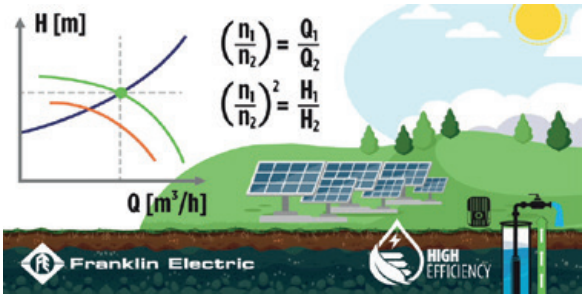
Saving energy up to 21 % with Solar High Efficiency borehole pumping systems

Superior efficiency through permanent magnet technology

In times of rising energy costs, new systems put more and more emphasis on the best possible efficiency. Here, Franklin Electric has set a new benchmark with its High Efficiency borehole systems (HES). Compared to standard asynchronous motors, energy savings of up to 21 % have been achieved in numerous systems installed worldwide. The key factor for energy savings and superior efficiency is the permanent magnet technology of the motor. Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets. The system can be operated with grid or solar supply. The variable frequency drive (VFD) offered by Franklin Electric can be controlled remotely by using the Franklin Electric mobile app and a smart device. This not only allows operator monitoring, but also assistance from the Franklin Electric Service team to support the customer during commissioning, system setup, readjustment of parameters and application settings, or troubleshooting.

Voltage Speed Head

When operating a pump with solar energy, it is important to generate sufficient electrical power, but even more important is sufficient voltage. The pump speed and thus the system performance is determined by the electrical voltage. To generate enough voltage, you need to connect enough solar panels in series. This will generate the voltage level needed to operate at full speed. But if weather conditions change, the voltage can drop, causing the system to immediately reduce pump speed to keep running. This reduces the amount of water pumped, but not just linearly. Due to pump affinity laws, the pump head or pressure is reduced squared, which then leads to a further reduction in water flow as you run at a different pump operating point. If the solar system has not sized carefully, or if less efficient components are used, then the risk of running the pump in a dead-head situation increases. In such case, the pump is still operating, but it's not generating enough head to overcome a certain level, and the result is that water flow stops. With the lower energy consumption of the High Efficiency System, you have an additional safety reserve that allows you to pump more water, or longer.



Advanced Solar Voltage boost

Franklin Electric has further enhanced its Solar systems and provides an advanced voltage boost function. The voltage boost feature makes it possible to size your system based on power rather than voltage, saving you up to 50% on solar panels compared to a standard system without the voltage boost feature. This further reduces the required number of solar pv-panel, initial investment and installation cost.

So the High Efficiency Borehole system has superior efficiencies to save energy and reduce operating costs by up to 21%. For solar applications, you can also significantly reduce the number of solar panels. You save even more money and have more water available for a longer time period.

Read more success stories of Solar applications on franklinwater.eu.

Huawei, drawing upon over two decades of expertise in Information and Communication Technology (ICT) and electric power fields, continues to innovate in optical fiber and wireless technologies. Offering a suite of networking modes tailored for the power industry, Huawei enables power companies to adapt to diverse network construction requirements across different phases and services.

Huawei›s power distribution communication network solution is engineered to accommodate multi-scenario access. In urban areas where high-speed communication is paramount, optical fibers serve as the backbone, with wireless technologies providing redundancy. Conversely, in sprawling suburban regions or historic towns, wireless networks emerge as a preferred solution to circumvent the challenges of wired infrastructure.

The deployment of Huawei›s solutions is versatile, allowing power companies to select appropriate modes based on local conditions. Leveraging optical fiber links, Huawei›s solutions cater to diverse needs, from distribution automation to metering, ensuring a seamless transition towards digital and intelligent power distribution services.

Optical fiber-based solutions, such as Huawei›s FTTM ring network, capitalize on cutting-edge technologies like native hard pipe (NHP), delivering unparalleled communication quality and simplified O&M. Meanwhile, industrial switch ring networks and wireless private networks offer robust alternatives, ensuring high availability and coverage even in remote areas.

Adopting a phased approach to network construction is advocated, emphasizing the importance of selecting the most suitable solutions for each circumstance. In the initial phase, dual-operator radio links provide quick network establishment, while subsequent phases prioritize the deployment of more reliable optical or wireless private networks in core areas.

Future-proofing network infrastructure remains a priority, with considerations for seamless evolution, such as transitioning from 4G to 5G networks. Additionally, exploring value-added services, like power bandwidth operations and home broadband integration, presents avenues for revenue generation, alleviating investment pressures.

Collaboration with local Internet Service Providers (ISPs) opens up possibilities for shared infrastructure and resource optimization, further reducing costs and enhancing service reliability. Huawei›s global deployment of power distribution communication networks underscores its commitment to spearheading the digital transformation of the energy sector, paving the way for a sustainable and carbon-neutral future.

In conclusion, Huawei remains steadfast in its mission to empower power companies worldwide with future-oriented, automated power distribution solutions. By forging ahead on the digital frontier, Huawei is instrumental in driving the global energy transition towards a greener, more sustainable tomorrow.

By King Jinjin Qian
https://www.smart-energy.com/

Cover Story

24 Cover Story

Zero-Carbon Village: The First Pilot County Of "Rural Energy Revolution"

Yellow River of Luncao County in Henan Province

Lankao County, located in central China›s Henan Province, was historically plagued by severe sandstorms due to its position in the Yellow River Basin. The sandy soil, prevalent in the floodplain, would easily be swept into the air by drought and strong winds, reminiscent of a perpetual sandstorm, as described by Miao Guochang, a 70-year-old villager from Fulu Village.

To combat this issue, Jiao Yulu, the former county Party Secretary, led efforts to experiment with various small-scale interventions, including dune covering and the strategic planting of paulownia trees to mitigate sandstorms› impact. Recognizing strong winds as a local asset, efforts were made to harness it beyond mere control, viewing it as a potential resource.

Acknowledging the reliance on inefficient and polluting coal in rural energy usage across China, Du Xiangwan, an academician of the Chinese Academy of Engineering, initiated a rural energy revolution. Lankao County was designated as the pioneering site for this endeavor in July 2018 by the National Energy Administration.

Wang Xuelin, Director of the Development and Reform Commission of Lankao County, highlighted the region›s rich renewable energy resources, including wind, solar, hydro, and biomass energy. Leveraging these resources, Lankao County embarked on an ambitious energy transformation journey.

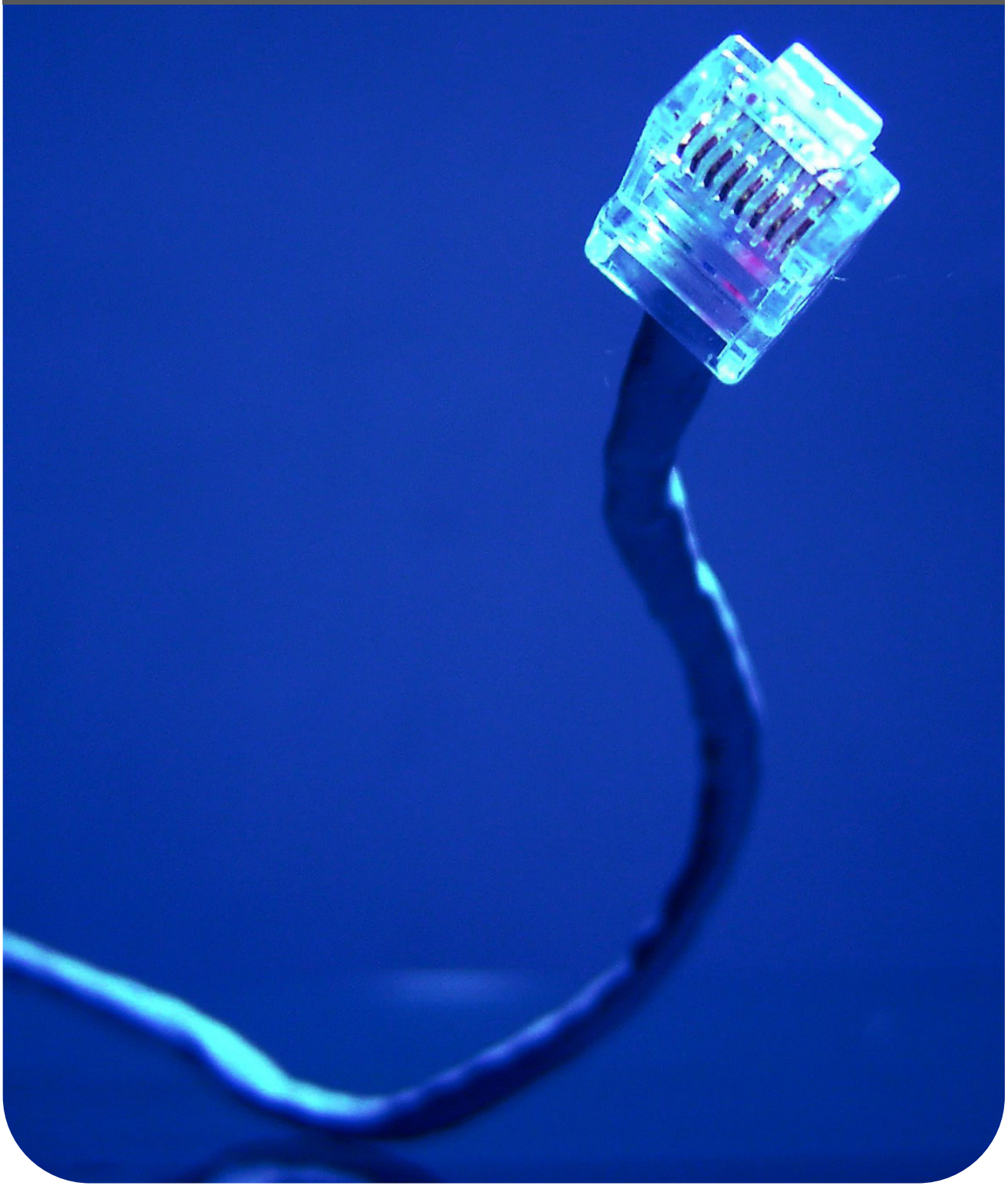
Over the subsequent years, significant progress was made, with the implementation of 794,000 kilowatts of wind power capacity, 319,000 kilowatts of photovoltaic power capacity, and establishment of 27 geothermal stations. Additionally, projects such as municipal solid waste cogeneration and straw power plants were completed, further diversifying the energy mix.

The shift in energy structure yielded substantial social benefits, including a 100% harmless treatment rate of domestic waste and a 96% utilization rate of straw and livestock manure resources, significantly reducing carbon emissions. Moreover, farmers began meeting their electricity needs through distributed rooftop photovoltaic power generation, while surplus electricity was supplied to the grid, bolstering farmers› income and fostering the growth of emerging industries, thereby stimulating the local economy.

https://news.cgtn.com/

Technology

26 Electric Vehicles



Leapmotor Electric Car Brand Enters Ecuador's Burgeoning EV Market with Pioneering Innovations

Ecuador welcomed a new era of sustainable transportation with the introduction of Chinese electric vehicle (EV) brand, Leapmotor, to the market on October 18, 2023, courtesy of AutoFenix. While the EV market in Ecuador remains relatively small, Leapmotor›s debut signifies a promising shift towards sustainable mobility.

AutoFenix, known for managing brands like Mazda, Fiat, and Jeep, took a bold step into the electric vehicle market by bringing Leapmotor to Ecuador. With over 21 years of operation and sales totaling USD 309 million, AutoFenix›s venture into sustainable transportation reflects a commitment to meeting evolving consumer demands.

Arturo Cárdenas, Manager of AutoFenix, highlighted Ecuador›s unique characteristics that make it an attractive market for EVs. The country›s compact road network allows for longer trips without frequent charging, and demographic changes offer an ideal environment for testing EV features such as power and range.

Leapmotor›s decision to partner with AutoFenix for its expansion into Ecuador underscores the brand›s strategic approach. AutoFenix invested approximately USD 1 million in dealership preparations, marketing campaigns, staff training, and more, excluding car inventory, to introduce Leapmotor to the Ecuadorian audience.

Despite challenges such as Ecuador›s ongoing energy crisis and blackouts, AutoFenix remains optimistic. The government›s blackout mitigation plans focus primarily on daytime hours, aligning with off-peak charging periods for EVs, thus ensuring efficient charging and maintaining customer confidence.

AutoFenix is committed to supporting government measures and encourages private sector investments in renewable energy sources. Collaborations with partners like Corporación Favorita aim to expand the charging network across the country.

The initial portfolio features two Leapmotor models: the T03, a compact four-door vehicle with a range of 300 km, and the C11, an SUV boasting a range of 500 km. AutoFenix aims to sell 100 cars by the end of 2023 and exceed 700 units in 2024, with plans to introduce three more models in the near future.

AutoFenix›s strategy includes expanding Leapmotor›s presence throughout Ecuador, starting with launches in Quito, followed by expansions in other cities. The company aims to make EVs more accessible by opening additional dealerships and offering competitive pricing, with the T03 priced at USD 22,000 and the C11 at USD 42,000.

Addressing charging infrastructure challenges, AutoFenix provides customers with home charging solutions, including installation services and dedicated electricity meters. The company emphasizes the cost-efficiency of EVs and minimal maintenance compared to traditional vehicles.

To build trust in Chinese EV brands, AutoFenix organized test drives to showcase Leapmotor›s innovative technology and quality. Leapmotor›s commitment to research and development, intelligent autonomous driving systems, and continuous innovation further enhances customer trust.

Leapmotor›s entry into Ecuador marks a significant step towards sustainable transportation, offering consumers innovative and environmentally friendly mobility options. As the electric vehicle market continues to grow, Ecuador is poised to embrace a greener future.

By Emmanuel Abara Benson
https://bnnbreaking.com/

Country Reports

Brazil's Energy Transition and Its Opportunities

An aerial view of the Bemol Solar plant outside Manaus, Amazonas state, Brazil

Venturing into Fortaleza, the 83rd stopover for our laboratory vessel, offers a unique lens into Brazil›s burgeoning energy landscape, teeming with opportunities for business-to-business (B2B) ventures. Beatrice Cordiano, our energy expert, delves into Brazil›s energy context, highlighting the potential and prospects it holds for B2B enterprises.

Each arrival marks a fresh start for Energy Observer, having traversed thousands of nautical miles. Amidst an Atlantic crossing, Brazil emerges as a focal point, with its energy mix drawing keen interest for its sustainability.

Comprising 3% of the global population and 2% of the world GDP, Brazil stands as the largest economy in Latin America, ripe for development across all sectors. With primary energy needs doubling since 1990, Brazil stands at the precipice of an energy transition.

Brazil›s energy matrix shines as one of the most diversified globally, with renewable sources meeting over half of its energy and over 80% of its electricity needs. Despite historical ties to oil, marked by challenging explorations, Brazil pivoted towards self-sufficiency with major offshore discoveries in 2007.

Today, oil, gas, and coal contribute roughly half of Brazil›s energy supply. However, Brazil›s proactive stance towards phasing out oil is evident through initiatives like Proalcool, catalyzing ethanol production from sugarcane since the 1970s. This transition underscores B2B opportunities in renewable energy sectors like ethanol production, poised to meet growing demand for sustainable alternatives.

Renewable energy, particularly hydroelectricity, has long been Brazil›s forte, supplying nearly two-thirds of its electricity demand. However, recent droughts have underscored the need for diversification, driving investments in wind and solar power. B2B ventures in renewable energy infrastructure, especially in wind-rich regions like the Northeast, hold immense promise.

While Brazil›s embrace of solar and wind energy may seem belated, its rapid adoption underscores its commitment to a low-carbon future. Notably, Brazil is poised to capitalize on the burgeoning market for low-carbon hydrogen production, signaling lucrative avenues for B2B partnerships in clean energy technology.

As Brazil charts its course towards a cleaner energy sector, B2B enterprises play a pivotal role in driving innovation and consolidating its low-carbon matrix. Anticipating global trends and fostering continuous innovation are imperative for Brazil›s decarbonization journey in the 21st century.

In essence, Brazil›s energy transition presents a myriad of B2B opportunities, beckoning ventures to contribute to a sustainable, prosperous future.

https://www.reuters.com/

Harnessing Solar Power to Illuminate Iraq's Energy Future

In the rugged terrain of Iraqi Kurdistan, nestled within the mountains, a quiet revolution is taking place as residents turn to solar energy to combat the perennial issue of electricity scarcity. Solar panels now adorn many homes in this small village, a testament to the growing effort to harness the abundant energy of the sun in a nation where power shortages are all too common.

Daniar Abdallah, a 33-year-old resident of Hazar Merd, attests to the transformative impact of solar energy on his family›s life. «Solar covers all our needs: the refrigerator, television, air cooler, washing machine, vacuum cleaner,» he enthuses. Having invested $2,800 in 2018 to install photovoltaic panels, Abdallah has experienced firsthand the relief solar power brings amidst Iraq›s struggles with energy provision.

Despite Iraq›s significant oil wealth, decades of conflict, sanctions, corruption, and dilapidated infrastructure have left the country grappling with electricity shortages. Even though Iraq receives ample sunshine, transitioning its economy away from fossil fuels has proven challenging—a pertinent issue slated for discussion at the upcoming COP28 climate talks in Dubai.

The situation is particularly dire during scorching summer months, where temperatures soar and daily power cuts are commonplace, exacerbating the already challenging living conditions. In such an environment, the tranquil hum of solar-powered homes stands in stark contrast to the incessant roar of neighborhood generators, which once served as a necessary backup power source.

Abdallah's decision to embrace solar energy has inspired others in his village, with 17 out of 25 households now equipped with solar panels. However, on a national scale, the adoption of solar power remains limited. In Sulaymaniyah, only a fraction of households have embraced solar energy, despite incentives introduced by the regional government to encourage its uptake.

Efforts to scale up solar energy production in Iraq have been slow-moving, with the majority of electricity still generated from fossil fuels. While ambitious projects have been announced, such as the construction of large-scale solar plants, tangible progress has yet to materialize. Challenges such as bureaucratic hurdles and a lack of investment pose significant barriers to realizing Iraq›s renewable energy potential.

Recognizing the need for a cultural shift towards solar energy, initiatives such as zero-interest loans for solar adoption have been introduced, albeit with limited success due to banking sector reluctance. Nonetheless, there are signs of progress, with more individuals and businesses turning to solar energy, drawn by its potential to alleviate chronic electricity shortages.

As Iraq grapples with its energy crisis, the untapped potential of solar power offers a glimmer of hope. With the right investments and policies in place, solar energy could not only provide a sustainable solution to Iraq›s electricity woes but also usher in a new era of prosperity and resilience for its people.

By Salam Faraj
https://www.al-monitor.com/

Record Wind Generation, Declining Demand and Price Trends

During the first week of November, the Italian market reached a remarkable milestone with wind energy generation hitting a record high of 846 GWh. Simultaneously, European electricity demand experienced a decline, and the MIBEL market saw 19 hours of prices at €0.00/MWh ($0.00/MWh).

Solar energy production, including photovoltaic and thermoelectric, decreased across most major European markets during the week of Oct. 30 compared to the previous week. This decline was expected due to shorter days in the fall season. Notably, Spain experienced the largest drop in solar energy production at 14%, while Germany saw the smallest decline at 2.4%. Portugal was an exception with an 8.6% increase in solar energy production.

AleaSoft Energy Forecasting projects an increase in solar energy production for Germany, Spain, and Italy during the week of Nov. 6. However, wind energy production offset some of the losses in solar energy production during the week of Oct. 30. All major European markets witnessed an uptick in wind energy generation, except Spain, where the difference in week-on-week total was negligible.

Germany saw the most significant increase in wind energy generation at 67%, while Portugal had the smallest growth at 12%. Italy set a new record by generating 846 GWh of wind energy in the first week of November, while Portugal followed closely with 567 GWh, marking its second-highest volume.

Looking ahead, AleaSoft Energy Forecasting predicts a decrease in wind energy production across all analyzed markets in the week of Nov. 6.

In terms of electricity demand, most major European markets experienced a decline during the week of Oct. 30, attributed partly to the observance of All Saints' Day on Nov. 1 in most European countries. Italy saw the largest drop at 8.5%, while Spain had the smallest decline at 1.2%. Only France and Great Britain witnessed an increase in electricity demand.

Average temperatures decreased across all markets except the Netherlands during the same period, with decreases ranging from 2.0°C in France to 0.5°C in Belgium. However, AleaSoft Energy Forecasting anticipates an increase in demand across all analyzed markets in the week of Nov. 6.

In terms of market prices, European electricity markets experienced a decrease in the week of Oct. 30 compared to the previous week. The MIBEL market in Spain and Portugal saw the most significant drops at 59% and 61%, respectively, while the N2EX market in the UK had the smallest decrease at 9.1%.

Most markets recorded weekly averages below €70/MWh in the first week of November, with Italy and the UK being exceptions, averaging €95.72/MWh and €99.08/MWh, respectively. Portugal and Spain registered the lowest average prices at €21.77/MWh and €23.02/MWh, respectively.

The MIBEL market notably recorded 19 hours of €0.00/MWh prices from Nov. 3 to 5. According to AleaSoft Energy Forecasting›s price forecasts, prices are expected to rise in most European electricity markets in the second week of November due to increased demand and decreased wind energy production.

https://renewablesnow.com/

Services

Coming Events

E-World
Essen, Germany
20 - 22 Feb 2024
https://www.e-world-essen.com/en/

E-world energy & water is the place where the European energy industry comes together. Serving as an information platform for the energy sector, E-world is gathering international decision makers in Essen each year.

Vibrant Green Energy Expo 2023
Mahatma Mandir, Gandhinagar, India
14 - 16 Dec 2023
https://vgeexpo.com/

VGEE is India›s foremost B2B exhibition for solar energy, wind energy, bioenergy, energy storage, and hybrid vehicles. The upcoming Vibrant Green Energy Expo is expected to draw exhibitors...

Neckar-ALB Regenerative 2024
volksbankmesse Balingen, Balingen, Germany
09 - 10 Mar 2024
https://www.neckar-alb-regenerativ.de/

On the expert stage, experts from the energy, construction and mobility sectors will answer questions from the moderators and energy consultants from the Zollernalb Energy Agency. The experts will talk about current topics...

POWER TOOLEX 2024
Milan Mela, Kolkata, India
15 - 17 Mar 2024
https://powertoolex.com/

POWERTOOLEX is a pure B2B exhibition focusing on the fast-growing hand tools and power tools sector in India. The goal of the POWERTOOLEX is to bring buyers and sellers together in an interactive environment to conduct business...

Saudi Arabia Smart Grid Conference 2023
Hilton Riyadh Hotel & Residences, Saudi Arabia
18 - 20 Dec 2023
https://saudi-sg.com/

The Saudi Arabia Smart Grid Conference offers a chance to showcase products, services, ideas, and businesses to the regional governmental, scientific, business, and technological community. Topics covered include artificial...

International Conference on Application of Renewable Energy and Environmental Sustainability (ICAREES-24)
Rome, Italy
09 Jan 2024
https://researchsociety.co/event/

ICAREES-24 catalyzes progress in renewable energy and environmental sustainability. Uniting global researchers, the event addresses challenges, fosters collaboration, and shapes policies for steadfast growth.

Intersolar North America/Energy Storage North America (ISNA/ESNA)
San Diego, California, USA
17 – 19 Jan 2024
https://www.intersolar.us/energy-global/

The ISNA/ESNA convention is a three-day stream of discovery where renewable energy experts connect, share insights, and acquire recent developments in the energy transition journey.

International Conference on Smart Grid Systems 2023
Barcelona, Spain
18 - 19 Dec 2023
https://waset.org/smart-grid-systems-conference-in-december-2023-in-barcelona

The International Conference on Smart Grid Systems intends to unite academic scientists, researchers, and scholars to exchange their experience...

General Queries & Contact Info

Launched in 2023, **energyHQ** has rapidly transformed from a B2B publication into a dynamic energy industry platform. Our comprehensive multimedia outlets—magazine, website, services, events, reports, newsletters, and online presence—cater to a global audience. Actively participating in key energy events worldwide, we offer partners unmatched exposure at exhibitions, tradeshows, and conferences. Join energyHQ as we illuminate the path forward in the evolving energy landscape!

Media Kit 2023

Everything about energyHQ ~ Here!

https://www.energyhq.world/energyHQ_Media%20Kit_2023.pdf

General Promotional Offer (GPO)

From Bronze to Platinum Package ~One GPO To Rule Them All!

https://www.energyhq.world/GPO%20-%20Copy.html

Subscription & Membership

Physical copies of energyHQ magazine issues can be received monthly by subscription. For more details, please contact Ms. Taghreed Mahdi (Administrative & Data Officer) via phone: +961-1-748333 x or email: subscriptions@energyHQ.world

Reprint Guidelines

Reprints of energyHQ magazine issue(s) are available for a minimum order of 10 copies. Customization options are available for establishments at a minimum order of 100 copies. For more details or to receive a quotation, please contact Ms. Taghreed Mahdi (Administrative & Data Officer) via phone: +961-1-748333 x or email: info@energyHQ.world

Advertising / Promotional Queries

To receive a Customized Promotional Offer (CPO) or for all your advertising & promotional queries, please contact Mr. Ahmad Idriss, Marketing & Sales Officer, via phone: +961-1-748333 or email: marketing@energyHQ.world

Content / Editorial Queries

To submit your content / editorial material (for possible publishing – priority publishing of editorial material is provided to our promotional partners), or for all your content & editorial inquiries, please contact Mr. Hassan Mourtada, Content & Research Officer, via phone: +961-1-748333 or email: content@energyHQ.world

One World (1W)* Team *(Email domain is @1world.xyz)*

Parent company of* **One Media (1M), *publisher of energyHQ*

Accounting & Finance (AF)

•Taghreed Mahdi
Accounting & Finance Officer
(t.mahdi@1world.xyz)

Content & Research (CR)

•Hassan Mourtada
Content & Research Officer
(h.mourtada@1world.xyz)

Graphic Design (GD)

•Shadi Al Masri
Design Director
(design@1world.xyz)

Human Resources (HR)

•Anwar Timani
HR Officer
(hr@1world.xyz)

Information Technology (IT)

•Mohammad Ajeenah
Network & System Admin / IT Officer
(m.ajeenah@1world.xyz)

Legal (LE)

•Ghassan Abi Haidar
Legal Counsel
(legal@1world.xyz)

Management (MA)

•Taghreed Mahdi
Administrative & Data Officer
(t.mahdi@1world.xyz)

•Mohamad Rabih Chatila
CEO
(rabih@1world.xyz)

Marketing & Sales (MS)

•Ahmad Idriss
Marketing & Sales Officer
(a.idriss@1world.xyz)

About

energyHQ magazine, established in 2023, is published monthly by One Media – a One World (1W) Division.

Courier Address

Hamra, Commodore Area, Barouk Street (Facing Coral Suites Hotel), Chatila & Chehab Building, 2nd Floor.
Beirut - Lebanon

Postal Address

P. O. Box: 13-5300 Chouran
Postal Code: 1102-2802
Beirut - Lebanon

Contact Us

T: +961 (01) 748333
M: +961 (70) 100094
E: info@energyHQ.world

waterHQ

www.waterHQ.world

84%
of readers are decision makers or influence purchasing decisions.

40,069
Total Brand Readership

16,379
Print Readership
(Multiplier3.17)

23,690
Digital Circulation

Previously Arab Water World

Clean Energy Job Boom

A nonpartisan business group advocating for clean energy estimates that the 210 major energy projects announced since the Inflation Reduction Act took effect in mid-2022 will create around 403,000 jobs. The report, issued Wednesday by Environmental Entrepreneurs (E2), highlights that these projects have attracted at least $86 billion in investments, with significant job growth anticipated in the electric vehicles, battery storage, and solar energy sectors.

«We're in the biggest economic revolution we›ve seen in generations thanks to the Inflation Reduction Act and other clean energy policies,» stated E2 executive director Bob Keefe.

The electric vehicle sector, which accounted for 58% of investments during project announcements, is expected to support 185,700 jobs annually for five years. Battery storage and solar energy are projected to support 48,000 and 35,000 jobs annually over the same period, respectively.

Indirect job creation from these projects could include increased hiring in lumber mills to meet construction material demands and heightened business in restaurants frequented by construction workers at new factories.

Mateo Jaramillo, CEO of Form Energy, a company constructing multi-day batteries in Weirton, West Virginia, expressed gratitude for the state and federal support that facilitated the creation of 750 permanent jobs at their factory by 2028. «We would not have Weirton without West Virginia, and we would not be going as fast as we›re going without the IRA,» Jaramillo emphasized.

Christopher Chung, CEO of the Economic Development Partnership of North Carolina, noted the surge in clean technology investment in states like North Carolina, attributing it to bipartisan federal legislation. «Bipartisan legislation at the federal level has really juiced the pipelines of activity for us when it comes to economic development, especially attracting foreign direct investment,» Chung stated.

Chung highlighted the collaboration between North Carolina community colleges and private companies to develop local training programs, enhancing the state›s appeal as a business location for clean energy companies.

While acknowledging the unprecedented investments in clean energy, experts caution that labor sector challenges persist. Joseph Kane, a researcher at the Brookings Institution, emphasized the importance of workforce development as investments in clean energy accelerate.

Thomas Kwan, director of sustainability research at Schneider Electric, highlighted labor shortages in sectors like construction, manufacturing, and electrical work. He also pointed out potential challenges such as complex permitting processes for clean energy projects and issues in the critical mineral supply chain.

Overall, while the clean energy sector experiences rapid growth, attention to workforce development and overcoming logistical hurdles remain imperative for sustained progress.

By Isabella O›Malley

“WORLD IS TOO SMALL... FOR US” SINCE 1977

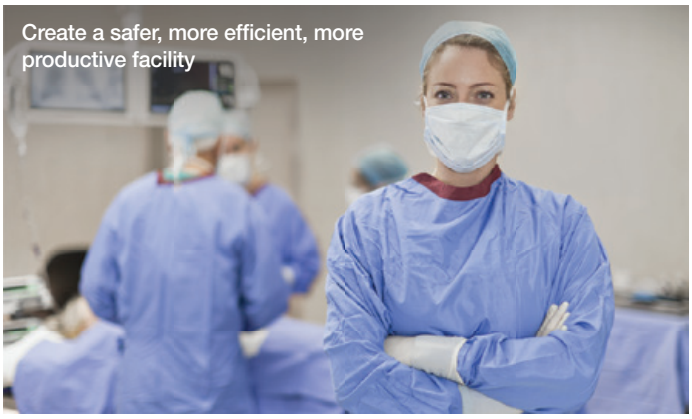
For OIL&GAS, ENERGY, CONSTRUCTION and MINING Projects, we provide “Turnkey Camps” & “Prefabricated Buildings” such as;

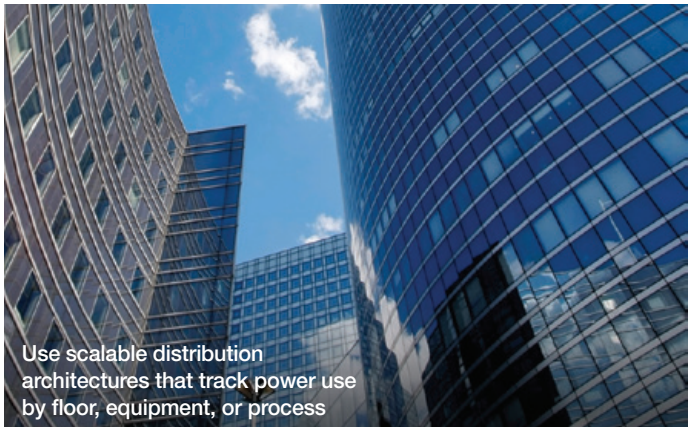
- Accommodation
- Kitchen / Dining Halls
- Offices
- Industrial Buildings
- Dormitories
- Warehouses

“We Are Looking For Solution Partners”

info@tepeprefabrik.com.tr
www.tepeprefabrik.com.tr

TEPE
PREFABRİK





Even the best run enterprise can improve power reliability and find new energy savings

Introducing integrated solutions for end-to-end monitoring, control, and analysis of your entire power distribution system

Manage the delicate balance between efficiency and productivity

Business runs on electricity. It's not as simple as it sounds. Power-sensitive processes require high availability and reliability, but this can raise costs and jeopardise profits. Unplanned outages, emissions regulations, and energy price volatility add more complexity. Solutions must unite the entire enterprise and solve the energy challenge.

PowerStruxure exceeds traditional power management

Building on our years of innovation in electrical distribution, PowerStruxure™ is an advanced family of integrated solutions that allow you to monitor, analyse, and control your entire power distribution network and act quickly to make effective decisions. As part of our EcoStruxure™ offer that delivers optimised systems across your enterprise to bring up to 30% energy savings, PowerStruxure brings clarity to your power networks to help you improve reliability and save money.

Services that leverage and protect your investment

Our worldwide network of energy experts and full range of services answers your needs throughout your installation life cycle, from audits and system diagnostics through installation and maintenance.

PowerStruxure

Tested, validated, and documented

Every solution is tested and approved by certified internal labs and documented by our technical experts.

Leading power monitoring and control software

Our StruxureWare™ suite includes power management systems designed to stay on top of real-time conditions and control loads.

Communication devices and protocols

At the heart of your solution, devices and protocols link the software with your power network hardware.

World-class hardware

A wide range of products including intelligent metering devices, switchgear, circuit breakers, protection relays, power factor correction equipment.

Find out how to save on energy costs!
Download our FREE white paper and stand a chance to WIN an iPad 2!

Visit www.SEreply.com Key Code 16823p • Call +920 011 101

Schneider Electric™