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سمو الشيخ خالد بن محمد بن زايد آل نهيان
ولي عهد أبوظبي رئيس المجلس التنفيذي لإمارة أبوظبي

World Utilities Congress

Host
TAQA طاقة

27 - 29 MAY 2025 | ABU DHABI, UNITED ARAB EMIRATES

SHOW PREVIEW

MAY 2025

INNOVATING FOR A NEW AGE OF UTILITIES

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Energy Connects

ONE TAQA,
TOGETHER POWERING A THRIVING FUTURE

WHAT
TAQA DOES

As a low carbon power and water champion, TAQA is relentlessly committed to achieving the 2050 Net Zero goal by leading the energy transition through investing in projects that decarbonize our power and water system.

WHY
TAQA DOES IT

We serve the communities and environment we operate in responsibly, paving pathways that spark dreams and inspire boundless possibilities for a promising tomorrow.

TAQA.COM

Transmission
طاقة لشبكات النقل

Distribution
طاقة للتوزيع

Water Solutions
طاقة لحلول المياه

Energy Services
طاقة للخدمات

CONTENTS

THOUGHT LEADERSHIP


Energising the future by tripling nuclear capacity by 2050 **14**


Strengthening grids to power the global energy transition **16**


Powering communities' energy transition through innovation **17**


Utilities driving grid innovation and decarbonisation globally **18**


AI solutions for sustainable water and waste management **20**


Sustainable cooling driven by innovation and partnerships **24**


Innovation and community at the heart of global transformation **34**


How Engie is innovating for a sustainable future globally **36**

Organiser's welcome **02**


Exhibition Overview **06-07**


Exhibition Features **08-09**


INNOVATION HUB **10-11**

- Cleantech Theatre
- Climate Tech Theatre

CONFERENCES **44-61**

- Strategic Conference
- Technical Conference

Energy Connects

Associate Vice President
Luis Euan
luiseuan@dmgevents.com

Senior Marketing Manager
Michaela Pennington
michaelapennington@dmgevents.com

Sales Manager
Priyanshu Ranjan
priyanshuranjan@dmgevents.com

Editor-In-Chief
Chiranjib Sengupta
chiranjibsengupta@dmgevents.com

Editor
Nour Eltigani
noureltigani@dmgevents.com

Art & Design
Cris Malapitan

SHOW TIMINGS		
DAY 1	Tuesday 27 May	09:30 - 17:00
DAY 2	Wednesday 28 May	10:00 - 17:00
DAY 3	Thursday 29 May	10:00 - 17:00

Supported By
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ORGANISER'S WELCOME

Driving the next wave of utility innovation

On behalf of dmg events and our host, the Abu Dhabi National Energy Company (TAQA), it is my pleasure to welcome you to this comprehensive Show Preview as we eagerly look forward to the fourth edition of the World Utilities Congress, held under the patronage of His Highness Sheikh Khaled Bin Mohamed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Chairman of the Abu Dhabi Executive Council.

The global energy landscape is evolving rapidly as we approach a new Age of Electricity. Global electricity demand increased by 4.3% in 2024*, and is projected to rise 75% by 2050*, with data centres alone requiring 3,700 TWh – nearly 9% of total demand. This staggering rise in future energy consumption will be essential for powering industries, enabling AI-driven digital economies, and catering to a global population of 9.8 billion people by 2050.

The global utilities sector is at the forefront of delivering this future, as the convergence of demand, water resource challenges and the integration of emerging technologies reshape the industry. Events like widespread blackouts in Europe and the hottest May on record further highlight the urgency for transformative solutions that accelerate the transition to a more secure and sustainable future for utilities.

Under the theme 'Innovating for a new age of utilities', World Utilities Congress 2025 will serve as a global platform for guiding the industry through this critical transition to pioneer change and champion innovation. With over 18,000 attendees, 120 exhibitors, 110+ participating countries and 500+ thought leaders, the Congress will serve as a critical forum to unlock the opportunities to modernise power and water infrastructure, harness the potential of AI and digitalisation, and accelerate decarbonisation.

With more than 120 sessions, the Strategic Conference programme and high-level leadership roundtables in the exclusive Utilities Club will provide invaluable platforms for global industry leaders to collaborate and drive the innovation needed for a sustainable future.

Attendees will also have the unique opportunity to engage with groundbreaking technologies and explore emerging trends in our Innovation Zone, and discover new career pathways through the brand-new Future Utilities and Energy Leaders (FUEL) initiative. Across the show floor, we will showcase cutting-edge solutions and foster strategic cross-sector collaboration in diverse areas such as integrating renewables, enabling smart grids, strengthening infrastructure resilience and optimising water management.

As a global platform uniting the international energy community, World Utilities Congress 2025 demonstrates our collective commitment to bridge the gap between ambition and action in delivering a new age of utilities and forging critical partnerships that support a more resilient and low-carbon future. I would like to extend my sincere thanks to our supporters – the UAE Ministry of Energy and Infrastructure, the Abu Dhabi Department of Energy, the Department of Culture and Tourism – Abu Dhabi, and ADNEC Centre Abu Dhabi – along with all our partners, sponsors and stakeholders for their invaluable support.

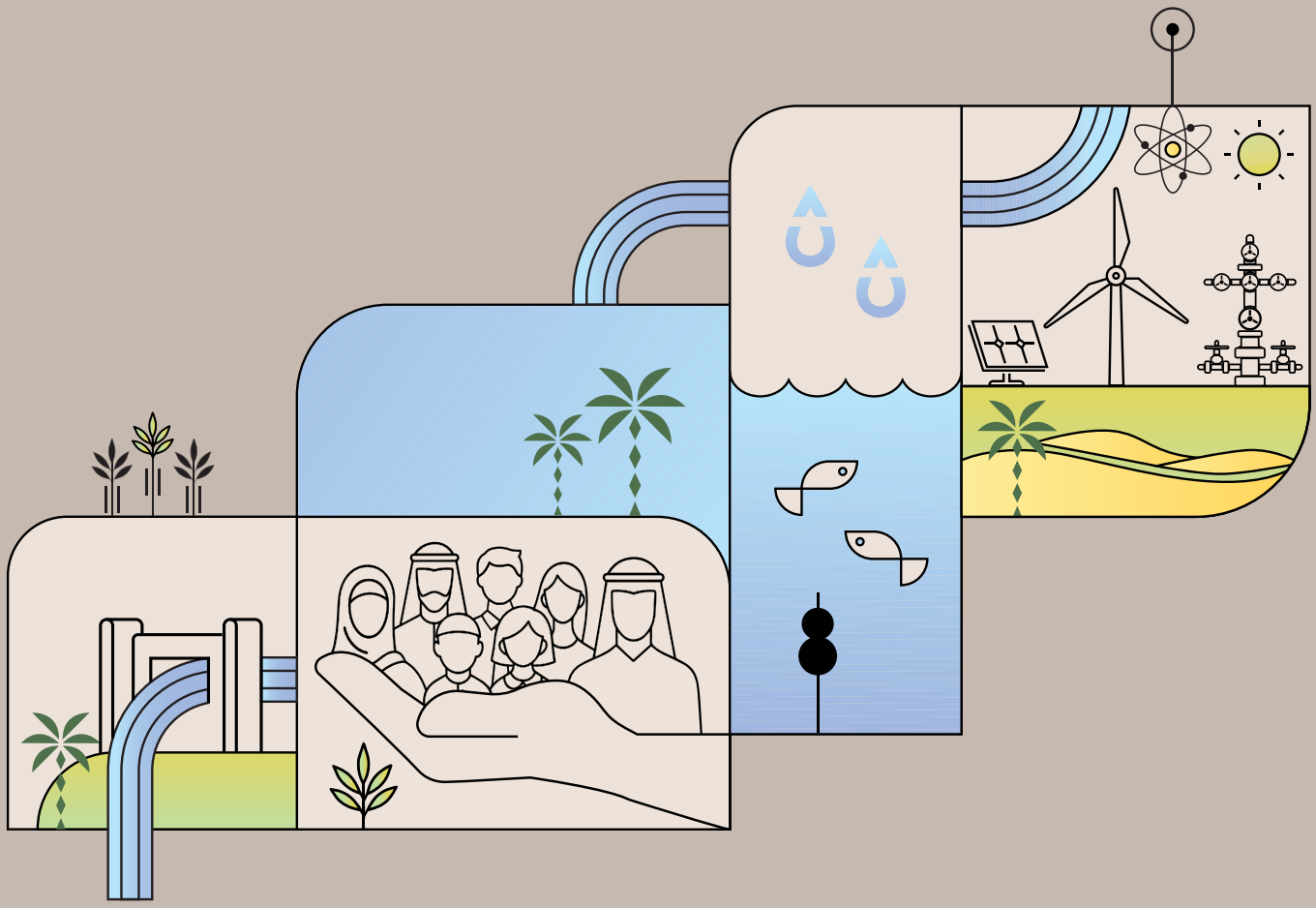
This Congress is not just a meeting of minds; it is a call to action for the global utilities community to unite, innovate and embrace the opportunities that lie ahead. I invite you to join us in Abu Dhabi this May, as we work together to shape the next wave of utilities innovation. ■

Christopher Hudson
President - dmg events

*Source: International Energy Agency & BloombergNEF

World Utilities Congress

دائـــرة الـــطـــاقـــة
DEPARTMENT OF ENERGY



Energize طـاقـــــــة
Grow ازدهـــــــــار
Sustain اسـتـدامـــــة

Visit our stand A110 تفضلوا بزيارة منصتنا

27 - 29 May 2025 | 27 - 29 مايو 2025

Atrium, ADNEC Abu Dhabi | الأتريوم، مركز أدنيك أبوظبي

H.E. Suhail Mohamed Al Mazrouei
UAE Minister of Energy and Infrastructure

POWERING THE AGE OF ELECTRICITY

H.E. Suhail Mohamed Al Mazrouei, UAE Minister of Energy and Infrastructure, emphasises the UAE's leadership in the global energy transition through investments in clean energy, grid modernisation, and smart technologies, ensuring decarbonisation, security, and economic growth in the Age of Electricity

Your Excellency, we are entering what many call the 'Age of Electricity.' How is the UAE preparing for this shift?
The global energy landscape is evolving rapidly, with electricity becoming the primary carrier of energy. At the heart of this transformation is innovation — rethinking how we generate, distribute, and consume electricity to build a more resilient and sustainable future. The UAE has long anticipated this shift and is actively driving the new age of utilities through bold investments in electrification, grid modernisation, and clean energy technologies. Through the UAE Energy Strategy 2050, we are accelerating the deployment of low- carbon energy, enhancing efficiency, and integrating smart grid management systems to ensure stability and security. Electricity is not just powering homes and industries — it is enabling new digital economies, advanced manufacturing, and future mobility solutions.
Ensuring its affordability, reliability, and sustainability is central to our strategy. That is why we are expanding our portfolio across solar, nuclear, and hydrogen while investing in large-scale energy storage and AI-driven grid optimisation. By pioneering next-generation energy solutions, fostering public-private collaboration, and embracing cutting-edge innovation, the UAE is positioning itself as a global leader in the new age of utilities — one that is smarter, cleaner, and future-ready.

What investments and policy measures are the Ministry prioritising to support this transition in the utilities sector?
Our approach is anchored on three key pillars: decarbonisation, energy security, and economic competitiveness. To advance these objectives, we are making significant investments in electricity infrastructure and implementing forward-thinking policies to drive the UAE's energy transition. We are expanding the Mohammed bin Rashid Al Maktoum Solar Park and advancing our hydrogen roadmap to diversify our energy mix.
A major milestone in this transition is Masdar's 24/7 Solar PV and Battery Storage Project, the world's first large-scale initiative combining 5.2 GW of solar PV with a 19 GWh battery energy storage system. Launched in partnership with EWEC, this project ensures uninterrupted clean energy supply, addressing intermittency challenges and reinforcing grid reliability. Meanwhile, TAQA's next-generation inflow control technology is set to enhance energy efficiency and optimise resource utilisation, further strengthening our energy infrastructure. In policy development, we are enhancing regulations to encourage private sector participation, fostering international partnerships, and promoting electrification across industries. The updated UAE Energy Strategy 2050 sets ambitious targets, including tripling the contribution of renewables and increasing the share of clean energy to 32% by 2030. We are also working on policy frameworks to integrate advanced grid technologies, energy storage, and smart metering systems to ensure a stable and resilient electricity supply for utilities and consumers alike.

> **"The global energy landscape is evolving rapidly, with electricity becoming the primary carrier of energy."**

How does the UAE balance decarbonisation, affordability, and security of electricity supply?
The energy trilemma — balancing sustainability, affordability, and security — guides our strategy. Our investments in renewables and nuclear power enable us to decarbonise the electricity grid while maintaining cost-competitiveness. At the same time, we are enhancing energy storage capabilities and grid interconnectivity to ensure a reliable and secure power supply. By leveraging clean electricity for industrial growth and electrifying sectors such as mobility and water desalination, we are reducing emissions without compromising economic development. Additionally, we are strengthening regional grid interconnectivity, advancing energy efficiency initiatives in utilities, and investing in digital solutions to optimise power distribution and demand-side management. These measures collectively ensure a balanced and future-ready electricity system.

Your Excellency, World Utilities Congress 2025 is a key platform for global energy discussions. How will it propel the industry towards a sustainable future?
World Utilities Congress 2025 will be a defining moment for the global utilities sector, highlighting the UAE's leadership in the Age of Electricity. As electrification accelerates worldwide, the event will showcase our progress in grid modernisation, smart metering, large-scale renewable integration, and AI-driven energy management. It will also serve as a critical forum for collaboration — bringing together policymakers, investors, and industry leaders to shape the policies and innovations needed to future-proof electricity systems. The UAE remains at the forefront of the energy transition, driving advancements in clean hydrogen, next-generation storage solutions, and digital grid technologies. At the Congress, we will demonstrate how these investments are creating a more resilient, efficient, and low-carbon electricity network.
The utilities sector stands at a crossroads. Electrification is not merely an emerging trend — it is the foundation of a thriving and sustainable energy future. To successfully deliver the energy transition, we must work collectively to accelerate investment, scale breakthrough technologies, and ensure reliable electricity access for all. The UAE is committed to leading this charge, and at the World Utilities Congress 2025, we look forward to forging new partnerships and setting the course for the next era of global energy. ■

EMPOWERING TOMORROW'S UTILITIES TODAY

The global utilities sector is undergoing rapid transformation, driven by clean energy adoption, digital innovation, and shifting consumer expectations. Rising electricity demand stems from the electrification of transport, buildings, and AI expansion, alongside infrastructure modernisation and regulatory changes.

Achieving net zero requires a large-scale transition to renewables. The IEA projects electricity demand will grow 3.4% annually through 2026, while fossil fuel reliance must drop below 30% by 2030. To meet these targets, annual renewable investments need to triple to US$1.5 trillion, with nearly half dedicated to grid infrastructure upgrades. As electricity demand rises, the water-energy nexus grows increasingly critical. Energy production accounts for 10% of global freshwater withdrawals, while reliable energy is essential for sustaining water supplies.

The increasing demand for both resources heightens challenges in sustainability, resource management, and climate resilience.

3.4%

Estimated annual growth for electricity demand through 2026

According to IRENA, renewables will dominate power generation, requiring greater system flexibility. A net-zero energy system by 2050 will see solar and wind contributing 90% of generation. Achieving stability will depend on flexibility across both supply and demand.

Water scarcity is an escalating global crisis. In many regions, demand already exceeds supply, and by 2030, the gap between global water supply and demand is projected to reach nearly 40%. Addressing this shortfall is essential for long-term sustainability.

By uniting forward-thinking leaders, policymakers, investors, and technical experts from around the world, the World Utilities Congress is at the forefront of shaping today's reality to build the utilities of tomorrow driving crucial dialogue, collaboration, and innovation.

At its core is a powerful mission: to build sustainable utility ecosystems through strategic partnerships and technological advancement. The World Utilities Congress brings this vision to life, creating connections for stakeholders to unlock new opportunities, drive sustainable progress, and shape the future of utilities worldwide.

As the world transitions to smarter, cleaner, and more resilient utility solutions, this global gathering fosters cross-sector and cross-border collaboration to build sustainable systems that empower economies, support communities, and shape a connected, energy-efficient future.

US$1.5 TRILLION

*Annual investment required to meet the COP28 UAE Consensus goal of tripling renewable energy and doubling energy efficiency by **2030***

SHOWCASING INNOVATION IN **POWER** AND **WATER UTILITIES**

The exhibition features a diverse array of products and services that support the integration of new technologies into utilities, enhancing operational resilience and sustainability while driving progress in the industry.

WORLD UTILITIES CONGRESS 2025 IN NUMBERS:

18,000+
Exhibition Attendees

1,400+
Conference Delegates

20,000 m²+
Exhibition Space

500+
Conference Speakers

110+
Participating Countries

120+
Conference Sessions

"We want the World Utilities Congress to be a place where we can foster a spirit of collaboration and be a catalyst for progress in shaping the sector for the years ahead."

Jasim Thabet
Group Chief Executive Officer & Managing Director at TAQA

Event Format

Showcasing the latest innovations across the utilities sector

The World Utilities Congress is an international platform showcasing the latest innovations across critical sectors, including generation, transmission, distribution, energy services, water, and mobility. The exhibition floor brings together industry leaders, innovators, and solution providers, offering access to cutting-edge technologies and strategies that address the evolving demands of the utilities sector.

Power
Discover innovative solutions aimed at reducing emissions, enhancing reliability, and meeting future energy demands.

Water
Explore solutions for efficient water use in industrial, commercial, and urban environments to address global water challenges and sustainability goals.

Transmission
Explore innovations that ensure secure, efficient, and reliable power transfer over long distances with minimal loss.

Services
Learn about cutting-edge strategies and technologies for demand-side management, district cooling, and green certification.

Mobility
Discover how innovations in EV infrastructure can balance energy supply and demand and support a net-zero transition.

Technology
Explore advancements in predictive maintenance, real-time monitoring, and cybersecurity that enhance operational efficiency and resilience.

Distribution
Learn about modernisation of distribution systems to improve energy access, resilience, and adaptability and dynamic demand patterns.

Investments
Gain insights into current and upcoming projects in the utilities sector, driven by evolving regulatory frameworks and policies.

6 Reasons to attend

- **Expand your industry knowledge**
- **Strengthen your professional network**
- **Gain a competitive edge**
- **Discover innovative solutions**
- **Get real-time insights & feedback**
- **Engage with industry leaders**

INNOVATION HUB

From AI-driven monitoring systems to cutting-edge renewable technologies and smart infrastructure, the Innovation Hub spotlights pioneering products and ideas from both established leaders and promising startups.

NEW FOR 2025

FUTURE UTILITIES AND ENERGY LEADERS

Engaging university students and recent graduates, **FUEL** provides career insights, technical training, and direct access to industry leaders shaping the future of energy, water, and sustainability.

Shaping the future of utilities

Over three impactful days, the World Utilities Congress is where thought leaders and innovators gather to explore the future of utilities. Featuring strategic, technical and innovation conference streams, we host 500+ speakers – from Ministers and policymakers to CEOs and scientists – to explore solutions and collectively address the challenges of creating a secure, sustainable and inclusive utilities industry. The conference agenda features a variety of formats, including thematic sessions, keynote addresses, interactive workshops, and panel discussions, all designed to facilitate meaningful dialogue around critical issues facing the industry today.

Strategic Conference
Cross-sector collaboration is essential to drive forward the transformation of power and water utilities. This conference will convene global policymakers and industry leaders to discuss pivotal trends and actionable strategies shaping the future of utilities, with a focus on scalable impact and efficiency.

Technical Conference
To address the energy transition, we need the brightest minds and technical experts at the table. This conference will surface the voices of industry experts as they share knowledge and research insights and unveil the latest developments across energy, water, and utilities.

Innovation Theatres
A platform for visionary thinkers and technology pioneers to present transformative solutions for the utilities sector. Through live demonstrations and interactive sessions, participants will experience firsthand the latest advancements in smart infrastructure, digital integration, and sustainable practices.

Utilities Club

Gathering key industry leaders

The Utilities Club is an exclusive, invite-only network for top leaders, innovators, and influencers in the power, water, and utilities sectors. It's an unparalleled chance to connect with key industry players, build relationships, and spark meaningful collaboration.

Leadership Roundtables
Gathering stakeholders – from Ministers and policy makers to CEOs and scientists – these roundtable discussions offer an exclusive setting for collaborative problem-solving on financing, governance, and sustainability, fostering a strategic dialogue that supports transformation and progress across the sector.

Innovation Hub

Exploring the next generation of utilities

The Innovation Hub within the exhibition showcases breakthrough solutions that are shaping the future of utilities.
This dedicated area provides an immersive experience where attendees can explore emerging technologies through live demonstrations and hands-on interactions, gaining insight into how these advancements can directly impact operational efficiency and resource sustainability.
As an integral part of the Hub, the Climate Tech and Cleantech Theatres, offer a platform for visionary thinkers, industry experts, and technology innovators to present cutting-edge solutions for the evolving needs of energy, water, and mobility.
In these interactive sessions, participants can experience the latest advancements in areas like digital integration, sustainable practices, and smart utility networks.

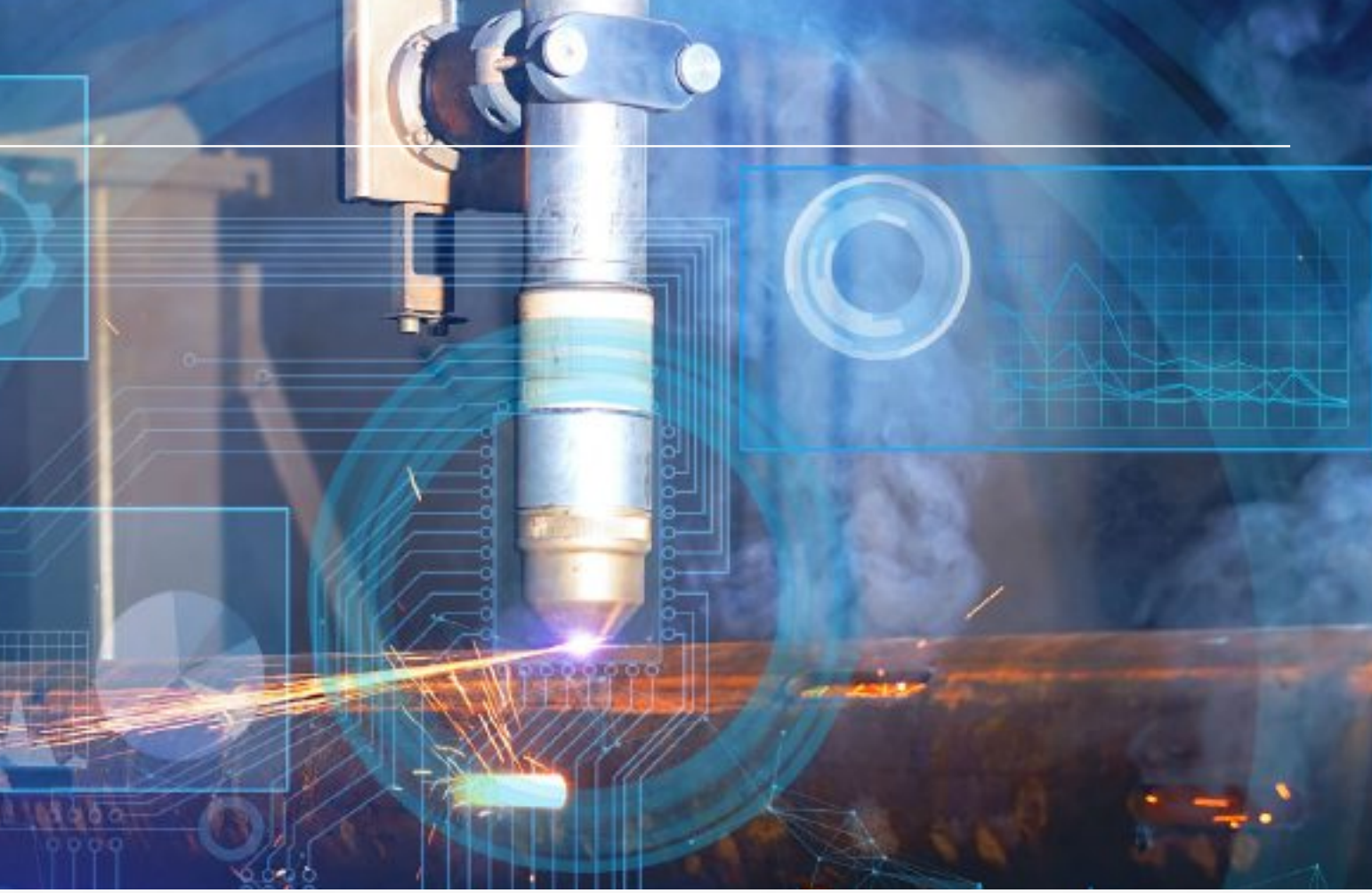
CLEANTECH THEATRE

Scaling clean technologies for energy resilience and sustainability

Over the last decade, the utilities sector in the Middle East has emerged as a key player in cleantech innovation, driven by national sustainability visions and significant investments. New industry leaders are shaping the region's energy resilience and competitiveness, yet challenges remain in scaling and operationalising clean technologies, particularly those from emerging players.
With rising transition costs, infrastructure investment gaps, and global competition from markets like the US and China, the sector must prioritise deploying clean technologies at scale to advance climate action and energy security.
Globally, utilities are committing substantial resources to clean energy, with UNEZA partners, launched at COP28 under IRENA and UN Climate Change leadership, aiming to invest over US$116 billion annually in clean power and grid infrastructure. This renewed focus on cleantech reflects the urgency of addressing climate crises. Electrification is transforming key industries, including utilities, transportation, and energy, creating significant opportunities for ESG-driven innovations and investments.
The Cleantech Innovation theatre will bring together leaders to showcase the sector's critical role in advancing sustainable energy practices and driving decarbonisation efforts.

Themes in focus:

- Energy & Energy Storage Technologies
- Circular Economy
- Sustainable Water Management
- AI-Enabled Utilities
- Investments & Partnerships
- Energy Efficient Utilities
- Mobility



CLIMATE TECH THEATRE

Emerging technologies propel renewable energy forward into a sustainable future

The global renewable power generation market demand is expected to grow at a compound annual growth rate (CAGR) of 7.9% from 2020 to 2027. This surge is driven by an escalating worldwide energy crisis and the urgent need for sustainable energy solutions, as conventional fossil fuels are increasingly replaced by cleaner alternatives such as wind and solar power.

The Paris Agreement has significantly bolstered this transition, prompting countries to commit to enhancing their adoption of renewable energy. As a result, renewable sources are becoming more efficient and cost-effective while playing a crucial role in reducing greenhouse gas emissions and minimising environmental impacts.

The Climate Tech Theatre will bring together industry leaders to explore forward-looking strategies for accelerating climate-smart solutions, integrating renewables into energy systems, and enhancing grid resilience. By focusing on cutting-edge technologies, decarbonisation pathways, and evolving regulatory landscapes, it will empower stakeholders to drive climate innovation, shape sustainable practices, and lead the shift towards a low-carbon, climate-resilient future.

Themes in focus:

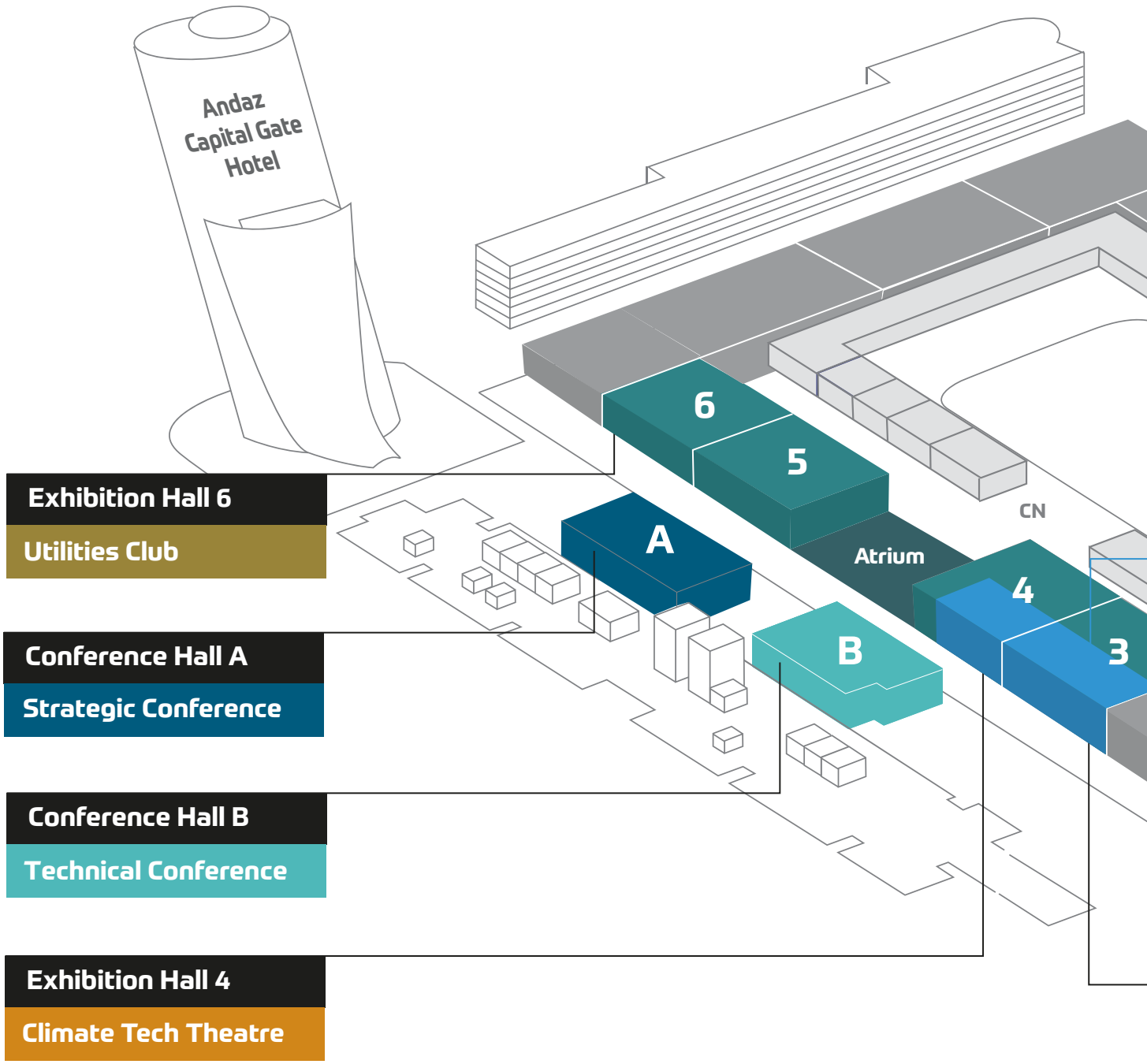
- Nextgen Renewable Energy
- Smart Transmission
- Modernising Distribution Networks
- ESG & Sustainable Energy Future
- Sustainable Safety Practices
- Engaging the New Era Consumers
- Regulating Clean Energy Transition
- Efficient Heating & Cooling Systems

REGISTER TO ATTEND

worldutilitiescongress.com/confreg

Venue Map

World Utilities Congress 2025 will be held at ADNEC Centre Abu Dhabi

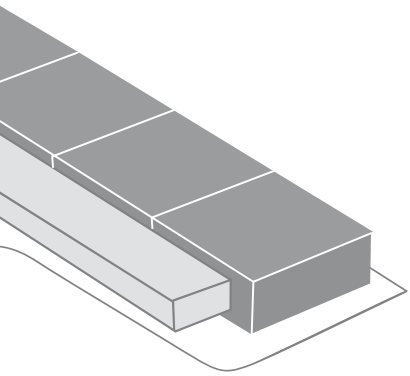


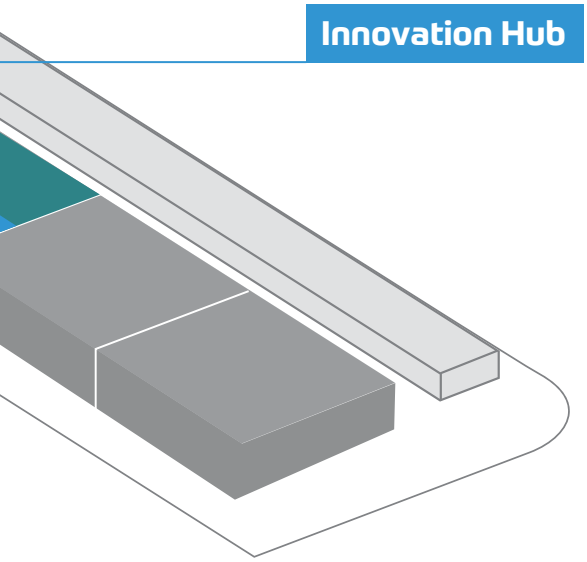
BOOK YOUR DELEGATE PASS

worldutilitiescongress.com/confreg

ADNEC CENTRE ABU DHABI, UAE

- **Exhibition Halls**
  Halls 3-6 and Atrium
- **Strategic Conference**
  Conference Hall A
- **Technical Conference**
  Conference Hall B
- **Cleantech Theatre**
  Exhibition Hall 3
- **Climate Tech Theatre**
  Exhibition Hall 4
- **Utilities Club**
  Exhibition Hall 6
- **Innovation Hub**
  Halls 3-4





Exhibition Hall 3

Cleantech Theatre

This Preview is accurate as of 30 April 2025. Sessions and topics will continue to evolve and are subject to change.

REGISTER TO ATTEND

worldutilitiescongress.com/register

EXECUTIVE COMMITTEE MEMBER: WORLD NUCLEAR ASSOCIATION

ENERGISING THE FUTURE BY TRIPLING NUCLEAR CAPACITY BY 2050

By **Dr. Sama Bilbao y León,** Director General, **World Nuclear Association**

Collaboration is essential in addressing multinational, multigenerational and multigender challenges like climate change or energy poverty because they transcend borders, generations, and social groups. Effective solutions require the pooling of diverse perspectives, resources, and expertise from around the world. By working together, countries, communities, and organisations can share innovation, best practices, and resources, so we can eradicate these problems in a sustainable, timely, cost-effective, and equitable manner.

Nuclear energy today generates 9% of the world's electricity, and around a quarter of clean electricity. Since the turn of the 21st century, the global fleet of nuclear reactors have performed consistently well, with high capacity factors driven by innovation and information sharing, ensuring stable generation. However, if we are to meet our collective energy security and sustainability goals while increasing electricity consumption, the provision of nuclear energy cannot remain static. That is why World Nuclear Association is leading the ambition to triple global nuclear energy capacity by 2050.

Tripling nuclear energy capacity

Initially launched at World Nuclear Symposium in September 2023 and in partnership with Emirates Nuclear Energy Corporation ahead of COP28 in Dubai, the goal has earned support from 31 countries through the Declaration to Triple Nuclear Energy and more than 140 nuclear industry companies through an accompanying industry pledge. Fourteen of the world's largest financial institutions backed the goal in September 2024, during New York Climate Week, and most recently on the sidelines of CERAWeek 2025 in Houston, a global coalition of major energy users signed a pledge endorsing the same goal.

In particular, big technology companies are increasingly partnering with nuclear energy providers to power data centres, anticipating increased electricity demand from the AI revolution. Nuclear energy is essential to providing the abundant and resilient carbon-free electricity for digital technology. Beyond the tech sector, the manufacturing, metallurgical, and chemical sectors are considering nuclear energy for clean, reliable, and economical energy. The oil and gas industry are assessing how nuclear energy can decarbonise emissions in exploration, extraction, refining, and processing. While the transport sector is working to streamline the introduction of civil nuclear propulsion and carbon-free fuels to achieve sustainability targets.

> **"The clean energy transition requires a technology-agnostic and ambitious energy policy framework that incentivises innovation and investment."**

Energy policies: moving from goals to action

The aim of the ambitious, but realistic, goal of tripling nuclear capacity is to align as many stakeholders as possible - governments, financial institutions and energy users, as well as the nuclear sector, to work together to realise the goal. World Nuclear Association is working tirelessly with industry and partners to overcome challenges. Whether that be getting multilateral banks, such as the World Bank, to recognise sustainability credentials and provide equal borrowing rates to nuclear projects; mobilising the supply chain to deliver programmes of new build; or streamlining design licensing and harmonisation between national regulators. External and public support through the pledge to triple helps provide a signal and gives certainty to industry to expand the nuclear sector.

Today there are 66 reactors (~70GWe) under construction, and a further 430 reactors (~450GWe) planned or proposed, totalling over 500GWe of new nuclear capacity. For context, this equates to half of the 1000GWe new nuclear needed by 2050 to triple nuclear. However, the impact of the declaration to triple nuclear energy is more focused on policy change and shifting to a programmatic approach rather than specific projects. Since September 2023, there has been policy change in many countries to reverse new build bans, phase outs or start new programmes of nuclear, as well as major programme announcements such as at least 100GWe in India and 200+100GWe in USA (not included in the 500GWe planned or proposed projects above). The clean energy transition requires a technology-agnostic and ambitious energy policy framework that incentivises innovation and investment. This shift in policymakers towards pragmatic, science-based policies balance environmental priorities with socio-economic development and prosperity for everyone everywhere.

World Utilities Congress 2025 will focus on themes reflecting the energy sectors commitment to a sustainable future, pioneering innovation, and engaging with communities. These themes align with the work of World Nuclear Association highlighting the global nuclear industry's role in providing sustainable, secure, and affordable energy. By working together and leveraging technology, we can create a resilient energy future. ■

STRATEGIC CONFERENCE SPEAKER

Dr. Sama Bilbao y León will be speaking at a Global Leadership panel titled: Realising the ambition: tripling global nuclear energy capacity by 2050

Date: 28 May 2025 **Time: 11:00 - 11:45**

حكومة دبي
GOVERNMENT OF DUBAI

مجمّع محمد بن راشد آل مكتوم للطاقة الشمسية
MOHAMMED BIN RASHID AL MAKTOUM SOLAR PARK

هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority

THE MOHAMMED BIN RASHID AL MAKTOUM SOLAR PARK

THE LARGEST SINGLE-SITE SOLAR PARK IN THE WORLD, ACCELERATES DUBAI'S PATHWAY TO NET ZERO 2050

Dubai has made major strides towards a more sustainable future for us and generations to come through world-class projects including the Mohammed bin Rashid Al Maktoum Solar Park. DEWA is implementing the Solar Park's projects to achieve the UAE Net Zero Strategy 2050, the Dubai Clean Energy Strategy 2050, and the Dubai Net Zero Carbon Emissions Strategy 2050 to provide 100% of the energy production capacity from clean energy sources by 2050.

With a production capacity of more than 7,260MW by 2030, the Solar Park promotes Dubai's position as a global hub for a sustainable and green economy.

RECORD HOLDER

GUINNESS WORLD RECORDS™

Highest capacity single operator concentrated solar power plant	Longest continuous concentrated solar power plant operation	Tallest concentrated solar power tower 263.126 metres	Largest thermal energy storage plant 5,907 megawatt-hours

Our Vision A globally leading sustainable innovative corporation committed to achieving Net-Zero by 2050
Dubai Electricity & Water Authority (PJSC), P.O. Box 564, Dubai, United Arab Emirates
customercare@dewa.gov.ae | +971 4 601 9999

www.dewa.gov.ae
DEWAOFFICIAL

EXHIBITOR: INTERNATIONAL RENEWABLE ENERGY AGENCY | STAND: 4150 | HALL: 3

STRENGTHENING GRIDS TO POWER THE GLOBAL ENERGY TRANSITION

In an exclusive interview, IRENA Deputy Director General Gauri Singh spoke to Energy Connects on the ambitious global goal of tripling renewable energy and doubling energy efficiency by 2030, the priorities for the industry to stay on track with the 1.5C climate goal, how in most parts of the world renewables is now the cheapest source of energy, and IRENA's expectations from the World Utilities Congress.

As an agency that closely monitors the energy industry, what are your thoughts on the pace of progress for the global energy transition?

What happened at COP28 in Dubai was a landmark decision to triple renewable energy and doubling energy efficiency by 2030, which was agreed upon by more than 130 countries. It was a very important moment for the renewable energy sector because there were very clear goals set out by the countries and they were willing to be monitored on that.

In 2024, we saw 585GW of renewables capacity getting deployed on the ground. That shows you that renewables are now the cheapest source of energy in most geographies. But despite such encouraging progress, we may still not be able to reach our goal of tripling renewables by 2030.

In terms of investment needs, while about US$570 billion got invested in renewables in 2023, we do need almost three times that amount to get to about 1,000GW of renewables deployed on the ground every year from this year to 2030 if we are going to stay on target for 1.5 degrees.

What kind of action would you advocate to ensure that the industry stays on track with this target of tripling renewables capacity by 2030?

When the countries decided to come up with this very historical consensus, the UAE Consensus, IRENA was given the mandate of being the custodian of tracking progress. Our approach has been to put together data and provide analysis that's clearly backed by evidence to countries at pre-COPs every year. For example, this year, we would be coming out with a second report on tracking progress at the pre-COP in Brazil. We do see currently that in some technologies like the solar PV, we seem to be making a fair amount of progress. It's on track, but a lot more effort needs to be made on both onshore and offshore wind as well as other technologies.

In terms of priorities, we would want the countries to be really thinking about getting more electrification in the end-use sectors like transport. Strengthening the grid infrastructure, getting the utilities to plan ahead to make sure that there's flexibility in the grids that can bring in decentralised generation injected into the grid through renewables, and also their digitisation and the use of AI, that's very critical. And without energy efficiency going hand in hand, we will not be able to see the kind of results that we want to see by the end of this decade.

> **"In most geographies, renewables are now the cheapest source of energy. In 2023, solar PV costs fell by about 12%. Meanwhile, the cost of onshore wind also fell by about 3% and offshore wind fell by about 7%."**

One of the factors that often comes up is also the cost. From your viewpoint, how can countries and companies overcome this challenge?

This is really one of the myths that needs to be broken. This is a narrative that needs to be reshaped about how much renewables cost. In most geographies, renewables are now the cheapest source of energy. In 2023, solar PV costs fell by about 12%. Meanwhile, the cost of onshore wind also fell by about 3% and offshore wind fell by about 7%.

More importantly, we also saw a very sharp decline for storage – where the cost declined by almost 90%.

So, I think renewables right now are in a very good space where it's a strong business case, which is why you're seeing a growth in the deployment year to year – because it's good for the utilities, it's good for the customers, and it's of course very good for the climate.

I think an excellent platform to advance that discussion further will be the World Utilities Congress in May. And IRENA is a big part of that. What are you looking forward to?

The World Utilities Congress comes at a crucial time, with industry challenges and shifting geopolitics impacting the sector. It's an opportunity for utilities to reaffirm their commitment to net zero.

IRENA will showcase its progress and the impact of the Utilities for Net Zero Alliance (UNEZA), where TAQA plays a key role. As UNEZA's secretariat, IRENA is driving efforts forward. Notably, 54 UNEZA partners have pledged US$117 billion annually to grids and renewables, aiming to build or upgrade 80 million km of grids by 2040.

This edition of the World Utilities Congress will highlight UNEZA's strength and invite more utilities to join the effort. ■

EXHIBITOR: EDF | STAND: 5310 | HALL: 5

POWERING COMMUNITIES' ENERGY TRANSITION THROUGH INNOVATION

Luc Koechlin, CEO - Middle East of **EDF Group,** discusses how the company has leveraged cutting-edge technology and expertise to drive the transition

Is EDF contributing to the global transition toward cleaner and more sustainable energy sources?
EDF is the French utility company, global leader in sustainable energy with a record-breaking decarbonisation score of its operations reaching 30gCO2/KWh in 2024. The Group's focus is to develop low-carbon solutions supporting the GCC' countries in their energy transition. Several factors support EDF's success: the strong expertise and valuable experience, accompanied on a local level by:

- Clear net-zero ambitions and governmental will
- Natural resources and site availability
- Strong local partnerships

In the Middle East, given the natural resources, we developed state-of the art giga power plants. Our portfolio spans over 12 GW of sustainable plants, integrating multiple technologies for robust, low-carbon and innovative projects, such as:

- Al Dhafra Solar Plant (UAE): The world's largest single-site solar farm (2.1GWp), powering 160,000 households and offsetting 2.4 million tonnes of CO2 every year.
- Dumat Al Jandal Wind Farm (Saudi Arabia): The largest wind project in the Middle East with the impressive 99 turbines (400 MW), supplying clean energy to 70,000 households.
- Amaala (Saudi Arabia): A first-of-its-kind 24/7 off-grid renewable system, combining solar (250 MWp), battery storage (760 MWh), biofuel engines and desalination plant to supply in energy and water the regenerative tourism hub located on the Red Sea Coast.

Beyond large-scale projects, EDF ME is developing distributed energy projects for the Commercial and Industrial sector, hydropower storage plants, and battery storage (BESS), ensuring that renewable energy is not just produced, but also efficiently managed and delivered through scaled transmission grid.

How is EDF leveraging digital transformation and smart grid technologies?
The future of energy is not just about generation — it's about optimisation. One of the key challenges in the energy sector is managing intermittency and connecting new generation sites, gathering and using the data collected for optimising and ensuring that power is available when and where it is needed. To address this, EDF is deploying diverse smart solutions and digital innovations that enhance response, flexibility and efficiency in energy systems.
One of our projects, Nojoom, involves replacing 133,000 streetlight bulbs in Abu Dhabi with new LED bulbs and connecting them to a smart control management system, resulting in a 75% energy savings for the capital's municipality.
EDF is also developing distributed energy solutions, where local microgrids and decentralised power generation help businesses achieve greater energy independence. These technologies not only improve system reliability but also foster a more participatory energy ecosystem, where consumers play an active role in the transition. Through these initiatives, EDF ME not only enhances energy efficiency but also transforms the way energy is consumed, stored, and distributed. Which is bringing the region closer to an interconnected, net-zero future.

> **"The energy sector is undergoing a rapid transformation, driven by market forces, policy mandates, and ambitious net-zero targets."**

What are the biggest challenges and opportunities for EDF Middle East in the energy transition?
The energy sector is undergoing a rapid transformation, driven by market forces, policy mandates, and ambitious net-zero targets. EDF ME is a key player in addressing both challenges and opportunities in this transition. The biggest regional challenges remain system flexibility and local supply chain development. The region's push for localisation and workforce expertise requires strong industry collaboration.
EDF ME is working closely with regional partners such in the UAE, Saudi Arabia, Oman, and now Jordan to develop skilled talent, strengthen supply chains, and support the shift to sustainable energy infrastructure.
With billions being invested in clean energy, EDF ME is scaling up its low-carbon footprint, leveraging EDF Group's global leadership in low-carbon technologies to support the region's net-zero ambitions.

What will EDF Middle East showcase at World Utilities Congress 2025?
At the World Utilities Congress 2025, EDF Middle East will showcase how we are driving the region's energy transition through innovation in renewables, smart grids, energy storage and digital solutions. We invite you to visit our booth to explore our latest solutions, engage with our experts from the Middle East, France, and beyond, and be part of the conversation shaping a more sustainable energy future. Stay tuned for everything we have planned — don't miss this opportunity to connect with our team and discover how EDF ME is powering the future of energy in the region. ■

GOLD SPONSOR: SIEMENS ENERGY | STAND: 5550 | HALL: 5

UTILITIES DRIVING GRID INNOVATION AND DECARBONISATION GLOBALLY

Dietmar Siersdorfer, Managing Director, Middle East & Africa at **Siemens Energy,** discusses balancing decarbonisation, grid modernisation, and AI-driven digitalisation for a successful energy transition

As utilities globally work toward decarbonisation, how can they balance emissions reductions with the need for reliable power generation?

Power generation is one of the largest sources of carbon dioxide emissions worldwide, but it is also undergoing a major transformation. Renewable energy is expanding at an unprecedented rate, including in the Middle East. Yet solar and wind alone cannot provide the growth and stability needed to meet rising electricity demand. Reliable, dispatchable capacity is essential – and this is where gas-fired power plants play a critical role. With coal still generating a third of global electricity and oil-fired power remaining prevalent in the region, particularly in Saudi Arabia, switching to gas offers a major opportunity for immediate emissions reductions – up to 60% in both cases.

In Saudi Arabia, Siemens Energy is driving this transition by delivering four modern combined-cycle gas-fired power plants – Taiba 2, Qassim 2, Rumah 2, and Nairyah 2. These plants will replace aging oil-fired stations and add 7.6 GW of capacity, enough to power over 2.5 million homes. The plants are also designed to be compatible with advanced carbon capture and storage technologies (CCUS), supporting Saudi Arabia's long-term decarbonisation goals.

Looking ahead, work continues to decarbonise gas turbines, enabling them to run on green hydrogen – produced from renewable energy. Siemens Energy's gas turbines can already operate on up to 75% hydrogen, with a roadmap to reach 100% by 2030.

For utilities, the way forward requires a balanced approach: maximising renewables where feasible, transitioning from coal and oil to high-efficiency gas, and in the future by integrating hydrogen and CCUS. By investing in flexible, future-ready infrastructure, utilities can build a resilient, low-carbon energy supply that supports growing demand while advancing national decarbonisation goals.

As renewable energy capacity grows, grids must also evolve to ensure stability and efficiency. How is Siemens Energy helping utilities modernise grids to support this transition?

As utilities in the Middle East and around the world integrate more renewables, grid flexibility and stability become a critical challenge. Unlike traditional power plants, solar and wind generation are intermittent, requiring advanced, digitalised grids to balance supply and demand in real time.

Siemens Energy is supporting this transition by deploying high-voltage direct current (HVDC) transmission systems for long distances and to connect countries, flexible AC transmission systems (FACTS), gas-insulated switchgear (GIS), and digital control systems to ensure grids remain resilient, efficient, and future-ready. These technologies optimise real-time power flows, reduce energy losses, and enhance the grid's ability to absorb intermittent renewable energy. Battery energy storage systems are an additional technology to further strengthen grid stability, providing flexibility and ensuring a seamless integration of renewables.

Beyond technical resilience, modernising the grid is a key economic enabler. Many of the systems we have today are 30-40 years or older. A smarter, more efficient grid facilitates regional energy trade, allowing utilities to export surplus renewable power to high-demand areas. It also supports industrial electrification – from EV charging networks to green hydrogen production – driving economic diversification, job creation, and long-term sustainability.

> **"As the energy landscape evolves, digitalisation is becoming essential for utilities to manage growing complexity, improve efficiency, and enhance reliability."**

What role does digitalisation play in helping utilities optimise operations and manage the growing complexity of modern energy systems?

As the energy landscape evolves, digitalisation is becoming essential for utilities to manage growing complexity, improve efficiency, and enhance reliability. AI, automation, and real-time data analytics are enabling smarter operations, reducing downtime, and ensuring a more flexible, resilient grid.

A clear example of this in action is Siemens Energy's collaboration with the Dubai Electricity and Water Authority (DEWA) to implement the Plant Intelligent Controller (PIC). This AI-powered digital twin technology enhances the Jebel Ali M Station's combined-cycle power block, dynamically adapting to grid fluctuations while maintaining stable operations. The system has already delivered significant benefits, including fuel savings of over 2% per power block—equivalent to an annual reduction of 52,000 tons of CO_2 emissions.

Digitalisation is reshaping how utilities operate at every level, from power generation to transmission and distribution. By enabling real-time monitoring, predictive maintenance, and smarter energy management, it helps utilities optimise resources, improve reliability, and support the transition to a more sustainable energy system. Siemens Energy is committed to supporting utilities on this journey, helping them navigate the complexities of modern energy systems with intelligent, data-driven solutions. ■

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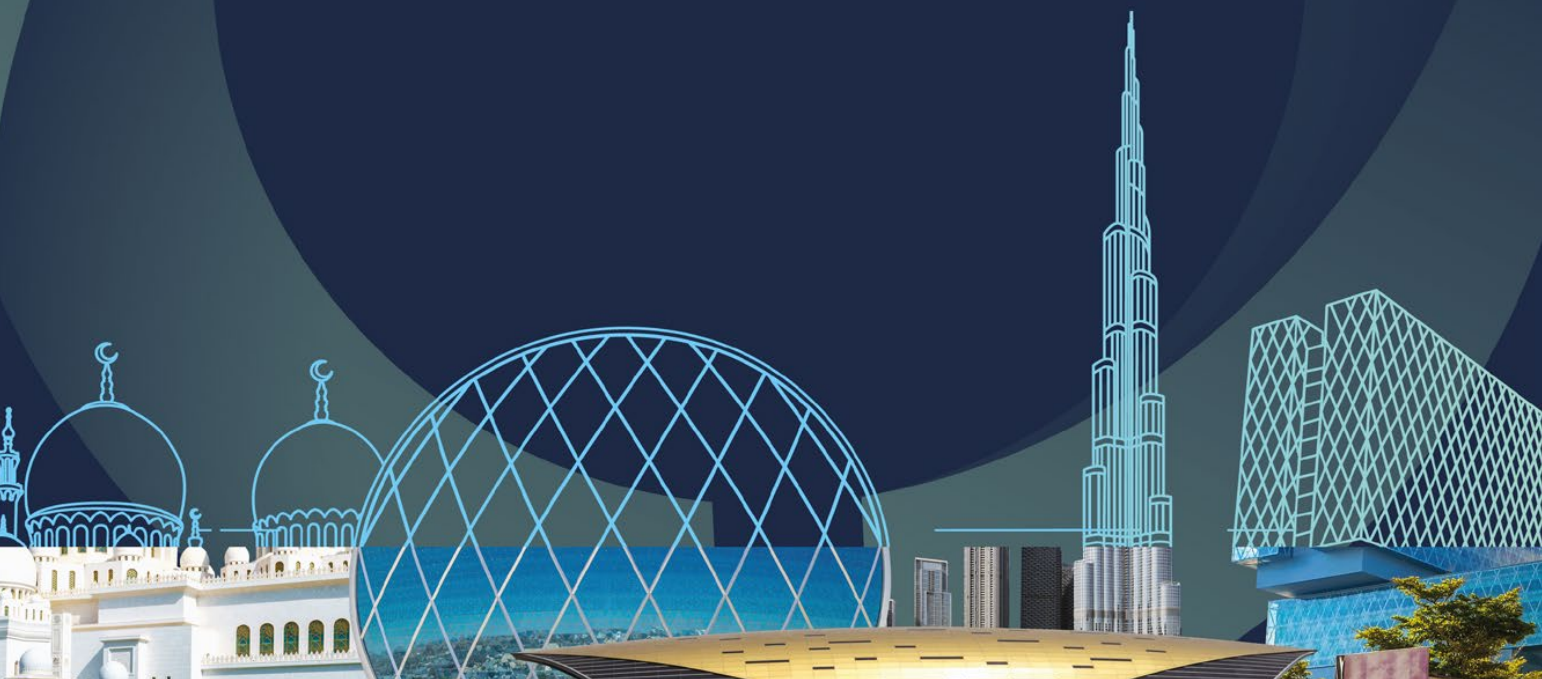
For people, communities
and the environment



EXHIBITOR: ANSALDO ENERGIA | STAND: 5430 | HALL: 5

THE FUTURE OF RELIABLE, FLEXIBLE, AND DECARBONISED POWER

Fabrizio Fabbri, CEO of **Ansaldo Energia,** outlines the company's role in the energy transition through high-efficiency gas turbines, digital optimisation, and hydrogen-ready solutions

How does Ansaldo Energia plan to contribute to the global transition towards renewable energy while ensuring reliability and efficiency in power generation?
We firmly believe that the energy transition must be sustainable in every aspect—economic, social, and environmental. That's why our approach focuses on developing technologies and building machinery that enable reliable, cost-effective, and increasingly decarbonised power generation. At the heart of this effort are our gas turbines, our core business, which deliver a unique combination of efficiency, reliability, and flexibility. Complementing this, our Service business unit ensures the maintenance and optimisation of the machines under its care, integrating hands-on expertise with advanced digital monitoring and predictive diagnostics. This approach allows for precise intervention planning, minimising downtime and maximising operational efficiency. A key pillar of these efforts is our Middle East Service Hub in Abu Dhabi, established 15 years ago and continuously improved, which plays a crucial role in supporting our operations. Additionally, our fleet monitoring and diagnostics centre, also located in Abu Dhabi, works in close coordination with its counterpart at our headquarters in Genoa, Italy, ensuring seamless global oversight and continuous performance improvement.

What are some of the key challenges you see for the energy industry in the coming decade, and how is Ansaldo Energia positioning itself to tackle these challenges?
Flexibility is the key challenge in today's energy landscape. Our machines are designed for exceptional operational flexibility, allowing them to respond in real time to grid demands as the share of intermittent renewable energy continues to grow. Leading the way is our flagship, the GT36—a gas turbine exceeding 560 MW in simple cycle. It boasts an impressive load ramp of 100 MW per minute and a Minimum Environmental Load of just 15%, meaning it can seamlessly adapt to grid fluctuations while maintaining emissions compliance and combustor stability. Our flexibility also extends to fuel. Today, our gas turbines can already operate with up to 70% hydrogen in blend with natural gas, with the goal of reaching 100% hydrogen capability by 2030. We are also at the forefront of advancing hydrogenated vegetable oil (HVO) combustion technologies. But flexibility isn't just about operations—it's also about industrial and commercial adaptability. We continuously evolve to meet our customers' needs, delivering faster, more efficient, and more dynamic solutions in an ever-changing energy landscape.

> **"As electricity grids face growing stability challenges and the physical limits of electrochemical storage become evident, this technology is gaining strong global interest."**

How does Ansaldo Energia integrate technological innovation into its projects, and what are some examples of recent advancements in your products and services?
Last year, we successfully tested the combustor of our flagship GT36 with 100% hydrogen, marking a major milestone in our decarbonisation journey. Currently, we are also testing the AE94.3A combustor to validate its ability to burn hydrogen at higher percentages than the 40% threshold we already offer to the market. Recently, the Italian electricity grid operator commissioned five synchronous condensers, machines that provide essential grid services such as voltage regulation, reactive power support, short-circuit power, and inertia. As electricity grids face growing stability challenges and the physical limits of electrochemical storage become evident, this technology is gaining strong global interest. Additionally, our new AEM electrolyser, developed with proprietary technology, is proving to be highly operationally flexible, making it an ideal solution for integrating with renewable energy plants and storing excess energy as hydrogen. Finally, I would like to mention our nuclear capabilities, which spans from the supply of power island core components - such as steam turbines and generators - up to new build, service, plant life extension, waste management and decommissioning.

What are you planning to showcase at World Utilities Congress 2025?
We are committed to contributing to the global conversation on the future of energy by sharing our expertise across multiple sectors—turbomachinery, electrolysers, decarbonised fuels, and nuclear. Through its history of industrial expertise and technological innovation, Ansaldo Energia provides essential solutions for decarbonisation and energy security, contributing to the global energy transition challenge. We propose ourselves to the market as "Fit for transition", convinced that only a pragmatic approach to the power generation scenario can secure a future of development and sustainability. ■

STRATEGIC CONFERENCE SPEAKER

Fabrizio Fabbri will be speaking at a Global Leadership panel titled: From generation to demand: powering the flexibility revolution

Date: 27 May 2025 **Time: 15:40 - 16:10**

EXHIBITOR: SCHNEIDER ELECTRIC | STAND: 5210 | HALL: 5

DIGITAL SOLUTIONS POWER A SUSTAINABLE UTILITIES FUTURE

Amel Chadli, Gulf Cluster President, **Schneider Electric,** shares how digital solutions drive sustainability in utilities, optimising efficiency, renewables, and grid resilience

With sustainability being a major focus in the utilities sector, how is Schneider Electric helping companies achieve greater energy efficiency and carbon reduction?

Sustainability is our driving force at Schneider Electric. We empower everyone to maximise energy and resources, seamlessly blending progress with sustainability. A great example of this is our IoT-enabled EcoStruxure™ platform, which plays a key role in optimising energy consumption and reducing carbon footprints. This open, interoperable architecture integrates advanced analytics, AI, and real-time monitoring to drive efficiency across the energy value chain. By implementing EcoStruxure™, companies can reduce engineering design time by up to 80%, cut maintenance costs by 75%, and lower carbon emissions by up to 50%.

Beyond digital solutions, we actively support utilities and energy-intensive industries in transitioning to renewable energy sources. Our technologies facilitate the seamless integration of renewables such as wind, solar, and battery storage while ensuring grid stability and resilience. We are also supporting data center operators and hyperscalers explore innovative clean energy alternatives, including nuclear power. Recognising that Scope 3 emissions are a major challenge for businesses, we launched the Zero Carbon Project, partnering with our top 1,000 suppliers to cut CO2 emissions by 50% by 2025. By helping our suppliers adopt clean energy and efficient manufacturing processes, we extend the impact of decarbonisation across the entire value chain. Ultimately, Schneider Electric's innovations empower organisations to maximise efficiency, reduce emissions, and build a more sustainable energy future. By combining digital intelligence with clean energy solutions, we help the utilities sector achieve ambitious net-zero goals while ensuring a more resilient and efficient energy ecosystem.

Digital transformation is reshaping the utilities industry. How is Schneider Electric leveraging smart technologies, AI, and automation to optimise energy management?

Digital transformation is revolutionising the utilities industry, and Schneider Electric is at the forefront of this change by leveraging smart technologies, AI, and automation to optimise energy management.

Schneider Electric integrates automation solutions to enhance grid resilience and energy distribution. Our advanced automation systems provide utilities with real-time insights, helping them respond to energy demand fluctuations and reduce downtime. This smart grid approach ensures better energy management, enabling the integration of renewable energy sources like solar and wind into the grid seamlessly.

We are also applying AI and digital twin technologies to predict energy consumption patterns, detect inefficiencies, and proactively address maintenance needs. By leveraging AI-driven insights, we support utilities in making data-driven decisions to optimise energy consumption, enhance asset management, and drive sustainability.

What are the biggest challenges facing the utilities sector in 2025, and how does Schneider Electric plan to address them in the coming years?

As we look towards 2025 and beyond, the utilities sector is facing several critical challenges in 2025, driven by a mix of global trends, regulatory shifts, and technological advancements.

This includes accelerating the energy transition, ensuring grid resilience, and advancing digital transformation. As governments push for net-zero targets, utilities must integrate renewables efficiently while maintaining reliability. Schneider Electric supports this shift with advanced grid modernisation, AI-driven energy management, and microgrid solutions. As digitalisation reshapes the industry, upskilling the workforce is crucial. At Schneider Electric, we empower industries to navigate this transformation, ensuring a more sustainable and resilient future.

Schneider Electric is committed to addressing these challenges through continued innovation, strategic partnerships, and our comprehensive suite of digital solutions. Our goal is to empower utilities to build more resilient, efficient, and sustainable energy systems for the future.

What are you planning to showcase at World Utilities Congress 2025?

Schneider Electric is excited to showcase a range of innovative solutions and technologies at the World Utilities Congress. Our focus will be on demonstrating how our advanced digital solutions and sustainable technologies can drive efficiency, resilience, and sustainability in energy management.

We will highlight our EcoStruxure Automation Expert Platform, which integrates IoT, AI, and advanced analytics to optimise energy consumption and enhance operational efficiency showcasing our commitment to the Industries of the Future initiative focusing on driving innovation and sustainability across various sectors. Additionally, we will present our smart grid solutions, including advanced distribution management systems (ADMS), distributed energy resource management systems (DERMS), and microgrid solutions. These technologies enable seamless integration of renewable energy sources, enhance grid stability, and support the transition to a low-carbon energy future.

Our booth will also feature cutting-edge cybersecurity solutions designed to protect critical infrastructure from emerging threats. We understand the importance of securing digital assets in an increasingly connected world, and our solutions provide robust protection. ■

STRATEGIC CONFERENCE SPEAKER

Amel Chadli will be speaking at a Global Leadership panel titled: Is standardisation a pathway to resilient clean energy supply chains?

Date: 28 May 2025 **Time: 12:30 - 13:15**

BRONZE SPONSOR: SUEZ | UTILITIES CLUB

AI SOLUTIONS FOR SUSTAINABLE WATER AND WASTE MANAGEMENT

Jose Cheurlin, CEO Near and Middle East at **SUEZ,** discusses how leveraging AI and digital can drive sustainable water and waste management globally

How is SUEZ contributing to the global shift toward sustainable water and waste management solutions?

The very essence of the water and waste management activities we carry out helps to preserve natural resources; it is in SUEZ's DNA. Our **Sustainable Development strategy** aims to strengthen the positive impact of our businesses, in terms of climate, preserving biodiversity and natural environments, engaging our stakeholders and contributing to local prosperity.

With operations in **40 countries** and **40,000 employees,** we also enable our customers – whether local authorities or industrial groups – to create value over the entire lifecycle of their assets and services, and to drive their ecological transition, together with their end-users. With 1,100 experts around the world, close to **1,700 patents, 10 research centers** and an innovation drive at all levels of the company, we are committed to speeding up the major transitions by capitalising on our strengths.

What innovative technologies and AI solutions is SUEZ implementing to improve water treatment and resource efficiency?

At SUEZ, innovation is at the heart of our activities. We use digital solutions and AI to preserve water: to prevent leaks, to improve the knowledge of networks and the quality of the water they carry and anticipate resource availability. SUEZ has developed innovative solutions based on 3 key pillars: saving water, recycling it and increasing its availability.

First of all, **Saving water:** one of the biggest challenges for local authorities is to modernise aging infrastructures. Water distribution and wastewater treatment networks are often obsolete, putting a strain on budgets and available resources. Delaying their renewal can lead to much higher maintenance costs, not to mention the risks to water quality and continuity of service.

AI allows us to create even more value from the data collected by smart water meters and sensors in the networks. For example, with advanced modelling techniques that simulate the behavior of water networks, to better plan their management, identify areas at risk of breakage, and know where to invest at the right time to replace a pipe. With concrete results: thanks to our digital data collection and analysis solutions, we have enabled our customers to save more than 33 million m^3 of water in 2024, the equivalent of nearly 8,900 Olympic swimming pools!

In Qatar, SUEZ is working for Kahramaa Qatar General Electricity and Water Corporation to detect water leaks using iDroloc, the in-house developed tool for helium gas leak detection.

The second key pillar is **Recycling water.** At SUEZ we encourage the reuse of wastewater. The treated wastewater helps limiting the withdrawal of natural resources, providing a sustainable, reliable, controlled, and available water resource. Tertiary treatment allows recycled water quality to be reused for watering parks and gardens, agricultural irrigation, industrial uses, even recharging water tables.

In Tunisia, SUEZ started last year the contract of wastewater services for the south half of the country. We will renovate the existing WWTP to allow wastewater to be used for agriculture via tertiary water treatment processes. This will contribute to ensure the water resources for the agriculture and the economic development of the region.

The last key-pillar is **Increasing water availability,** with groundwater management and seawater desalination. SUEZ has developed a digital tool called "Aquadvanced Water Resources" to accurately monitor the state of groundwater and the proper functioning of boreholes. We thus monitor more than 580 catchments in France, and more than 250 in the rest of the world. SUEZ also relies on the controlled recharge of aquifers to compensate for failing groundwater levels. This proactive approach allows water to be reinjected into underground reservoirs, helping to maintain their level and capacity or to limit the intrusion of seawater into the continental aquifer, as is the case in Hyères in the south of France.

> **"Tertiary treatment allows recycled water quality to be reused for watering parks and gardens, agricultural irrigation, industrial uses, even recharging water tables."**

Regarding desalination, more than 260 desalination plants designed and built by SUEZ, we still innovate to make its energy consumption more sustainable: energy consumption per m^3 produced has been halved in 20 years. The Victoria Desalination plant in Australia has been powered at 100% by renewable energy since it was built 10 years ago.

What are the next steps in AI at SUEZ?

In addition to the uses of AI mentioned above, generative AI is also going to take us even further, and we fully intend to exploit it for the Group's various businesses. Our ambition is clear: to continue to innovate, to develop intelligent solutions to preserve the environment, and to prove that economic performance and ecological performance can go hand in hand. ■

EXHIBITOR: POSITIVE ZERO | STAND: 3440 | HALL: 3

DECENTRALISED ENERGY IS THE KEY TO A SUSTAINABLE NET-ZERO GRID

David Auriau, CEO of **Positive Zero,** gives his views on how sustainable and decentralised solutions can support utilities in overcoming net-zero challenges

Positive Zero focuses on accelerating the transition to net-zero energy. What are the biggest challenges utilities face in adopting sustainable solutions, and how does Positive Zero help overcome them?

Right now, utilities are working with infrastructure that was never designed for the demands of a decarbonised future. Traditional grids are built for one-way power flow and centralised generation, not for intermittent renewables or distributed sources. Integrating clean energy often requires heavy capital investment in grid upgrades, with long timelines and uncertain returns.

At Positive Zero, we take a different approach. Our distributed generation solutions, like solar systems on rooftops and carports, bring power generation closer to where it's used. This reduces transmission losses and allows utilities to defer costly infrastructure upgrades. Importantly, solar output aligns with peak summer demand, helping balance the grid when it's under the most pressure.

Utilities typically build for peak loads, which leaves assets underused much of the year. Distributed infrastructure helps rewrite that equation. In regions like the Middle East, there's strong potential for a bidirectional energy model, where businesses become 'prosumers' (producer/consumers), feeding surplus electricity back into the grid during peak periods. That surplus is often cheaper than traditional generation, creating economic and operational benefits for all sides.

Battery storage and smart EV charging adds even more flexibility, absorbing excess power, smoothing demand, and enhancing grid stability. Our energy efficiency services reduce baseline demand, while our electric mobility offerings add flexible load that can be shifted with smart charging.

It's all part of our Decarbonisation-as-a-Service model. We build, finance, and operate these projects without upfront cost, removing CAPEX barriers and accelerating adoption. From Cooling-as-a-Service to EV charging infrastructure, we offer a seamless, integrated solution tailored to each client. We are also proudly aligned with ADNEC, the home of the 2025 World Utilities Congress - we are working together on a transformative project to bring distributed solar energy to the conference

centre. Over the coming years, this project will provide clean energy to some of the globe's biggest events. Through distributed and decentralised systems and a focus on enhancing the energy efficiency of businesses, we help to reduce pressure on core utilities and grid infrastructure.

With advancements in smart grids, energy storage, and AI-driven efficiency, how is Positive Zero leveraging technology to optimise energy consumption and reduce waste?

Technology is a key enabler for optimising energy use. Positive Zero deploys smart, connected energy systems across our projects. Through IoT sensors and our proprietary platforms, all equipment and facilities can communicate and automated adjustments can be made to balance generation and consumption.

We also use artificial intelligence across operations. AI-driven analytics sift through data from equipment like chillers, HVAC units and lighting to detect anomalies and automatically adjust settings for comfort and efficiency. In a recent cooling-as-a-service retrofit, we achieved a 37% improvement in chiller efficiency – saving around 440,000kWh per year and cutting approximately 345 tonnes of CO_2 emissions in the process.

Similarly, our smart algorithms adjust lighting and air-conditioning based on occupancy and even weather forecasts, ensuring energy isn't used when it's not needed. By blending smart grid technology, storage, and AI-driven controls, we help clients squeeze the most value out of every kilowatt-hour and virtually eliminate energy waste.

As global policies push for decarbonisation, how do you see regulatory changes impacting the utilities sector, and how is Positive Zero positioning itself for future growth?

Governments in the Middle East and around the world are setting stricter emissions targets and introducing regulations to push the utilities sector toward cleaner energy. The UAE, for example, aims to triple renewable power capacity and double energy efficiency by 2030, in line with the outcomes of COP28 and COP29. These high-level goals are translating into concrete measures, such as stronger frameworks for renewable energy, net-metering changes and rules on grid integration, and new efficiency standards for buildings.

Positive Zero anticipated these shifts and built its strategy around them. Our model of delivering solar, efficiency, EV, and battery solutions via long-term service agreements is exactly what regulators want to encourage because it accelerates broader adoption of clean energy. We engage with policymakers too, sharing insights from our projects to help shape practical rules. And when initiatives like net metering or rooftop solar programmes launch, we're often among the first to put them into action. This supportive policy environment has enabled us to expand rapidly. In 2024 alone we signed 43 new solar projects across the Gulf region. We've also attracted major investment, such as a US$400 million commitment from BlackRock to fuel our growth. As regulations continue to tighten and new markets like Saudi Arabia open up for clean energy, we're well positioned to be a key partner for utilities and businesses striving to meet evolving standards. ■

STRATEGIC CONFERENCE SPEAKER

David Auriau will be speaking at an Industry Dialogue panel titled: Amplifying the impact of energy efficiency, the first fuel in energy transition

Date: 28 May 2025 **Time: 16:30 - 17:00**

EXCLUSIVE COOLING PARTNER: TABREED | STAND: A250 | HALL: ATRIUM

SUSTAINABLE COOLING DRIVEN BY INNOVATION AND PARTNERSHIPS

Philippe Coquelle, Chief Development Officer at **Tabreed,** highlights how expanding district cooling into new markets and investing in cutting-edge R&D drives sustainable cooling

Tabreed has been a leader in district cooling for decades. How do you see the role of district cooling evolving in the global push for sustainability and energy efficiency?
As global warming becomes more serious and widespread, negatively impacting ever greater numbers of countries, demand for cooling is increasing at an unprecedented rate. Cooling is no longer a luxury but a basic necessity for life in more and more countries. But paradoxically, cooling is contributing to rising global temperatures because it is so energy intensive. In the Middle East, for instance, cooling is responsible for up to 70% of buildings' electricity consumption, so anything that can reduce this must be welcomed.
District cooling consumes approximately half the electricity that's needed for conventional AC, thanks to operational efficiency and economies of scale, so it's a major player in the push for decarbonisation and net-zero targets. Right now, there is simply no realistic alternative in meeting the demand for cooling while preventing large-scale carbon emissions.
This is why Tabreed has recently been expanding into new markets, like Egypt and India, and exploring opportunities across Southeast Asia. New urban developments require smart, sustainable infrastructure and district cooling, with its unrivalled efficiency, is the obvious choice for governments and real estate developers.

With climate change and urbanisation driving demand for efficient cooling solutions, what innovations or strategies is Tabreed implementing to stay ahead of industry trends?
Tabreed might be the world's leading district cooling company but that doesn't mean we just sit back and take things easy. On the contrary, we spend huge amounts of money and time in extensive R&D programmes, to hone and refine our operations, maximising energy efficiency and minimising waste.
Two recent innovations have actually won us international awards: our Nanofluid technology pilot, which proved to increase heat transfer properties in our plants and therefore reduce energy consumption and the G2COOL plant

we developed in partnership with ADNOC. This is a regional first, harnessing renewable geothermal energy from deep underground to produce chilled water using bespoke absorption chiller technology. We're now supplying 10% of Masdar City's cooling requirements using this genuinely renewable energy resource, and we intend to do more.

Collaboration and partnerships are key in the utilities sector. How does Tabreed work with governments, developers, and other stakeholders to expand sustainable cooling infrastructure?
Strategic partnerships are a central pillar of Tabreed's business model – we've been in business for nearly three decades and know exactly what works and what doesn't. It would be unthinkable, for instance, to enter a new international market without joining forces with the relevant governments and developers.
So, we do our homework and as Chief Development Officer I oversee a dedicated department of industry experts who work tirelessly to cultivate the right relationships and find the most appropriate commercial frameworks – this isn't a 'one size fits all' approach and we're extremely flexible in our dealings with strategic partners. We also have immensely strong majority shareholders in Mubadala and ENGIE, both of which have incredible reach and influence, helping Tabreed to become a partner of choice across the Middle East and beyond.

At World Utilities Congress 2025, what are you keen to showcase?
We've been sponsors and partners of World Utilities Congress since its very beginning – it's the highlight of our annual events calendar and, for the 2025 edition Tabreed is once again the official Cooling Partner. This year we'll be showcasing our advancements in renewable energy integration, as well as demonstrating the benefits of district cooling to planners and developers.
Also, for the first time, we will be sharing our stand with our subsidiary companies, clearly demonstrating that, as a group, Tabreed really does have everything 'under one roof. Tasleem, for instance, takes care of billing and collections, while EPPI manufactures the insulated pipes that make up our underground networks, Cooltech are experts in water treatment technology and consultancy, and Tabreed Energy Services are leaders in maximising efficiency and reducing energy costs for a wide range of commercial and industrial clients.
We'll be extremely active in presentations, panel discussions and round table events, sharing our unrivalled insights and expertise with delegates, proudly promoting our industry as a global champion of sustainability – see you there! ■

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EXECUTIVE COMMITTEE MEMBER: KAPSARC

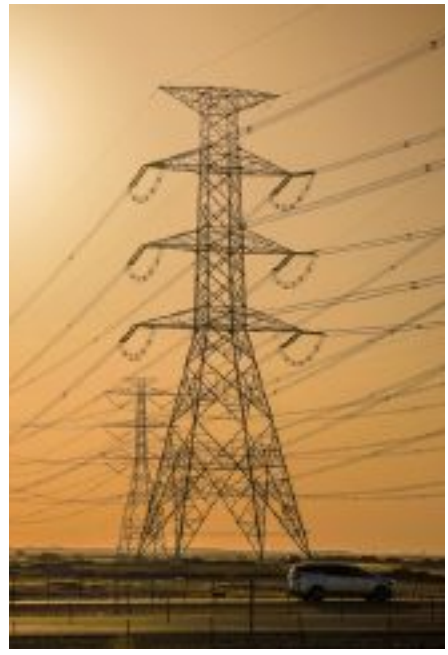
SHAPING THE FUTURE OF UTILITIES THROUGH INNOVATION, POLICY, AND AI

In an exclusive interview, **Dr. Amro Elshurafa,** Executive Director, Utilities & Renewables, **King Abdullah Petroleum Studies and Research Center (KAPSARC),** discusses the role of advisory think tanks in shaping the global utilities sector, the challenges of rapid energy transition, and the transformative impact of digitalisation and AI

How do you see the role of institutions like KAPSARC in shaping the future of the global utilities sector?

Advisory think tanks like KAPSARC play a pivotal role in shaping the future of the global utilities sector by serving as forums for discussion and dialogue, where industry leaders, policymakers, and academics converge to move beyond the status quo. Despite living in an era of connectedness, paradoxically, a disconnect remains among industry players, policymakers, NGOs, and academia. Think tanks strive to bridge this gap. Moreover, KAPSARC fosters an environment where innovative ideas are rigorously researched and stress-tested, thereby driving meaningful policy and regulatory evolution. Institutions like KAPSARC challenge existing frameworks and strive to balance disruptive yet pragmatic reforms. Whether optimizing electricity market mechanisms, advancing carbon pricing strategies, or pioneering consumer-centric policies, these advisory centers equip decision-makers with actionable pathways toward a more resilient, sustainable, and efficient utilities sector.

Through collaboration and rigorous analysis, think tanks ensure energy policies become well-tested blueprints rather than merely ambitious concepts. They bridge theory and practice, ensuring proposed market models, investment strategies, tariff structures, or otherwise, are visionary and operationally viable.



> **Despite living in an era of connectedness, paradoxically, a disconnect remains among industry players, policymakers, NGOs, and academia. Research institutions and think tanks strive to bridge this gap."**

What are the biggest challenges facing the utilities industry today, and how can innovation help overcome them?

While it is challenging to be conclusive, two key challenges stand out. First, the pace of change. The energy transition demands building 'too much too fast'—from renewable capacity and grid infrastructure to storage solutions. Such rapid expansion risks supply chain disruptions, material scarcity, and, consequently, rising costs, making the transition more expensive and challenging to sustain. Innovations in alternative materials, modular construction, and supply chain optimization can help mitigate these risks.Second, the need for continuous policy, regulatory, and market reforms. The utilities sector must continually adapt to rapid technological advancements and other changes. However, policy frameworks often lag in many countries. Digital sandboxes could enable decision-makers to test and refine new frameworks before full-scale implementation.

How do you envision the impact of digital transformation and AI on the future of energy and utilities management?

Digital and AI technologies are already positively impacting the energy and utilities sectors, and this is set to accelerate further. Numerous digital solutions are already in use globally, ranging from demand-side aggregation and dynamic transmission line rating to asset predictive maintenance and advanced system operations. These applications enhance efficiency, reliability, and sustainability.

Although these technologies can involve significant upfront costs, long-term returns generally outweigh initial investments. Optimized grid management, reduced downtime through AI-driven predictive maintenance, and real-time energy trading can unlock operational savings, enhance grid resilience, and foster greater consumer engagement. The critical challenge is not merely enumerating digital applications but choosing the ones that provide maximum value relative to their cost—an area deserving focused exploration. ■

EXHIBITOR: WILO GROUP | STAND: 3430 | HALL: 3

WILO LEADS SUSTAINABLE INNOVATION WITH AMBITION 2030 STRATEGY

Yasser Nagi, Managing Director of **Wilo MENA,** highlights how Wilo drives sustainability through its Ambition 2030 strategy, advancing energy-efficient pumps, green hydrogen, and smart water management

How is Wilo contributing to sustainability in the utilities sector?

Wilo is deeply committed to sustainability in the utilities sector, focusing on innovative solutions that enhance energy efficiency and environmental responsibility. Their sustainability strategy, Ambition 2030, integrates closely with their corporate objectives, emphasising climate protection as a core element of their business model. This strategy is structured around three impact areas: Creating, Caring, and Connecting. Through 'Creating,' Wilo aims to improve access to clean water and drive decarbonisation via high-efficiency technologies. The 'Caring' aspect focuses on reducing greenhouse gas emissions and achieving climate neutrality across their production sites and value chain. 'Connecting' emphasises building strong partnerships to tackle global challenges collaboratively.

With increasing global demand for water and energy efficiency, how does Wilo help utilities optimise their operations while reducing environmental impact?

Wilo helps utilities optimise their operations while reducing environmental impact by providing high-efficiency pumping systems, digital solutions, and sustainable water management technologies.

Here's how:

1. High-efficiency pumping solutions

Wilo's pumps are designed to minimise energy consumption, thereby reducing both operational costs and carbon footprint. These pumps are particularly valuable for utilities in water supply, wastewater treatment, and industrial applications. Notable innovations include:

- Wilo-Stratos MAXO: The world's first smart pump, offering up to 10% more efficiency than conventional pumps.
- Wilo-Actun OPTI: Solar-powered submersible pumps for decentralised water supply, reducing reliance on fossil fuels.
- Wilo-EMUport CORE: Advanced wastewater pumping stations with solids separation technology, improving efficiency and preventing clogging.

2. Digitalisation & smart water management

Wilo integrates IoT and AI-driven solutions to

enhance efficiency and real-time monitoring. Key solutions include:

- Wilo-Smart Connect: Remote monitoring and control of pump systems to ensure predictive maintenance and energy optimisation.
- Wilo-Nexos Intelligence: An AI-based system for pressure and flow optimisation in water networks, preventing losses and reducing operational costs.

3. Decarbonisation & renewable energy integration

To help utilities transition to low-carbon operations, Wilo is pioneering green hydrogen and renewable energy solutions, such as:

- H2POWERPLANT: A hydrogen-based energy storage system that ensures energy self-sufficiency and grid stability.
- Solar-Powered Pumping Systems: Reducing reliance on fossil fuels for water distribution in remote or off-grid areas.

4. Sustainable water solutions for utilities

Wilo supports water conservation and circular economy principles through:

- Leakage detection systems: Preventing unnecessary water loss in urban distribution networks.
- Energy-efficient wastewater treatment: Pumping solutions that significantly reduce energy use in sewage treatment plants.

5. Commitment to carbon neutrality

- Wilo aims to achieve climate-neutral production by 2040.
- The company has reduced 50,000+ metric tons of CO_2 annually through optimised energy use in their facilities and products.

By combining cutting-edge technology, digitalisation, and renewable energy integration, Wilo ensures utilities can meet growing demand for water and energy efficiency while significantly reducing their environmental impact.

How is Wilo integrating digitalisation and smart technology into its products to support the future of water infrastructure and utilities?

Wilo is at the forefront of integrating digitalisation and smart technology into its products to enhance the efficiency, reliability, and sustainability of water infrastructure and utilities. Through advanced AI, IoT, and cloud-based solutions, Wilo is revolutionising water management by enabling predictive maintenance, optimising energy consumption, and ensuring smarter decision-making.

Key innovations include the Wilo-Stratos MAXO, the first AI-driven smart pump that adjusts to system demands for better energy efficiency, and the Wilo-Actun OPTI, a solar-powered pump with smart sensors for off-grid areas.

Wilo also employs digital twin technology for predictive maintenance, reducing downtime and costs.

Wilo's AI-powered systems like the Wilo-Nexos Intelligence optimise water pressure and flow, cutting energy use and minimising losses.

Its leak detection and smart grid-compatible pumps ensure sustainability and system resilience.

Through these advancements, Wilo is transforming water infrastructure, promoting efficiency, cost reduction, and long-term sustainability.

What are you planning to showcase at World Utilities Congress 2025?

S Smart technology has improved wastewater management. This explores the Wilo Rexa SOLID Q, a high-efficiency sewage pump with advanced hydraulics, smart controls, and real-time monitoring to cut energy use and maintenance. Its design prevents clogging and handles flow changes, reducing costs in municipal, industrial, and commercial settings. ■

PLATINUM SPONSOR: HYDROPOWER ENERGY & GENERAL CONSTRUCTION | STAND: A110 | HALL: ATRIUM

CONSTRUCTION AT THE HEART OF UTILITIES' DECARBONISATION GOALS

By **Ilias Abdo,** Chief Executive Officer, **Hydropower Energy & General Construction Company**

Today, as the world intensifies its focus on clean energy and resilient infrastructure, HPE is positioned at the forefront of this transformation. Our three specialised divisions — Fluid Systems & Pipelines, Infrastructure & Transport, and Power, Buildings & Facilities Management — work in synergy to deliver large-scale, future-ready projects that address both immediate needs and long-term sustainability goals.

> **"At HPE, we believe in delivering the invisible — the essential systems that power cities, connect communities, and support life. By combining legacy expertise with innovative solutions, we are shaping a smarter, more resilient tomorrow."**

A culture rooted in safety and sustainability

At Hydropower Energy, safety is not just a protocol — it's our promise. Our ISO 45001-certified systems ensure pollution-free, secure environments for every project, while our workforce embodies a "Safety First" culture. At WUC, where operational excellence meets innovation, we proudly present our health, safety, and environmental commitment as a benchmark for responsible engineering.

Empowering utilities through engineering excellence

Our Fluid Systems and Pipelines Division is at the core of regional water and energy systems, delivering critical projects including Water Transmission & Distribution Networks and Pumping Stations, Wastewater networks & treatment plants with their associated industrial and automation systems. With expertise in sewage treatment facilities, and advanced SCADA/ handling high-pressure systems and diverse materials, we ensure long-term performance and reliability of essential infrastructure. At WUC, where future utilities are being reimagined, our capabilities in this field highlight how traditional systems can be modernised to meet sustainability targets and urban expansion alike.

Sustainability

Sustainability is at the heart of everything we do — balancing economy, environment, and society. Our initiatives focus on resource efficiency, ecological responsibility, and inclusive development. Whether enabling access to clean water, improving energy infrastructure, or supporting smart city goals, we are delivering solutions that meet today's needs without compromising tomorrow's potential.

Infrastructure that Connects and Sustains in parallel, our Infrastructure and Transport Division is driving innovation in roadways, earthworks, landscaping, and urban development — paving the way for safer, more connected cities. With safety and operational quality at the center of our project execution, we are proud to be part of the UAE's ongoing transformation and regional development strategy. This aligns closely with WUC's emphasis on resilient infrastructure — ensuring that utilities are not only efficient but integrated within the wider built environment.

Sustainability is more than a goal — it's our guiding principle. Our company is committed to driving resource efficiency, enabling access to clean energy, and ensuring that our projects contribute to economic, environmental, and social balance. Whether it's executing solar-driven lighting initiatives or managing green infrastructure, our work aligns directly with the Sustainable Development Goals and the UAE's Net Zero 2050 strategy.

Shaping the utility future — together at WUC

Hydropower Energy & General Constructions is proud to exhibit at WUC 2025, where innovation meets impact. We invite you to engage with us, explore strategic partnerships, and collaborate on designing the infrastructure and energy systems of tomorrow. With nearly five decades of excellence, a forward-thinking mindset, and deep regional roots — we are ready to help you deliver the future, invisibly and powerfully. ■

SIEMENS energy

Decarbonizing energy systems, step by step

LET'S MAKE TOMORROW DIFFERENT TODAY

SILVER SPONSOR: MINSAIT | STAND: 4330 | HALL: 4

MINSAIT'S CRITICAL ROLE IN DRIVING THE DIGITAL ENERGY REVOLUTION

Juan Luis Martín Ruiz, VP Energy and Utilities, Middle East, Asia and Pacific, **Minsait,** explains how digital transformation is making utilities more efficient, reliable, and sustainable through AI, smart grids, IoT, and cybersecurity

How do you see digital transformation reshaping the utilities sector, and what role does Minsait play in this evolution?
The utilities sector is undergoing a deep digital transformation to address the challenges of an evolving global energy landscape and complex energy mix. The increasing penetration of renewable energy sources, the surge in energy demand from energy-intensive industries such as AI/data centers, transportation, and defense, and the growing need for grid resilience and independence have made digitalisation essential. Digital solutions provide utilities with enhanced control and visibility over assets and networks, ensuring efficiency, reliability, and sustainability.
Minsait (Indra Group) plays a pivotal role in this transformation by leveraging its extensive experience in IT/OT solutions for the energy sector and pioneering the implementation of cutting-edge proprietary and third-party technologies worldwide. With an end-to-end approach, Minsait accompanies utilities through their modernisation journey, helping them enhance operational efficiency and resilience.
Some of the key areas where Minsait is driving the most significant transformation include smart grids and customer sensing technologies that enhance visibility and control over energy networks; IT-OT integration through IoT, edge computing, and virtualised architectures that bridge operational and information technologies for real-time decision-making; cybersecurity and cloud migration that ensure secure and efficient energy management at the grid edge; and AI and automation that enable predictive maintenance, fault diagnosis, and optimised response strategies to enhance reliability and efficiency.
From a sustainability and resilience perspective, these technologies facilitate the integration of renewable energy sources across all levels into the power grid, reduce dependence on fossil fuels, and decrease carbon emissions. Additionally, real-time monitoring and advanced analytics allow for the early detection and resolution of issues before they escalate, or even happen, improving grid resilience.

With the increasing adoption of AI and smart grids, what are the biggest challenges utilities face in implementing these technologies effectively?
AI and smart grids offer transformative potential for power systems by enabling advanced capabilities in prediction, diagnosis, optimised response and resiliency. However, utilities face significant challenges in their implementation. The transition from centralised to decentralised operations requires coordinated management of intelligent assets and information points distributed across the grid. Ensuring seamless communication between IT and OT systems is critical for real-time decision-making.
Cybersecurity risks increase as utilities adopt digital technologies, necessitating robust security frameworks. Additionally, evolving regulatory and compliance requirements demand continuous adaptation.
Some of the most impactful AI use cases where Minsait is delivering high value include advanced metering infrastructure and customer sensing technologies that provide real-time visibility and control over energy consumption and distribution; IoT and edge computing integration that enhances decision-making through distributed intelligence; and predictive maintenance and fault detection that leverage AI to prevent outages and optimise asset performance. Minsait's solutions empower utilities across Europe, the Middle East, Asia, Oceania, and the Americas, facilitating the seamless integration of renewable generation while maximising grid reliability and efficiency.

> **"The utilities sector is undergoing a deep digital transformation to address the challenges of an evolving global energy landscape and complex energy mix."**

Cybersecurity is a major concern for critical infrastructure. How does Minsait help utilities strengthen their resilience against cyber threats?
Minsait adheres to the highest cybersecurity standards and regulatory compliance, ensuring the protection of critical infrastructure. Since 2020, Indra Group has strengthened its cybersecurity expertise through the integration of SIA, a leading cybersecurity services firm in Europe. This merger has positioned Minsait as a specialised leader in cybersecurity solutions with a global footprint.
Minsait's comprehensive cybersecurity solutions focus on threat detection and prevention by implementing advanced detection systems to identify and mitigate cyber threats proactively. It operates multiple cyber defense centers that offer continuous monitoring and rapid incident response. Critical infrastructure protection is a priority, ensuring the security of essential systems such as SCADA and operational networks. Digital identity and access management solutions ensure secure authentication and prevent unauthorised access. Minsait also assists utilities in meeting global and regional cybersecurity standards, ensuring compliance with evolving security regulations. By implementing these measures, Minsait enhances the cybersecurity posture of utilities, making them more resilient to emerging threats. ■

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BRONZE SPONSOR: ABB | UTILITIES CLUB

DRIVING THE FUTURE OF UTILITIES WITH SUSTAINABLE INNOVATIONS

In an exclusive interview with Vijay Rengaraju, Global Industry Business Manager, New Energies – Power Generation, Energy Industries, ABB, discusses tackling rising energy demand, grid stability, and decarbonisation through automation, digitalisation, and renewable integration.

What opportunities do you see in the utilities industry, and how is ABB helping to drive innovation and growth?

The utilities industry faces many challenges like rising energy costs and demands, aging workforce and infrastructure, grid stability and security, source flexibility, and environmental sustainability, but also opportunities for innovation and growth through electrification and digitalisation, renewable energy integration, and smart grid technologies.

ABB is addressing this with a focus on decarbonisation, decentralisation, and digitalisation, with sector coupling – where different sectors are connected in a way that allows them to exchange energy with each other to help reduce emissions – through various tailored solutions and products for the utilities sector. We are highly focused on delivering technology within the full value chain along with developing long-term partnerships to meet utility sector requirements.

Let us first take a look at how our technology is moving the utilities sector forward. ABB's synchronous condensers (SCs) solutions help tackle grid stability and grid code compliance with significant renewable content as utilities look to decarbonise by providing inertia, short-circuit current, and reactive power for voltage regulation. SCs are rotating electrical machines that mimic the operation of large generators to stabilise the grid when loads and renewable energy production fluctuates. ABB has delivered SCs' integrated technology to stabilise power grids, including our work supporting the transitions of both the Spanish and Faroe Islands to green energy.

The latest trend in the utilities sector involves leveraging Artificial Intelligence/Machine Learning (AI/ML) and digital twins from source to grid to enhance grid management, predict maintenance needs, and optimise operations, leading to increased efficiency and reliability. Smart grid analytics provide real-time visibility into grid performance, enabling utilities to

react quickly to changes in demand and supply. ABB addresses these trends through platforms like ABB Ability Genix, which collects, contextualises and converts operational, engineering and IT data into actionable insights. Genix Asset Performance Management solution has improved efficiency and reliability while optimising asset performance and lowering costs for up to 33 hydroelectric plants across Europe, totaling around 100 power-generating units.

ABB collaborates globally with regulators and policy experts, providing input at various levels. ABB is a trusted partner in the utilities sector for reliability and resiliency. A combination of legacy equipment, reducing reserve margins, the increasing frequency and severity of weather events, and ever-growing demand are challenging asset owners and Transmission System Operators (TSO) to maintain the flow of power. With a focus on reliability and resilience, asset owners and TSOs can leverage ABB's long-established and newer technologies to meet regulatory and policy changes.

What are you planning to showcase at World Utilities Congress 2025?

At the World Utilities Congress (WUC) 2025, ABB will showcase its latest innovations in automation, electrification, and digitalisation – helping utilities outrun leaner and cleaner.

Decarbonisation and energy transition

The energy transition is a critical challenge for industries worldwide. At ABB, we empower hard-to-abate sectors, traditional industries, clean fuels and emerging technologies to actively improve existing decarbonisation efforts and develop new ones. By reducing emissions for traditional industry while scaling up lower carbon energy sources, we maximise decarbonisation opportunities.

ABB supports these efforts by providing advanced automation, electrification and digitalisation solutions, integrating renewable energy sources, as well as supporting CCS and hydrogen-based technologies. These solutions enable industries to reduce emissions, optimise energy consumption and become more sustainable.

Digitalisation and automation

The future of industry depends on intelligent, connected systems that enhance operational performance. ABB's digital solutions harness the power of AI, machine learning and real-time data analytics to improve process efficiency, minimise unplanned downtime and enable predictive maintenance. By implementing smart automation, industries can achieve improved productivity, safety and sustainability.

Energy efficiency

Optimising energy use is essential for reducing operational costs and environmental impact. ABB's portfolio of high-efficiency motors, variable-speed drives and energy management systems enable utilities to reduce energy waste while maintaining peak performance. These solutions empower businesses to maximise output while reducing emissions.

Renewable energy integration

The shift toward renewable energy requires seamless integration into industrial and utility networks. ABB's expertise in grid stability, energy storage and power management ensures that solar, wind and hybrid energy systems can be efficiently incorporated into existing operations. ABB's solutions provide reliable, cost-effective energy distribution, reducing the dependency on fossil fuels.

Smart grids and infrastructure

A modernised energy infrastructure is key to a more sustainable future. ABB's smart grid technologies support real-time energy distribution, demand response and predictive maintenance, ensuring resilient and adaptive energy systems. By leveraging digital twin technology and intelligent automation, ABB enables utilities and industries to enhance grid stability and efficiency. ■

EXHIBITOR: LINXON | STAND: 6130 | HALL: 6

HOW AI IS TRANSFORMING ENERGY INFRASTRUCTURE WORLDWIDE

By **Hassan Merhi,** Managing Director Asia Pacific, Middle East and Africa, **Linxon**

The global utilities sector is at a pivotal moment. Rapid technological advancements and the urgent need for reliable and sustainable energy solutions are driving unprecedented transformation. Yet, this progress comes with complex challenges — aging infrastructure, surging electrification demands, and the intricate task of integrating energy sources into existing grids, whilst delivering the project on time and on target. To navigate this evolving landscape, innovation is no longer optional; it is essential.

At Linxon, we believe that the key to building a resilient, future-proof energy grid lies in the power of digitalisation and AI-driven analytics. By embracing cutting-edge solutions, we are reshaping the way energy infrastructure projects are executed—enhancing efficiency, improving safety, and ensuring long-term reliability. A prime example of this commitment is our adoption of AI-powered reality capture, Open Space. This game-changing technology enables real-time progress tracking on our construction sites, reduces operational inefficiencies, and strengthens decision-making. It has already been deployed by nearly 200,000 users across 93 countries, demonstrating its effectiveness in optimising complex construction environments.

As industry leaders gather at the World Utilities Congress 2025, the focus is on innovation and community—two pillars that define Linxon's approach. This moment presents an opportunity to explore how advanced digital solutions can revolutionise energy infrastructure delivery, foster collaboration, and pave the way for a more sustainable energy future in a fast-paced environment.

Linxon was established in 2018, combining AtkinsRéalis' world-class project management expertise with Hitachi Energy's cutting-edge technology to deliver turnkey power solutions. As an engineering, procurement, and construction (EPC) company, we specialise in developing high-voltage substations, renewable energy integration projects, and critical grid infrastructure that power industries and communities. Our mission is to build the energy infrastructure of the future—one that is efficient, reliable, and aligned with the world's transition to cleaner energy.

Global trends indicate a massive shift toward renewables, smart grids, and digitalisation. According to the International Energy Agency (IEA), global investment in power grids is expected to exceed $600 billion annually by 2030, with digitalisation playing a key role in ensuring efficiency and resilience. Linxon's projects are strategically designed to align with these trends, integrating advanced technologies that enhance grid stability while supporting the growing integration of renewables.

A core driver of this transformation is our adoption of AI-powered reality capture and analytics. This technology enables seamless, real-time documentation of construction sites using 360° imaging, allowing teams to track progress, resolve potential disputes efficiently, and maintain accountability. By leveraging AI-driven insights, we have observed a 10–15% reduction in time spent on-site and a significant decrease in hours dedicated to administrative tasks.

We have successfully integrated this technology into key projects, including the 380 kV substation connecting Taibah cogeneration plants to Saudi Arabia's electricity grid and the high-voltage substation at Bengeworth Road, part of the London Power Tunnels Project aimed at rewiring London. These implementations have provided enhanced remote monitoring capabilities, streamlined workflows, and improved safety protocols—critical factors in large-scale infrastructure development.

Beyond efficiency, our digital approach fosters stronger collaboration within the energy sector. At Linxon, we believe that partnerships—whether with technology providers, clients, or local stakeholders—are key to the successful implementation of innovative solutions. By integrating real-time visual progress updates into our workflows, we ensure greater transparency, empowering stakeholders with accurate, up-to-date project insights. This not only builds trust but also strengthens the foundation for long-term collaboration.

> **"By integrating real-time visual progress updates into our workflows, we ensure greater transparency, empowering stakeholders with accurate, up-to-date project insights. This not only builds trust but also strengthens the foundation for long-term collaboration."**

As we move forward, Linxon remains committed to leading the charge in sustainable energy infrastructure development. Our expertise in EPC project execution, combined with a forward-thinking approach to digitalisation, positions us at the forefront of the energy transition. By 2030, our goal is to cut CO_2 emissions by 50% across our operations and reach net-zero emissions by 2050. Through innovation, collaboration, and a relentless commitment to sustainability, we are shaping a cleaner, more connected energy future — one project at a time. ■

EXHIBITOR: ELSEWEDY ELECTRIC | STAND: A210 | HALL: ATRIUM

INNOVATION AND COMMUNITY AT THE HEART OF GLOBAL TRANSFORMATION

By **Mohamed Naguib,** Managing Director & Country Manager, **Elsewedy Electric**

The utilities sector is undergoing a rapid transformation, driven by the urgent need for sustainability, resilience, and digitalisation. With growing global energy demands, climate concerns, and the push toward decarbonisation, the industry must innovate at an unprecedented pace. However, true progress is not just about technology—it is about how innovation strengthens communities, ensuring access to reliable, sustainable, and affordable utilities for all.

As we approach the World Utilities Congress (WUC) 2025, key industry leaders will come together to explore how innovation and community engagement can shape the future of energy, water, and digital infrastructure. ElSewedy Electric is proud to be at the forefront of this transformation, pioneering smart, integrated solutions that power a more sustainable and connected world.

Innovation as the cornerstone of utility transformation

Innovation in the utilities sector extends beyond incremental improvements—it demands a complete rethinking of energy generation, distribution, and consumption. The shift toward renewable energy integration, digital grid management, and advanced water solutions is defining a new era.

1. The role of renewables in grid transformation

As governments and corporations work toward net-zero emissions, renewable energy sources are rapidly becoming the backbone of modern utilities. However, integrating these intermittent sources—such as solar and wind—into existing grids presents challenges in stability, efficiency, and energy storage.

At ElSewedy Electric, we are advancing smart grid technologies that allow utilities to optimise energy flow, predict demand fluctuations, and enhance grid resilience. Our energy management solutions, coupled with AI-driven analytics and IoT-enabled devices, ensure a seamless transition from fossil fuels to sustainable, decentralised energy networks.

Community impact:

The adoption of renewable energy not only reduces carbon footprints but also empowers

local communities. By supporting microgrids and distributed energy systems, we enable remote and underserved areas to access reliable electricity, fostering economic growth and improving quality of life.

2. Water security through smart infrastructure

Water security remains a critical challenge, particularly in regions facing climate-induced water stress. Smart water management systems are essential to improving efficiency, reducing losses, and ensuring long-term sustainability.

At Elsewedy Electric, we are leveraging digital twin technology, AI-powered leak detection, and renewable-powered desalination to optimise water distribution and treatment. These innovations enhance conservation efforts, minimise waste, and make utilities more sustainable.

Community impact:

Clean, accessible water is fundamental to community well-being. Through our investments in water infrastructure modernisation, we help municipalities and industries reduce water scarcity risks, ensuring that communities thrive in a water-resilient future.

3. Digitalisation: the new backbone of utilities

The adoption of digital technologies is reshaping how utilities operate, from automated grid management to AI-driven predictive maintenance. By integrating real-time data analytics, blockchain, and IoT, utilities can enhance efficiency, reduce costs, and improve reliability.

At ElSewedy Electric, we are committed to advancing smart metering, AI-based asset management, and digital energy platforms. These innovations enable utilities to deliver seamless customer experiences, optimise energy use, and reduce operational inefficiencies.

Community impact:

Empowering consumers with real-time energy insights fosters a culture of sustainability. Households and businesses can monitor consumption, optimise usage, and contribute to a greener future, creating a shared responsibility for energy conservation.

The intersection of innovation and community engagement

Technological advancements alone are not enough; true transformation happens when communities are engaged, empowered, and included in the energy transition.

1. Building an inclusive energy future

Energy access remains a challenge for millions worldwide. The shift toward decentralised energy models, community solar projects, and off-grid solutions is making electricity more accessible, particularly in remote areas. By partnering with local governments and organisations, we can develop scalable, community-centric energy solutions that address real-world challenges.

2. The role of public-private collaboration

The success of innovation in utilities depends on strong collaboration between governments, the private sector, and local communities. Policies that support green financing, grid modernisation, and technology adoption will accelerate progress toward a sustainable energy ecosystem.

At ElSewedy Electric, we actively work with stakeholders to develop strategic projects that align with national and regional sustainability goals, ensuring that innovation benefits everyone.

3. Skills development and workforce readiness

The energy transition requires a skilled workforce capable of managing next-generation power grids, water systems, and digital utilities. Investing in STEM education, vocational training, and knowledge-sharing platforms is crucial for long-term industry success.

We are committed to nurturing talent by supporting training programs and upskilling initiatives that prepare the next generation of utility professionals for the demands of a rapidly evolving industry. ■

EXHIBITOR: TECHNOLOGY INNOVATION INSTITUTE | STAND: 4230 | HALL: 4

WHY THE FUTURE OF UTILITIES REQUIRES REMOTE SENSING

By **Dr. Felix Vega,** Acting Chief Researcher, Directed Energy Research Center at **Technology Innovation Institute**

The utilities sector stands at a critical crossroads. As energy demand surges and climate change accelerates, the industry faces mounting pressure to modernize infrastructure, integrate renewables, enhance security, and withstand extreme weather events.

If utilities are to remain viable and resilient, they must keep embracing technological advancements, chief among them, remote sensing. Satellite imaging, AI-powered drone surveillance, and geospatial analytics are already transforming utility operations. These tools provide real-time monitoring, predictive maintenance, and enhanced decision-making capabilities, enabling utilities to address longstanding vulnerabilities with unprecedented efficiency.

Considering the challenge of aging infrastructure. The traditional inspection methods are generally slow, costly, and reactive. Remote sensing changes this equation, particularly drone-based Synthetic Aperture Radar (SAR), which enables early fault detection in power lines, transformers, or pipelines among others, identifying stress points before they escalate into failures. Drones can be deployed faster and cover hard-to-reach areas, delivering real-time, high-resolution assessments, and by enabling precise and proactive monitoring, they empower utilities to conduct targeted maintenance long before minor faults escalate into full blown crisis.

Dr. Felix Vega, Acting Chief Researcher, Directed Energy Research Center at Technology Innovation Institute

Incorporating AI-driven techniques to remote sensing technologies brings another layer of automated decision making. Improved anomaly detection and classification methods, automated identification of any suspicious signal reduces human error, and fortifies remote sensing interest for utilities management.

Security is also another aspect where remote sensing can be applied. Indeed, by providing infrastructure monitoring, allowing utilities to detect unauthorized access and tampering at substations, pipelines, and power plants, security can be enhanced.

Drones' agility is also critical during disaster response. In the wake of extreme weather events, such as wildfires, hurricanes, floods, and snowstorms, utilities must quickly assess infrastructure conditions to minimize outages and economic disruption.

Drone-based SAR swiftly provides on-demand high quality data, capturing detailed views of affected areas even in adverse conditions. Such rapid, real-time situational awareness accelerates decision-making, expedites repairs, and reduces downtime, enhancing overall community resilience.

Additionally, remote sensing reduces the carbon footprint of traditional utility operations by replacing helicopter and vehicle inspections with electrically powered drones and satellite-based monitoring.

The bottom line is clear: remote sensing is no longer a luxury. It has become a strategic necessity.

The industry must prioritize investment in these technologies, forging partnerships with policymakers, researchers and technology providers to accelerate adoption. ■

"Incorporating AI-driven techniques to remote sensing technologies brings another layer of automated decision making. Improved anomaly detection and classification methods, automated identification of any suspicious signal reduces human error, and fortifies remote sensing interest for utilities management."

EXHIBITOR: ENGIE | STAND: 5330 | HALL: 5

HOW ENGIE IS INNOVATING FOR A SUSTAINABLE FUTURE GLOBALLY

François-Xavier Boul, Vice President Renewables AMEA, & Managing Director MENA, **ENGIE,** discusses how ENGIE drives the energy transition through innovation, technology, and renewable solutions

How is ENGIE leveraging innovation and technology to drive the energy transition?
ENGIE is actively leveraging innovation and technology to drive the energy transition through its dedicated research and development centres, notably ENGIE Lab CRIGEN which conducts operational R&D projects, develops pilot programs, and implements innovative offers to accelerate the energy transition. The lab boasts unique testing facilities, including nine specialised laboratories dedicated to hydrogen, biogas, bio-LNG, industrial applications, drones, robots, and more, enabling the development and optimisation of low-carbon technologies. We test the latest technology evolutions of solar panels in real environment conditions through our labs in Belgium and Chile.
Boosting large scale desalination competitiveness and further developing operation excellence are key drivers for ENGIE Research and Innovation. In this context, ENGIE R&I, in support to the ENGIE Desalination Center of Excellence, is deploying a Desalination Testing Platform focusing first on pre-treatment and reverse osmosis, followed by brine management. The reverse osmosis pilots and pre-treatment units will run as of Q2 – 2025. The testing program compliments ENGIE's operational and business need.

With the growing focus on energy security and resilience, what strategies is ENGIE implementing to ensure a reliable and sustainable energy supply?
Globally, ENGIE is expanding its portfolio of renewable energy sources, including wind, solar, biogas, green hydrogen, hydropower, geothermal energy, and biomass. This diversification reduces dependency on any single energy source and enhances overall energy security. In the region ENGIE is focused on wind, solar and batteries. A key focus is our investment in advanced energy storage technologies, such as battery storage as this solution helps balance supply and demand, ensuring a stable energy supply even during peak usage times or when renewable generation is low. ENGIE is also focusing on Open Cycle Gas Turbines (OCGTs) as a backup supply option. OCGTs can be quickly ramped up to provide electricity during peak demand periods or when renewable energy sources are not available. This flexibility ensures a reliable energy supply and supports the integration of more renewable energy into the grid.

> **"Through PPPs, we can secure long-term investments for large-scale renewable energy projects. PPPs can influence policy and regulatory frameworks to support the transition to clean energy."**

How does ENGIE see the role of public-private partnerships in accelerating the adoption of clean energy solutions worldwide?
ENGIE is familiar with Public-Private Partnerships (PPPs). In fact, we have been a key promoter of such models and we view these as crucial in accelerating the adoption of clean energy solutions worldwide. PPPs allow us to collaborate with governments and private entities, combining their expertise and resources to develop and implement innovative energy solutions on a fast-track basis. Through PPPs, we can secure long-term investments for large-scale renewable energy projects through an optimised risk allocation typically proposed on such successful schemes. PPPs can influence policy and regulatory frameworks to support the transition to clean energy.

What are you planning to showcase at World Utilities Congress 2025?
At the World Utilities Congress 2025, ENGIE plans to showcase a range of innovative solutions and technologies aimed at pragmatically driving the energy transition and enhancing utility resilience. From our latest advancements in renewable energy, including solar and wind, to solutions that are crucial for balancing supply and demand and ensuring a stable energy supply. We thrive in delivering our decarbonised solutions addressing the needs of our customers in a timely manner providing the required level of long-term performance. ■

● **EXECUTIVE COMMITTEE MEMBER: WÄRTSILÄ**

FLEXIBLE, FUTURE-PROOF SOLUTIONS FOR A RENEWABLE ENERGY FUTURE

Alexandre Eykerman, Managing Director and Energy Business Director, Middle East, **Wärtsilä UAE**, explains what drives the transition to renewable energy

How is Wärtsilä contributing to the global transition towards cleaner and more sustainable energy solutions?
Wärtsilä is at the forefront of the transition towards a 100% renewable energy future. We help our customers and the power sector to accelerate their decarbonisation journeys through our market-leading technologies and power system expertise.
Our solutions include flexible engine power plants, energy storage and optimisation technology, and services for the whole lifecycle of our installations. These solutions are critical for integrating renewables and ensuring the stability and reliability of the grid, and an optimised overall power system.
Wärtsilä engine power plants enable the integration of greater amounts of solar and wind. Engines can quickly ramp up whenever renewables aren't generating enough electricity – providing the necessary balancing power to keep the grid stable. They can also be shut down instantaneously when not needed. This ability to quickly ramp up and down enables maximum renewable absorption and helps avoiding curtailment and therefore, wasting energy.
Energy storage is a complementary technology to grid balancing engine power plants. Energy storage can provide power in seconds and even milliseconds to support renewables, while flexible balancing engines can provide the needed minute-level, daily and seasonal variations.
Wärtsilä's engines are future-proof: today the engines can run on natural gas and be switched to run on sustainable fuels when commercially available, enabling net-zero power systems of tomorrow. In 2024, Wärtsilä launched the world's first large-scale 100% hydrogen-ready engine power plant.

What are the biggest challenges facing the energy sector today, and how is Wärtsilä addressing them?
One of the critical challenges that the global energy sector faces today is the need to accelerate the transition to cheaper, more secure and sustainable energy future.
Energy is the world's largest source of CO2 emissions globally which means that we in the power sector have the opportunity - and a responsibility – to take bold and urgent action and make an impact.
Wärtsilä has modelled almost 200 power systems globally and consistently found that flexibility is key in the integration of more renewables and achieving the lowest cost clean energy future. We need technologies that are flexible, dispatchable and future-proof and can balance renewables in a heartbeat. Energy storage can handle second and minute-level balancing, while balancing engine power plants can handle minute-level, daily and seasonal variations. Engines are also ready for a net zero future: utilising gas as a transition fuel today, they will be capable of running on whichever sustainable fuels are most abundant in the future and not become stranded assets in the decades to come.
The decisions we make today will shape our energy future and have huge implications on the impacts of the climate challenge. Therefore, we must ensure that our energy systems are being built in the right way, and we need to deploy technologies that will help accelerate the transition to decarbonised energy future while increasing energy security.

> **"One of the critical challenges that the global energy sector faces today is the need to accelerate the transition to cheaper, more secure and sustainable energy future."**

How does Wärtsilä support utilities in improving energy efficiency and ensuring grid stability in a rapidly evolving energy landscape?
Renewables are the cheapest energy source, but flexible assets are needed to ensure grid stability. Wind and solar need to be supported by energy storage, grid-balancing engines, and demand-side response to avoid blackouts and inefficiencies. Traditional baseload generation may struggle in this new system, while flexible power solutions will be essential. Natural gas remains a key transition fuel until sustainable alternatives scale up. Wärtsilä's fuel-flexible engines provide stability today and can convert to hydrogen in the future, enabling a smooth path to net zero.

What innovative technologies or solutions is Wärtsilä showcasing at the World Utilities Congress this year?
We at Wärtsilä will continue to focus on innovative solutions and technologies that ensure a stable and reliable power supply while accommodating the variability of renewable energy sources.

Our solutions include flexible balancing engine power plants, energy storage and optimisation technology, and services for the whole lifecycle of our installations. Our engines are future-proof and can run on sustainable fuels. Last year, we launched the world's first large-scale 100% hydrogen-ready engine power plant which will be available for orders in 2025, and available for delivery from 2026. ■

STRATEGIC CONFERENCE SPEAKER

Alexandre Eykerman will be speaking at a Global Leadership panel titled: From concept to commercialisation: achieving scale for critical climate tech

Date: 29 May 2025 **Time: 14:00 - 14:45**

EXHIBITOR: DIEHL METERING | STAND: 530 | HALL: 5

SECURING WATER FOR THE FUTURE THROUGH SMART METERING

By **Jairo Rojas,** Vice President Sales – MEA, Turkey, China, Southeast Asia and Oceania, **Diehl Metering**

The scale of global water loss is staggering. According to the International Water Association (IWA), around 126 billion cubic meters of water are lost annually through distribution systems—enough to meet the needs of over 200 million people for a year. In some regions, water lost in the system can reach over 50% of the total supply. These losses are substantial enough on their own. When combined with ever-increasing urbanization, population growth and climate change, the impact on water resources becomes dramatic. By 2025, the UN estimates that around half the global population will be living in areas of high-water stress. Today, digital technology offers unparalleled opportunities for utilities to optimize their networks. With the right setup and expertise, they can use data to pinpoint and eliminate sources of water loss before they become critical. And by keeping more water in their system, they actively contribute to addressing water scarcity.

Smart metering: a smarter way to save water

To counter the risks of water scarcity and secure future supplies, utilities are embracing smarter, more adaptive infrastructure. Smart water metering stands at the forefront of this transformation. By embedding IoT-enabled devices within the water distribution network - such as meters and sensors - data is transferred into the Meter Data Management (MDM) platform and enhanced by AI-Driven software.

As a result, utilities can collect and analyze data in real-time, allowing them to detect anomalies, pinpoint leaks, and respond to issues before they escalate — enabling strategic maintenance, reducing operational costs, and significantly reducing non-revenue water.

From global challenge to regional action

The Middle East is leading by example in modern water management. Ambitious frameworks like the UAE Water Security Strategy 2036 and Dubai's Net Zero 2050 Strategy shows the region's commitment to securing resources for future generations. But delivering on these targets requires more than vision—it demands technology that delivers results today. Smart metering is proving to be one of the most effective tools for turning policy into progress.

Over 4 million ultrasonic smart water meters from Diehl Metering have already been installed across the Middle East, most of them integrated into fixed networks. In some areas, such as Dubai, meters are read remotely every 15 minutes, while in Bahrain and Saudi Arabia, hourly readings are common. This near-real-time monitoring enables utilities to detect and respond to leaks quickly saving millions in water and operational costs over the past decade. Dubai, for instance, reduced water network losses to just 4.6% in 2023.

Furthermore, Diehl Metering supports regional utilities with complete value chain solutions, from the meter to advanced analytics services—ensuring seamless integration, enhanced performance, and long-term sustainability.

Turning data into sustainable impact

The promise of smart metering lies in its ability to turn data into meaningful action. Real-time insights support better decision-making- from identifying system inefficiencies to promoting responsible consumption. Utilities gain operational resilience, citizens benefit from transparent and accurate billing, and natural resources are preserved.

> **"By acting decisively, investing in advanced smart metering solutions and digital transformation is not just an operational upgrade — it is a strategic imperative fostering a resilient and sustainable water future."**

In an era of growing water stress, smart metering is not simply a technological upgrade — it's a strategic imperative. With proven success in the Middle East and beyond, it's clear that smart water management is already shaping a more sustainable, secure future. ■

EXHIBITOR: BECKHOFF | STAND: 3420 | HALL: 3

DRIVING INNOVATION IN UTILITIES THROUGH AUTOMATION TECHNOLOGIES

Hafez Alsayed, Managing Director – Gulf Region, **Beckhoff Automation**, explains how Beckhoff optimises energy efficiency and renewable integration with AI-driven, PC-based control

Sustainability is a major focus in the energy sector. How does Beckhoff's automation technology enhance energy efficiency and support the integration of renewables?

At Beckhoff, we take a holistic approach to energy efficiency, covering generation, distribution, and consumption. Our PC-based control system enables granular energy management, integrating AI-driven models that optimise power usage in real time.

For renewables, Beckhoff is a leading automation provider for wind, solar, and hydrogen energy systems. Our EtherCAT-based communication technology allows seamless synchronisation across wind turbines, solar farms, and energy storage solutions, maximising efficiency and energy harvesting.

We also support predictive maintenance through real-time analytics and vibration analysis, which help prevent failures, extend system lifespan, and reduce downtime.

Our focus is on future-proof automation that integrates seamlessly across the entire energy value chain.

The utilities industry faces increasing demands for smart grid solutions and real-time monitoring. How do Beckhoff's automation and control systems help address these challenges?

A smart grid is more than just energy supply—it's about efficiency and intelligence. Beckhoff's PC-based control architecture provides real-time data processing, diagnostics, and automated energy balancing, enabling grid operators to respond instantly to fluctuations.

We support multiple industrial and energy protocols, ensuring seamless integration between OEM manufacturers, power distributors, and substation automation systems. Our technology also enables predictive maintenance, reducing energy losses and optimising asset performance.

By making smart grids more intelligent, flexible, and scalable, Beckhoff helps minimise energy waste, reduce operational costs, and enhance grid reliability.

> **"By making smart grids more intelligent, flexible, and scalable, Beckhoff helps minimise energy waste, reduce operational costs, and enhance grid reliability."**

Looking ahead, what key trends do you see shaping the future of automation in the utilities sector, and how is Beckhoff preparing to meet these evolving demands?

The future of utilities automation is driven by six major trends:

1. **Scalable Automation for Renewables** – Enabling efficient integration of solar, wind, and hydrogen energy into power grids.
2. **Smarter Grids & Intelligent Distribution** – Enhancing real-time optimisation, AI-driven automation, and predictive analytics.
3. **Energy Transfer & Loss Reduction** – Reducing inefficiencies in power conversion and distribution.
4. **Energy Storage & Grid Integration** – Managing energy storage solutions to stabilise supply and demand.
5. **Hybrid Energy Systems & Seamless Communication** – Ensuring smooth coordination between conventional and renewable sources.
6. **Advanced Power Conversion Technology** – Using PC-based control to minimise switching losses and improve efficiency.

At Beckhoff, we continue to innovate in real-time control, intelligent automation, and modular solutions, ensuring the utilities sector is future-ready and more sustainable.

What innovative solutions will Beckhoff be showcasing at the World Utilities Congress 2025?

We are excited to present five live demonstrations showcasing how Beckhoff's automation technology is transforming the utilities sector. Our key innovations include:

1. **The MX-System** – Cabinet-Free Automation A game-changing modular automation platform that eliminates the need for control cabinets, improving efficiency, scalability, and flexibility
2. **Advanced Motion Control & IPC Solutions** High-performance motion control and Industrial PC (IPC) concepts designed for energy management and industrial automation.
3. **PC-Based Control** – Major Software Advancements New software updates enhancing real-time AI-driven automation, vision-related integrations, and system diagnostics.
4. **Comprehensive Hardware & Automation Innovations** Scalable control systems optimised for energy efficiency, smart grid automation, and predictive maintenance.

By integrating cutting-edge hardware with intelligent software, Beckhoff continues to drive automation forward, helping utilities reduce costs, optimise operations, and accelerate sustainable transformation. ■

CONNECTING ELITE GLOBAL INDUSTRY LEADERS

The Utilities Club is an exclusive, invitation-only members club for senior decision-makers across the utilities sector, bringing together ministers, dignitaries, C-level executives, and industry leaders.

Designed as a hub for influential voices shaping the future of utilities, the club offers a space for members to connect, exchange insights, and engage in impactful dialogue.

The Utilities Club enhances the event experience for members, with premium amenities and a sophisticated environment for networking at the highest level. It provides tailored spaces for private meetings and discussions, including dedicated Ministerial meeting suites, allowing members to deepen partnerships and explore new opportunities in a private setting.

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Leadership Roundtables

CHARTING THE ROADMAP FOR A SUSTAINABLE UTILITIES FUTURE

In an exclusive and intimate setting, the Leadership Roundtables are a defining feature of the World Utilities Congress, bringing together the most influential leaders from across the global utilities sector to shape the industry's future.

These high-level discussions convene policymakers, ministers, executives, and thought leaders to address the most pressing challenges and opportunities in power and water utilities.

At the core of the event, these roundtables foster open, impactful, and action-driven dialogue aimed at advancing the transition to resilient and sustainable utilities. With a focus on collaboration, the conversations are enriched by diverse expertise, generating tangible strategies and solutions to enhance global energy and water security. This invitation-only platform enables decision-makers to forge partnerships, explore pioneering innovations, and steer collective progress toward a sustainable and efficient future.

Focused Discussions

Collaborative Solutions

Global Expertise

Diverse Perspectives

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Leadership Roundtables Programme

TUESDAY, 27 MAY 2025

14:00 - 15:15

HIGH-LEVEL UNEZA CEO ROUNDTABLE:
SHAPING THE 'AGE OF ELECTRICITY.' A CEO - REGULATORS DIALOGUE

Session objective: Sharing perspectives and identifying common ground in the context of power sector transition.

Regulators are at the core of the global energy transition, with decisions made today shaping the world's ability to achieve a net-zero future. A key challenge lies in striking the right balance between accelerating the clean energy transition while ensuring affordability and reliability. This high-level dialogue, hosted by UNEZA in partnership with RETA, will bring together CEOs and regulators to identify common ground and tackle the barriers hindering progress toward ambitious power sector goals.

Jasim Thabet
Group CEO & Managing Director, TAQA
and Co-Chair, UNEZA

Host

Moderator
Rachid Majiti
Senior Partner, Dubai
McKinsey & Company

WEDNESDAY, 28 MAY 2025

15:00 - 16:30

HIGH-LEVEL ROUNDTABLE ON WATER: COLLECTIVE ACTIONS TOWARDS A SUSTAINABLE AND SECURE WATER FUTURE

Session objective: Accelerating brine management, strengthening the narrative around desalination's centrality to water security and advancing a global framework on recycling.

Climate change is already reshaping water availability on a dramatic scale. Meanwhile, demand for water—particularly for industrial use and the energy transition, including hydrogen production—is set to rise exponentially. Desalination could become a critical global solution to address growing water insecurity. At the same time, bold policies and innovative approaches to water circularity are essential. How do we scale desalination and is there room for a global framework on water reuse?

Host

WEDNESDAY, 28 MAY 2025

11:00 - 12:30

INNOVATION ROUNDTABLE: ARE UTILITIES FULLY EMBRACING THE AI OPPORTUNITY?

Session objective: To explore how utilities can harness the transformative potential of AI while addressing the growing challenges of energy demand, cybersecurity, and risk-averse operating models through strategic cross-sector dialogue and insights.

The rapid evolution of digital technologies, particularly artificial intelligence (AI) and machine learning is reshaping the energy landscape. From customer engagement to predictive maintenance, and from system optimization to real-time grid management, AI holds transformative potential for utilities.
At the same time, AI's growing power demands are creating significant new loads, placing pressure on utilities to respond quickly and flexibly. AI-driven systems also introduce new cybersecurity vulnerabilities, challenging the traditional utility mandate of delivering secure, resilient infrastructure.

Partner

THURSDAY, 29 MAY 2025

11:00 - 12:15

HIGH-LEVEL ROUNDTABLE ON GRID: TACKLING THE POWER DEMAND SURGE AND GLOBAL ELECTRIFICATION CHALLENGE

Session objective: Explore collaborative strategies for accelerating the development of modern, flexible grids that are ready for renewable energy, promoting clean energy solutions, and advancing electrification efforts.

The energy transition hinges on overcoming a critical challenge: outdated and undersized transmission grids. Without modernised and expanded grids, the integration of renewable energy at scale remains a distant goal. Existing grids, particularly in developed and emerging economies, are often too small, too old, and incompatible with modern renewable technologies.
Addressing these issues demands significant initial investment, yet financing appetite remains limited despite the long-term benefits. Acting as a forum for thought leaders, strategists, and policymakers in the sector, the roundtable will examine how we can support larger and more flexible transmission and distribution grids.

Hosted by

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Conferences Overview

INNOVATING FOR A NEW AGE OF UTILITIES

The **World Utilities Congress** will bring together government leaders, policymakers, industry leaders and innovators to advance the dialogue around transforming the global utilities sector to meet rapidly rising electricity demand with cleaner, lower carbon power supply; shaping critical sustainable water strategies; amplifying the efficiencies created by AI and technology solutions and balancing record investments in power utilities with access to affordable, reliable energy access for all. To deliver energy transition goals in the timeframe needed, collective action is required from all stakeholder groups driving transformation and unlocking the power of innovation.

Strategic Conference

Cross-sector collaboration is essential to drive forward the transformation of power and water utilities. This conference will convene global policymakers and industry leaders to discuss pivotal trends and actionable strategies shaping the future of utilities, with a focus on scalable impact, efficiency, and access to reliable energy.

Technical Conference

To address the energy transition, we need the brightest minds and technical experts at the table. This conference will highlight the voices of industry experts as they share knowledge and research insights and unveil the latest developments across energy, water, and utilities.

Leadership Roundtables

Gathering stakeholders – from Ministers and policy makers to CEOs and scientists – these roundtable discussions offer an exclusive setting for collaborative problem-solving on financing, governance, and sustainability, fostering a strategic dialogue that supports transformation and progress across the sector.

Innovation Theatres

A platform for visionary thinkers and technology pioneers to present transformative solutions for the utilities sector. Through live demonstrations and interactive sessions, participants will experience firsthand the latest advancements in renewable energy technologies, smart infrastructure, digital integration, and sustainable practices.

Strategic Conference Overview

THE FUTURE OF UTILITIES: BALANCING GROWING DEMAND AND SUSTAINABILITY

The global utilities sector is at a defining moment, facing the dual challenge of meeting rising electricity demand while accelerating the transition to a low-carbon future. The integration of renewable energy is no longer optional, it is essential to ensuring a sustainable and resilient energy system. At the same time, digital transformation and smart infrastructure are revolutionising grid management and customer engagement, while the critical interdependence between water and energy continues to shape sustainability strategies worldwide. With energy production accounting for a significant share of global freshwater use, and water security reliant on a stable power supply, the need for innovative solutions has never been greater.

To achieve net zero goals, power generation must be transformed through renewable energy sources like solar and wind. The IEA forecasts global electricity demand growth of 3.4% annually through 2026. As a result, electricity's share of final energy consumption is set to jump from 20% today to over 50% by 2050, driven by rapid electrification in end-use sectors. However, over 60% of global electricity generation still relies on unabated fossil fuels. To meet the IEA's net zero emissions target by 2050, this share must decline significantly to less than 30% by 2030. Moreover, annual investment in renewable capacity must triple from US $570 billion in 2023 to US $1.5 trillion every year between 2024 and 2030, according to IRENA. Today, around 48% of the planned and committed investment will focus on grid infrastructure development enabling the addition, or upgrade, of 80 million kilometers of grids and potentially tripling renewable energy capacity by 2040.

Strategic conference themes:

- Building a more accessible, affordable and sustainable power system
- Putting water at the heart of energy and climate adaptation plans
- Unlocking the potential of AI and clean technologies
- Prioritising flexibility solutions for more resilient energy
- Adopting strategic capital reallocation and innovative financing models
- Shaping policies and partnerships for the future of utilities

Strategic Conference Formats

Ministerial Panels
Global ministers, policymakers, and utility leaders will share insights into how policy frameworks are enhancing energy security, advancing the energy transition, addressing geopolitical challenges, and fostering international collaboration to shape the future of utilities and energy systems.

Industry Dialogues
30-minute discussions on near-term challenges and opportunities that will pave the way for long-term action.

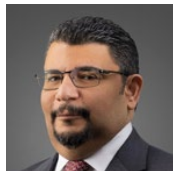
Global Leadership Panels
Panel discussions featuring global utility and energy leaders, will bring together diverse perspectives to explore the latest strategies, policies, and technologies driving innovation, sustainability, and resilience across the energy and utilities ecosystem.

Energy Talks
20-minute fireside chats offering exclusive insights from top utility and energy executives as they address challenges and opportunities in leading the global transition toward sustainable, low-carbon utility system.

Strategic Conference Speakers

H.E. Suhail Mohamed Al Mazrouei
Minister of Energy & Infrastructure
UAE

H.E. Dr. Abdulla Humaid Saif Al Jarwan
Chairman of the **Department of Energy**
UAE



H.E. Yaser bin Ebrahim Humaidan
Minister of Electricity & Water Affairs
Kingdom of Bahrain

H.E. Alexandre Silveira
Minister of Mines & Energy
Brazil

H.E. Zeyad Ali Fadhil AL-Rzage
Minister of Electricity
Iraq

H.E. Hon. July Moyo
Minister of Local Government & Public Works
Zimbabwe

H.E. Majid Al Suwaidi
CEO
Alterra

Datuk Ir. Megat Jalaluddin Bin Megat Hassan
President & CEO
Tenaga Nasional

Benjamin Backwell
CEO
Global Wind Energy Council (GWEC)

Fabrizio Fabbri
CEO
Ansaldo Energia

Loyiso Tyabashe
Group CEO
South African Nuclear Energy Corporation (Necsa)

Farid Al Awlaqi
CEO
TAQA Generation

Dr. Afif Al Yafei
CEO
TAQA Transmission

Sumant Sinha
Founder, Chairman & CEO
ReNew Energy

Eng. Yousif Al Ali
CEO
Etihad Water & Electricity

Myrtle Dawes
CEO
Net Zero Technology Centre

Manuel Manjon
CEO Water Business
Acciona

Eng Ahmed Al Shamsi
CEO
TAQA Water Solutions

Helmut Von Struve
CEO
Siemens Middle East

Pierre Pauliac
CEO - Water
SUEZ

Nitin Sharma
CEO & Director
Newen Systems

Omnia Halawani
Co-CEO & Founder
GRFN

Noel Aoun
Group Chief Strategy Officer
TAQA Group

Jan Lozek
MD & Co-Founder
Future Energy Ventures

Wael Gad
CEO
UTEC

Thierry Dezenclos
CEO - UAE
Veolia

Lew Evans
CEO
Nexus Resilience Group

Dr. Jan Haizmann
CEO
ZETA Global

Dr. Nader Assad Bin Taher
COO
TAQA Water Solutions

Antonio Di Cecca
COO
National Central Cooling Company PJSC (Tabreed)

Strategic Conference Speakers

H.E. Amal Mint Maouloud
Minister of Hydraulics & Sanitation
Mauritania

H.E. Gervasio Engonga Mba
Minister of Electricity & Renewable Energy
Equatorial Guinea

Jasim Thabet
Group CEO & MD
TAQA

H.E. Eng Mohamed Al Hammadi
MD & CEO
Emirates Nuclear Energy Corporation (ENEC)

Francesco La Camera
Director-General
International Renewable Energy Agency (IRENA)

H.E. Eng Saeed Ghumran Al Remeithi
Group CEO
Emsteel

Sylvie Jehanno
CEO
Dalkia

J.D. Sitton
CEO
CTC Global

Dr. Sama Bilbao y León
Director General
World Nuclear Association (WNA)

Khalid Al Marzooqi
CEO
National Central Cooling Company PJSC (Tabreed)

Omar Al Hashmi
CEO
TAQA Distribution

Béatrice Buffon
Chairwoman & CEO
EDF Renewables

Christer Viktorsson
Director General
Federal Authority for Nuclear Regulation UAE

Khalid Al Qubaisi
CEO
TAQA Energy Services

David Auriau
Group CEO
Positive Zero

Mark Blackwell
CEO
Apex Investments

Hebah Abbas
Chairwoman
Kuwait Water Association

Adri Pols
CEO
Desolenator

Dusun Kim
Founder & CEO
MediSun Energy

Adam Ridgway
Founder & CEO
One moto

Sheikh Muhammad Noman
Founder & CEO
Pegasus Capital Investments

Lars Kroijer
Founder & MD
AlliedOffsets

Charles-Edouard Mellagui
CEO - Cable Business Unit, Ducab
Dubai Cable Company - Ducab

Valerie Levkov
Global Industry Director for Energy, Metals & Mining, and Sustainable Infrastructure Advisory
International Finance Corporation (IFC)

Adnan Bu Fateem
COO
Mubadala Energy

Eng. Wesam Alghazali
Executive Director & Member of Al Geemi Executive Committee
Al Geemi Energy

Naser Al Hajri
Chief Corporate Support Officer
Mubadala Energy

Dr. Fahad Al Yafei
CTO
Siemens Energy

Sulaiman Rafat Turki
Chief Strategy & Development officer
Saudi Water Partnership Company (SWPC)

Mazin Khan
CFO
Masdar

STRATEGIC CONFERENCE PROGRAMME

DAY 1 - Tuesday 27 May 2025

Topics in Focus:
Power generation, Policy, Water, Finance & Energy Transition

11:00 - 11:30
Opening Ceremony (By invitation only)

Keynotes:

H.E. Suhail Mohamed Al Mazrouei
Minister of Energy & Infrastructure
UAE

H.E. Dr. Abdulla Humaid Saif Al Jarwan
Chairman
Department of Energy, UAE

Jasim Thabet
Group CEO & Managing Director
TAQA

Moderator:

Amandeep Bhangu
Presenter & Moderator
Voice Media London

11:30 - 12:00
Looking ahead to COP30: strengthening the role of energy in updated national plans

Ministerial Panel

COP29 was a turning point in climate action. It set ambitious finance goals and needed to deliver clean energy transitions for all economies. It set bold finance goals and aimed to deliver clean energy transitions for all economies. A target of $300 billion each year has been set to help vulnerable nations build resilience, expand energy access, and promote sustainable development. Looking forward, leaders in the energy sector and policymakers must join forces. They need to raise the ambition of the next Nationally Determined Contributions (NDCs) before COP30. To limit climate change impacts, NDC creators should maximise their technical ambitions. This means setting bolder targets and aligning them with national policies. Stronger NDCs can guide national climate action and speed up the global shift to clean energy technologies. What opportunities and challenges lie ahead? What role can the energy sector play in inspiring more ambitious targets?

Ministers:

H.E. Suhail Mohamed Al Mazrouei
Minister of Energy & Infrastructure
UAE

H.E. Alexandre Silveira
Minister of Mines & Energy
Brazil

Moderator:

Dan Murphy
Anchor & Correspondent
CNBC

12:00 - 12:15
Capital strategies for energy investment: driving long-term growth

Energy Talk

As global targets push to triple renewable energy capacity and double energy efficiency by 2030, securing sustainable finance has never been more critical. Recalibrating the global energy system presents both challenges and opportunities for stakeholders. Collaboration across investor types—private equity, multilateral institutions, and public funds—is essential to mobilise capital at scale. How can sustainable finance be de-risked to attract more investment and support energy transition efforts in both developed and developing markets? The UAE recognises the need for bold climate investments and sees this shift as a catalyst for economic growth. Its commitment includes bridging the financing gap through sustainable financing by UAE banks by 2030 and contributions to the International Monetary Fund's Resilience and Sustainability Trust to support climate-vulnerable nations.

Speaker:

H.E. Majid Al Suwaidi
CEO
Alterra

12:15 - 12:30
Midway in the decade for action: are 2030 goals within reach?

Energy Talk

As we approach the midpoint of a decisive decade for decarbonisation, global utilities and power companies are uniting to tackle the barriers to achieving net-zero emissions by 2050. With momentum from COP28 and COP29, accelerating electrification and transforming power systems have become urgent priorities. But are we moving fast enough? Are our goals truly within reach? And what specific obstacles must we overcome to meet the critical milestones for 2030?

Speaker:

Francesco La Camera
Director-General
International Renewable Energy Agency (IRENA)

12:30 - 13:15

Global power outlook: are we on track for 2030?

Global Leadership Panel

The global energy landscape is evolving rapidly with ambitious climate targets and technological advancements driving the transition to a low carbon future. Yet against a backdrop of rapidly rising energy demand, a key question remains: Are we on track to meet our 2030 goals? Members and partners of the Utilities for Net Zero Alliance (UNEZA), launched at COP28, recognise that accelerating the utility sector's global energy transition requires directly addressing structural, regulatory, and financial barriers. To limit global temperature rise to 1.5°C, CO_2 emissions must fall by nearly 50% from 2019 levels, with the energy sector playing a pivotal role. IRENA (2024) outlines that achieving this target requires tripling renewable energy capacity, doubling energy efficiency, and scaling energy grids and flexibility solutions, with annual investments of USD 717 billion. Additionally, global energy storage must expand six-fold by 2030, reaching 1,500 GW. Furthermore, what is the role for nuclear? The IEA Net Zero by 2050 roadmap indicates that nuclear energy will nearly double its share by 2050, with annual capacity additions reaching 30 GW in the 2030s. At COP28, more than 20 countries pledged to triple nuclear capacity by 2050, with banks and nuclear industry players signalling their support for the pledge more recently. As a driving force behind modernising utilities, UNEZA leaders will explore strategies to accelerate the energy transition and help deliver on the commitment to tripling renewable capacity by 2030.

Speakers:

Jasim Thabet
Group CEO & Managing Director
TAQA

H.E. Eng Mohamed Al Hammadi
MD & CEO
Emirates Nuclear Energy Corporation (ENEC)

Datuk Ir. Megat Jalaluddin Bin Megat Hassan
President & CEO
Tenaga Nasional

Benjamin Backwell
CEO
Global Wind Energy Council (GWEC)

Luc Remont
CEO & President
EDF Group

Moderator:

John Defterios
Senior Fellow, Centre for Energy & Materials
World Economic Forum

14:00 - 14:45

Shaping the future of utilities: balancing energy access and growth in emerging economies

Ministerial Panel

Our climate future largely depends on whether Emerging Markets and Developing Economies (EMDEs) can successfully transition to cleaner energy systems while ensuring energy access for all. The IEA's Clean Energy Transitions Programme turns targets into action, accelerating progress towards the goal of global net zero emissions through secure and people-centered clean energy transitions, focusing on major emerging and developing economies. In developing countries utilities struggle to meet growing power demands and integrate renewable energy sources into their grids, a necessity for achieving universal access to clean, reliable, and affordable electricity for all. However, these regions attract only a fifth of global clean energy investments due to higher real and perceived risks, including political instability, regulatory barriers, unreliable off-taker arrangements, foreign currency volatility, and grid integration issues. These risks drive up the cost of capital, constraining financial flows and hindering socio-economic development. Supportive policies and international collaboration are crucial to overcoming financial constraints and fostering sustainable growth. By prioritising energy security, environmental responsibility, and economic development, emerging economies can build resilient, competitive utility sectors that align with global sustainability goals.

14:45 - 14:55

Decarbonising hard-to-abate industries: from commitment to impact

Energy Talk

The global energy industry is undergoing a radical transformation, balancing energy security with decarbonisation goals. Natural gas and LNG remain essential, providing stability and flexibility to integrate renewables and meet rising demand. Meanwhile, hydrogen and low-carbon fuels are emerging as crucial solutions for decarbonising hard-to-abate sectors. According to a 2024 report from IRENA, energy transition is progressing in most hard-to-abate sectors, yet they are still off track to meet net-zero scenarios by 2050, which is the objective of the 2015 Paris Agreement in a bid to limit global temperature increases to 1.5°C since the start of the industrial era. Achieving progress requires coordinated action on infrastructure, regulation, and equitable energy access to ensure a secure and sustainable future.

Speaker:

H.E. Eng Saeed Ghumran Al Remeithi
Group CEO
Emsteel

Moderator:

Amandeep Bhangu
Presenter & Moderator
Voice Media London

14:55 - 15:40

Transforming water scarcity into opportunities through sustainable, and circular management strategies

Global Leadership Panel

Water scarcity presents both a challenge and an opportunity to redefine how we manage our most vital resource. Sustainable and circular water management strategies are paving the way for transformative solutions, focusing on water conservation, efficient resource management, and supply enhancement. Innovative practices such as water recycling and reuse are gaining traction across residential, commercial, industrial, and construction sectors. Onsite water reuse systems are significantly reducing water consumption, while businesses and large-scale construction projects are incorporating recycling solutions to meet environmental goals and reduce operational costs. In the energy sector, power plants are minimising freshwater withdrawals by adopting water reuse, enhancing climate resilience and the sustainability of energy production. Efficient resource management and these forward-thinking practices are reducing the strain on infrastructure, increasing climate resilience, and delivering long-term economic benefits.

Speakers:

Eng Ahmed Al Shamsi
CEO
TAQA Water Solutions

Eng. Yousif Al Ali
CEO
Etihad Water & Electricity

Hebah Abbas
Chairwoman
Kuwait Water Association

Pierre Pauliac
CEO - Water
SUEZ

Moderator:

Yannig Gourmelon
Associate Director
McKinsey

15:40 - 16:20

From generation to demand: powering the flexibility revolution

Global Leadership Panel

The energy sector is on the brink of a flexibility revolution, where the ability to adapt, respond, and optimise will redefine the entire power value chain—from generation to demand. Flexibility is no longer an option but a necessity. By 2050, energy storage is expected to meet over 50% of global flexibility needs, while $21 trillion (WEF) in grid upgrades will be essential for modernising infrastructure. Demand response is shifting from a passive adjustment to an AI-driven, real-time balancing tool, empowering consumers to actively shape grid stability. Hydrogen and advanced storage technologies will lead the long-duration energy transition, while natural gas remains a key stabiliser. The future hinges on overcoming interconnection bottlenecks, accelerating digitalisation, and fostering cross-border collaboration, paving the way for a more responsive, resilient, and sustainable energy system.

Speakers:

Fabrizio Fabbri
CEO
Ansaldo Energia

Farid Al Awlaqi
CEO
TAQA Generation

Béatrice Buffon
Chairwoman & CEO
EDF Renewables

Sumant Sinha
Founder, Chairman & CEO
ReNew Energy

Moderator:

Oxana Dankova
Partner, Director & Global Lead of Energy Networks Business Segment
Boston Consulting Group (BCG)

16:20 - 17:00

Road to a new world of power interconnectivity

Global Leadership Panel

As the global energy landscape shifts toward a cleaner and more resilient future, power interconnectivity is becoming the backbone of this transition. Modernised, interconnected grids enable seamless cross-border energy flows, ensuring the efficient integration of renewable sources while enhancing reliability and reducing transmission losses. With global grid investments projected to reach $2 trillion over the next decade (IEA), utilities must navigate rising costs, regulatory complexities, and infrastructure expansion to unlock the full potential of interconnection. Leveraging Distributed Energy Resources (DERs) and smart grid technologies will be critical in optimising energy flows, improving efficiency, and fortifying grid resilience. However, challenges such as transmission bottlenecks, lengthy interconnection queues, and the need for enhanced cross-border collaboration must be addressed to create a truly integrated energy system; one that delivers stability, affordability, and sustainability for the future.

Speakers:

Dr. Afif Al Yafei
CEO
TAQA Transmission

Dr. Eng. Adnan Ali Hassan Al Hosani
Director, Electricity & Energy Trade Department
Ministry of Energy & Infrastructure, UAE

J.D. Sitton
CEO
CTC Global

Helmut Von Struve
CEO
Siemens Middle East

Rob McDonald
MD
SSEN Transmission

Moderator:

Mohammad Ayub
Partner
McKinsey

DAY 2 - Wednesday 28 May 2025

Topics in Focus:
Water, Nuclear, Hydrogen, AI & Technology Integration

10:00 - 10:45

Securing water access across borders

Ministerial Panel

The global water crisis is escalating, with 153 countries relying on transboundary waters, yet only 28% of these countries have effective agreements to co-manage these vital resources, according to a UNESCO and UNECE report. As climate change worsens water scarcity and competition for freshwater resources increases, cooperation among nations sharing water bodies becomes crucial. Countries sharing rivers and lakes show higher levels of cooperation, while areas like sub-Saharan Africa have made significant progress in recent years. The Water Convention, adopted in 1992, and innovative strategies such as Integrated Water Resource Management (IWRM) can provide essential frameworks for joint management. For government and utility leaders, investing in infrastructure and technology, such as real-time data sharing, is key to enhancing cross-border water access and ensuring the sustainable management of these critical resources.

Minister:

H.E. Yaser bin Ebrahim Humaidan
Minister of Electricity & Water Affairs
Kingdom of Bahrain

Moderator:

John Defterios
Senior Fellow, Centre for Energy & Materials
World Economic Forum

10:45 - 11:45

Realising the ambition: tripling global nuclear energy capacity by 2050

Global Leadership Panel

The global push to triple nuclear energy capacity by 2050 is gaining significant momentum, with 31 countries now committed to this goal. Nuclear energy is anticipated to play a vital role in tackling climate change, currently accounting for 9% of global electricity and preventing 2.1 billion tonnes of CO2 emissions annually, according to the World Nuclear Association (WNA). However, achieving this vision will necessitate overcoming significant challenges, including securing the $100 billion in annual investments highlighted by the International Energy Agency (IEA), streamlining regulatory frameworks, and building public trust in nuclear safety. Enhancing collaboration among governments, investing in next-generation technologies such as small modular reactors (SMRs), and fostering global knowledge networks are crucial for unlocking nuclear energy's potential as a cornerstone of a sustainable, low-carbon future.

Speakers:

Loyiso Tyabashe
Group CEO
South African Nuclear Energy Corporation (NECSA)

Dr. Sama Bilbao y León
Director General
World Nuclear Association

Christer Viktorsson
Director General
Federal Authority for Nuclear Regulation (FANR), UAE

Karim Amin
Executive Board Member & EVP Gas Services
Siemens Energy

Neil Wilmshurst
SVP, Chief Nuclear Strategy Officer & MD of EPRI Gulf, Chair - U.S. Member Committee, World Energy Council
EPRI Gulf

Jon Ball
President - eVinci
Microreactor Business
Westinghouse Electric Company

Moderator:

John Defterios
Senior Fellow, Centre for Energy & Materials
World Economic Forum

11:45 - 12:30

Advancing the desalination agenda, towards water security

Global Leadership Panel

As global water demand continues to rise, with freshwater resources becoming increasingly strained, desalination technologies are playing a significant role in advancing water security, particularly in regions facing severe water scarcity, such as the Middle East. Once considered a critical solution to freshwater shortages, desalination has now become an even more essential strategy as nations explore sustainable methods to secure their water supply. The desalination market is expanding rapidly, with countries focusing on innovative alternatives to meet growing water demands. However, challenges such as high energy consumption, brine disposal, and substantial capital investments remain. Despite these hurdles, advancements in desalination technologies, such as reverse osmosis, multi-effect distillation, and emerging innovations like membrane distillation, are making processes more energy-efficient and environmentally sustainable. Furthermore, nuclear desalination is gaining traction as a low-carbon alternative to conventional methods. By integrating renewable energy sources like solar and wind into desalination projects, the reliance on fossil fuels is minimised, and carbon footprints are reduced, paving the way for sustainable, long-term water security solutions.

Speakers:

Manuel Manjon
CEO, Water Business
Acciona

Adri Pols
CEO
Desolenator

Dusun Kim
Founder and CEO
Medisun Energy, Singapore

Eng. Nabil Aljohani
VP - Contracts Management
Saudi Water Partnership Company (SWPC)

Sumeet Thakur
Global Head for Water, Cities, Waste & Circularity
International Finance Corporation (IFC)

12:30 - 13:15

Is standardisation a pathway to resilient clean energy supply chains?

Global Leadership Panel

IRENA estimates that to meet the 1.5°C climate target by 2030, the world needs to invest $720 billion annually in power grids and $1,550 billion in renewable energy. In September 2024, leading utility companies in the Utilities for Net Zero Alliance (UNEZA) announced plans to invest over $116 billion each year in clean energy and grid infrastructure. This investment aims to accelerate electrification and transform power systems. By 2030, UNEZA partners plan to increase their renewable portfolios by 2.6 times and modernise grid infrastructure. It is crucial to enhance the sustainability of clean energy technologies throughout the entire lifecycle—from sourcing and manufacturing to transportation and installation. Additionally, implementing mandates for harmonised international standards for critical equipment will promote interoperability and streamline supply chains, ensuring greater efficiency and reliability in the transition to clean energy. A collaborated global effort will be needed to deliver the committed energy transition targets.

Speakers:

Rizwan Razaq
CTO | Smart PV & ESS Business
Huawei

Charles-Edouard Mellagui
CEO - Cable Business Unit, Ducab
Dubai Cable Company - Ducab

Moderator:

Amel Chadli
Gulf Countries President
Schneider Electric

Danny Touma
Partner
PwC Middle East

14:00 - 14:30

Powering a customer-first utility in a transitioning energy mix

Industry Dialogue

As the energy transition accelerates, utilities must navigate a complex landscape—balancing the shift to renewables with the need for reliability, affordability, and customer-focused innovation. With rising prices, security concerns, and decarbonisation efforts, consumers are more engaged than ever, transforming into active participants in the energy ecosystem. Utilities is redefining customer relationships through digitalisation, demand-side management, and smarter grid solutions. According to McKinsey, with global investment in digital infrastructure for utilities projected to exceed $300 billion by 2030, the industry is primed for a customer-driven transformation. By focusing on incentivising energy conservation and leveraging technology we can enhance resilience, sustainability and revolutionise customer experience.

Speakers:

Omar Al Hashmi
CEO
TAQA Distribution

Wael Gad
CEO
UTEC

Joel Austin
SVP & Chief Digital Officer
Oncor Electric Delivery

14:30 - 15:00

Natural gas: evolving its role from energy transition to a low carbon energy future

Industry Dialogue

Demand for natural gas is growing globally, offering a lower carbon alternative to oil and coal particularly in power generation as a balancing to intermittency of renewable energy sources. As a foundational component in a transitioning and multi-faceted global energy system, natural gas has the advantage of being a commercially scaled energy source that brings with it a lower carbon profile to nations seeking to transition away from coal. For utilities, its flexibility in complementing renewable energy sources, combined with advances like smart grids, energy storage, and mechanisms such as 'linepack', ensures grid stability and resilience. Global collaborations, such as the EU's smart grid initiatives and U.S. partnerships, are further accelerating the development of adaptable, future-ready infrastructure. However, while natural gas remains critical today in balancing the priority of energy security with climate ambitions, its long-term role in a low or no carbon energy future will be influenced by factors such as renewable energy growth, emissions agendas, policy and investment shifts, and advances in carbon management technology.

Speakers:

Adnan Bu Fateem
COO
Mubadala Energy

Niko Cornelis
MD - Flexible Power GCC
Engie

Dr. Waheed Abbasi
SVP, Gas Services, MENA
Siemens Energy

15:00 - 15:30

Maximising the potential of generative AI for power sector organisations

Industry Dialogue

The power sector is entering a transformative era, with generative AI set to revolutionise operations through its ability to rapidly process vast amounts of data, support decision making and identify patterns. Early adopters, including 16% of the top 25 utilities, are harnessing this technology to tackle challenges in grid management, resource planning, cost optimisation, and sustainability by optimising power distribution, improving electricity demand forecasting, and enhancing operational efficiency through predictive maintenance and automation. However, organisations must assess where generative AI can best integrate with their digital strategies, decide whether to adopt off-the-shelf solutions or invest in customised solutions, and address challenges such as data bias, privacy, safety, and safety, and governance to ensure responsible and secure implementation, maximising the benefits generative AI can bring.

Speakers:

Noel Aoun
Group Chief Strategy Officer
TAQA Group

Dr. Fahad Al Yafei
CTO
Siemens Energy

Dr. Mike Roshchin
Head of AI
AIQ

Maurizio De Stefano
SVP Energy International
Minsait

Dr. Tariq Aslam
Hub Digital Leader - India, Middle East & Africa
ABB Energy Industries

Moderator:

Joerg Doerler
Partner
Deloitte

15:30 - 16:00

The next frontier: revolutionising water infrastructure with smart innovation and collaboration

Industry Dialogue

Technological innovations are key to modernising water infrastructure. Global water threats, like droughts, pollution, and climate change, are intensifying and by 2030, freshwater demand may outstrip supply by 40% (World Economic Forum). Emerging technologies, such as IoT and AI, can reduce losses, optimise distribution and enable early leak detection and real-time monitoring. Collaboration among utilities, tech providers, and governments is essential to scale solutions and integrate new water management technologies to address the growing challenges of water scarcity and increasing demand. The increasing demand for water infrastructure repair technologies underscores the urgent need for investment in modernising and future-proofing water systems to meet these challenges.

Speakers:

Dr. Nader Assad Bin Taher
COO
TAQA Water Solutions

Thierry Dezenclos
CEO - UAE
Veolia

Moderator:

Hubert Sobora
Principal
Boston Consulting Group (BCG)

16:00 - 16:30

Low carbon and green hydrogen: navigating challenges to open opportunities

Industry Dialogue

Hydrogen is increasingly seen as a low-carbon solution for balancing supply and demand in renewable energy systems through energy storage and grid stabilization. According to the International Energy Agency (IEA), reaching 50 million tons of green hydrogen production by 2030 is crucial for meeting global net zero goals. However, the low-carbon and green hydrogen markets are still in their early stages and scaling them up requires solving significant challenges including high production costs, infrastructure requirements, storage complexities, and developing a reliable supply chain. Utilities face challenges like high production costs, the need for significant infrastructure investments, and technological hurdles. As costs decrease and technologies mature, low-carbon and green hydrogen is expected to play an increasingly important role in the utility sector's transition to a cleaner energy future.

Speakers:

Dr. Jan Haizmann
CEO
ZETA Global

Myrtle Dawes
CEO
Net Zero Technology Centre

Nitin Sharma
CEO & Director
Newen
Systems

Andreas Feil,
First Secretary on Climate Energy and Environment
German Embassy

Nasir AlShamsi
Chief Transport Officer
Beeah Group

Frederik Beelitz
Head of Advisory for Central Europe
Aurora Energy Research

Moderator:

Alessandro Zampieri
Partner & Associate Director
Boston Consulting Group (BCG)

16:30 - 17:00

Amplifying the impact of energy efficiency, the first fuel in energy transition

Industry Dialogue

Energy efficiency is key for sustainable development. It provides environmental and economic benefits while helping to reduce CO_2 emissions quickly and affordably. Fatih Birol from the IEA calls energy efficiency the "first fuel" in clean energy transitions. It is the fastest and cheapest way to cut emissions, improve energy security, and support a fair energy transition. To meet climate goals, we must double the global pace of energy efficiency this decade. The UAE has made this a priority through its National Demand Side Management (DSM) Programme. This aligns with sustainability goals to optimise resources, lower consumption, and promote economic growth. Together, efficiency, electrification, behavioural change, and digitalisation will lower global energy intensity and speed up the energy transition.

Speakers:

David Auriau
Group CEO
Positive Zero

Khalid Al Qubaisi
CEO
TAQA Energy Services

Sylvie Jehanno
CEO
Dalkia

Khalid Al Marzooqi
CEO
National Central Cooling Company PJSC (Tabreed)

DAY 3 - Thursday 29 May 2025

Topics in Focus:
Finance, Digital Transformation, Carbon Markets, Talent Development

10:00 - 10:45

Redefining the future of the water-energy-food nexus through technology advances

Global Leadership Panel

The growing demands on water, energy, and food systems are reshaping how utilities approach resource management. By 2050, the global population is expected to require a 60% increase in food production, while energy consumption is expected to rise by 80%, and water demand, in developing countries, is expected to climb by 55% by 2025. Agriculture, which consumes over 70% of global freshwater, is a major driver of these pressures. By integrating renewable energy, utilities can improve grid resilience, sustainability and efficiency, optimising resource use across the water-energy-food nexus. Smart grid solutions enable real-time monitoring and predictive management, allowing utilities to balance energy supply and demand while minimising waste. Furthermore, data-driven insights support decisions that help utilities to optimise water and energy distribution, reduce carbon footprints, and establish a sustainable approach to managing interconnected resource needs for a growing global population.

Speakers:

Lew Evans
CEO
Nexus Resilience Group

Bruce Smith
Executive Director, Strategy & Planning
Emirates Water and Electricity Company (EWEC)

Santiago Bañales López
MD
Iberdrola Innovation Middle East

Prof. Phil Hart
Chief Researcher, Renewable & Sustainable Energy Research Center
Technology Innovation Institute (TII)

Christopher Behme
Partner & VP
IBM

Salma Bin Breik
MD - Middle East
Isle Utilities

Zainub Noor
Director, Technology and Innovation
Halliburton Labs

10:45 - 11:30

Catalysing clean energy finance and investment to deliver energy transition at a global scale

Global Leadership Panel

Global clean energy investment has nearly doubled in the past decade. Yet, it still falls short of what's needed to meet climate targets. According to IRENA, we need $35-44 trillion in clean energy finance by 2030 to achieve global decarbonisation. Green bonds, blended finance, and risk mitigation are essential to attract this investment. Effective policy frameworks, like carbon pricing and clean energy mandates, will also mobilise crucial funds. Continued R&D is vital to reduce costs for technologies like direct air capture and long-duration energy storage. An equitable energy transition is necessary for global decarbonisation. The IEA's roadmap states that developing economies need $80-100 billion annually in concessional funding for clean energy. Today, only about 1% of this funding reaches these nations; the rest goes to developed countries. Governments, financial institutions, and the private sector must coordinate efforts to meet decarbonisation goals, drawing on the GCC's sustainable finance frameworks as models for broader energy transition efforts.

Speakers:

Mark Blackwell
CEO
Apex Investments

Sheikh Muhammad Noman
Founder & CEO
Pegasus Capital Investments

Mazin Khan
CFO
Masdar

Chirag Shah
Executive Director – Sustainable Finance, AME
Standard Chartered Bank

Semih Ozkan
Executive Director, EMEA - Energy, Power, Renewables, Metals & Mining
JP Morgan Chase Bank

Sulaiman Rafat Turki
Chief Strategy & Development Officer
Saudi Water Partnership Company (SWPC)

Moderator:

Sophie Dejonckheere
Partner & Associate Director
Boston Consulting Group (BCG)

11:30 - 12:00

Driving scale and responsible growth in carbon markets

Industry Dialogue

Carbon markets have the potential to make a positive and effective contribution to global climate action. However, to achieve their full potential, they must develop and grow while maintaining high standards of integrity and credibility. Establishing robust standards and principles, such as carbon principles and transparency and oversight, will be critical to building global market confidence. It will also be key to developing enhanced market infrastructure to handle large-scale trade volume and integrate technology to increase market efficiency and accountability. Market fragmentation must also be addressed to clear a pathway for unified market mechanisms, including harmonised registry data, a centralised registry, pricing transparency and core carbon reference contracts. As legal and regulatory frameworks are developed to define carbon credits and create clear guidelines and incentives for market participation, governments in the Middle East and Africa are advocating for more coordinated policies to expand the voluntary market. Scaling carbon markets responsibly would have the dual impact of effectively advancing emissions reductions and mobilising critical climate action financing.

Speakers:

Lars Kroijer
Founder & MD
AlliedOffsets

Ahmed Samir Elbermbali
Sustainability Director – Middle East, Caspian & Africa Region
Bureau Veritas

Magnus Bach
VP
Atoco

Moderator:

Hara Sidiropoulou
Partner, Power & Utilities
EY Parthenon (Strategy)

12:00 - 12:45

Revolutionising urban living: Solutions for creating sustainable, low-carbon cities

Global Leadership Panel

Urban populations are soaring globally, placing immense pressure on infrastructure, energy, transportation, and waste systems. As urbanisation continues to accelerate, solutions are urgently needed to accommodate exponential growth. The integration of smart mobility, modernised energy grids and storage, and renewable energy sources, complemented by data analytics platforms, offers a powerful pathway to resilient, low-carbon cities with reduced emissions, and optimised energy use and urban mobility. By enhancing grid resilience, cities can unlock unparalleled resource efficiency while minimising waste. AI-powered transportation systems will not only ease congestion but also improve air quality and reduce fossil fuel reliance. Meanwhile, innovations in waste management, integrated with digital technologies, will optimise recycling processes and ensure that urban areas manage resources more sustainably. Together, these innovations will create a sustainable, connected, and forward-thinking urban environment.

Speakers:

Omnia Halawani
Co-CEO & Founder
GRFN

Adam Ridgway
Founder & CEO
One moto

Kehkashan Basu
Founder & President
Green Hope Foundation

Antonio Di Cecca
Chief Operating Officer
Tabreed, UAE

Ezzeddine Jradi
Chief Transformation & Business Excellence Officer
Emicool

Mark John Siddorn
SVP - Strategic Planning and Business Performance
Tadweer Group

Moderator:

Avin Gidwani
CEO
BNC Network

14:00 - 14:45

From concept to commercialisation: achieving scale for critical climate tech

Global Leadership Panel

Innovation and technology hold the key to speeding up decarbonisation and energy transition, taking us towards a more sustainable future. According to McKinsey, existing climate technologies can mitigate up to 90% of projected 2050 man-made emissions, with 10% of this potential coming from commercially mature solutions. Climate technologies are vital for achieving a sustainable future, but they need multiple early-stage deployments to achieve commercial adoption. They also rely on project development expertise, community support, and proven commercial demand. Many technologies required for climate adaptation and mitigation, such as AI-driven solutions, face funding shortages that hinder their scalability. In the United States, the Inflation Reduction Act has encouraged wide-scale investment in the low-carbon energy economy, enabling clean technology investments to grow by 225% to $303 billion since its enactment. Bridging the gap will require a combination of innovative financing mechanisms, enhanced regional collaboration, better regulatory frameworks, and other strategic actions.

Speakers:

Jan Lozek
MD & Co-Founder
Future Energy
Ventures

Dave Cupit
Global COO
A1RWATER

Eng. Wesam Alghazali
Executive Director &
Member of Al Geemi
Executive Committee
Al Geemi Energy

Christian Rugland
CEO - Middle East
Bilfinger

Alexandre Eykerman
MD & Energy Business Director
Wartsila Middle East

Moderator:

Suhail Diaz
Director of Future Energies Middle East
Wood

14:45 - 15:00

Critical minerals: the key to energy transition or a pending bottleneck

Energy Talk

By 2040, the demand for minerals in clean energy technologies could quadruple if the Paris Agreement goals are met. According to the IEA, in a net zero scenario, this demand could increase sixfold. Yet, today's mineral supply and investment plans are insufficient for the energy sector's transformation, risking delays or higher costs. The concentration of production and complex supply chains make them more vulnerable to disruptions, trade restrictions, or geopolitical issues in key producing countries. As critical minerals become more important in a decarbonising energy system energy leaders and policymakers must work together to respond to evolving market dynamics and competition as well as rising demand to ensure critical minerals remain a vital enabler for the transition to clean energy or rather than becoming a bottleneck.

Speaker:

Valerie Levkov
Global Industry Director for Energy, Metals & Mining, and Sustainable Infrastructure Advisory
International Finance Corporation (IFC)

Moderator:

Patricia Bingoto
Senior Expert
McKinsey

15:00 - 15:30

Navigating the energy sector's talent transition

Industry Dialogue

As the energy transition accelerates, workforce dynamics are evolving to meet the needs of a clean energy economy. The International Renewable Energy Agency projects energy sector employment could reach 139 million by 2030, with 16 million workers moving into clean energy roles. Sixty percent of these new positions will require post-school training and reskilling, highlighting the importance of investing in strategic workforce development. The younger generation has considerable potential to contribute to the energy transition, both through participation in decision-making and by joining the skilled workforce in renewable energy, energy efficiency, and clean mobility sectors. Young people are increasingly playing a vital role in achieving energy goals and tackling climate change and energy transition. Utility-scale solar and wind are experiencing record investments and capacity additions, making up nearly 90% of new builds in 2024. However, energy companies are facing growing competition for talent, particularly in green skills, from sectors such as technology. To succeed, the sector must address critical skills gaps and redefine the employee value proposition.

Speakers:

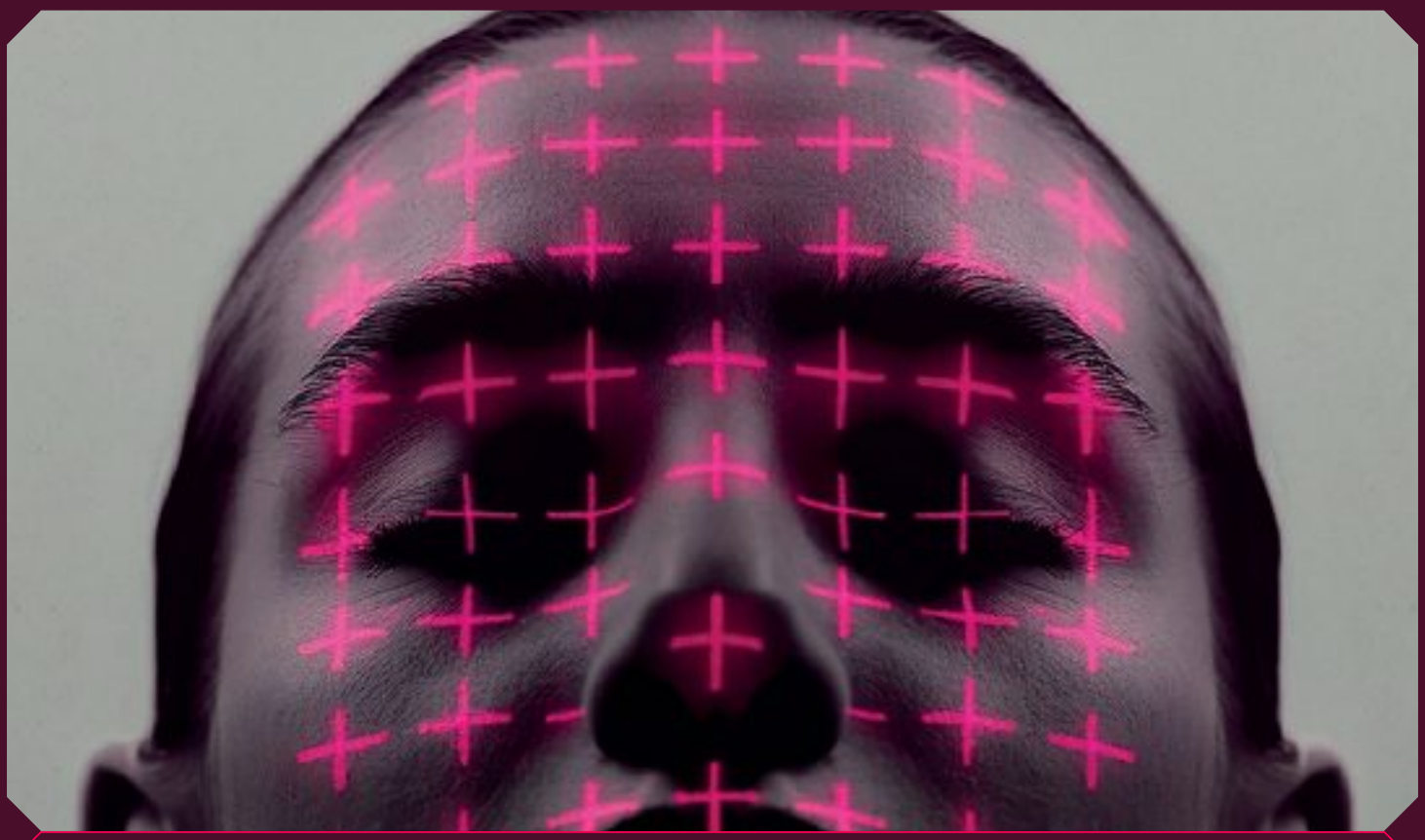
Naser Al Hajri
Chief Corporate Support Officer
Mubadala Energy

Eiman Al Hammadi
SVP, Group HC Strategy and Organization Effectiveness
ADNOC

Dr. Hamad Odhabi
Vice Chancellor for AI & Operational Excellence
Abu Dhabi University

Moderator:

Nawied Jabarkhyl
Senior Director
APCO Worldwide



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Technical Conference
Overview

DIGITALISATION AND TRANSFORMATION SHAPING THE INDUSTRY'S FUTURE

Energy transition and digital transformation are the key drivers in the water and power sector, shaping the future of the industry, highlighting a clear direction for success, and opening doors to new industry players.

The Technical Conference offers utilities industry professionals unprecedented access to the latest industry knowledge and research findings, technical expertise, new project developments, state-of-the art technologies, and industry best practices.

Spanning the entire power and water value chain, the World Utilities Congress 2025 Technical Conference has been created after a thorough two-stage review by the Technical Committee, comprising 57 industry specialists. The conference features 110 industry experts speaking at 27 sessions across three days and covers power generation, transmission and distribution, water management, water sewage, district cooling, and customer engagement.

20 Technical Categories

27 Technical Sessions

43 Countries Represented

110 Technical Speakers

"The 2025 Technical Conference at the World Utilities Congress is where innovation meets action. This year, we are not just discussing change, we are driving it. From revolutionising grid infrastructure to unlocking the full potential of digitalisation and accelerating the race to net zero, we are shaping a cleaner, smarter, and more resilient energy future. The time to act is now."

Dr. Afif Al Yafei
CEO, TAQA Transmission & Chairman, 2025 Technical Committee Chairman

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Technical Sessions
at a Glance

The World Utilities Congress Technical Conference is CPD-accredited, providing globally recognised professional development for energy professionals. The programme ensures your qualifications stay relevant while helping you gain new skills, industry insights, and CPD points to advance your career.

CONFERENCE HALL B

DATE	TIME	THEATRE 1	THEATRE 2	THEATRE 3
TUESDAY, 27 MAY	14:00 - 15:20	SESSION 1	SESSION 2	SESSION 3
		Flexible power generation and clean energy solutions I	Accelerating net zero with AI, CCUS, and innovation I	Sustainable water infrastructure with renewables
	15:20 - 16:40	SESSION 4	SESSION 5	SESSION 6
		Future-ready smart grid solutions I	AI-powered infrastructure advancements I	ESG strategies for utilities
WEDNESDAY, 28 MAY	10:00 - 11:30	SESSION 7	SESSION 8	SESSION 9
		Latest developments and innovations within the nuclear industry	Renewable energy and sustainable fuels for a net zero future	AI in water management
	11:30 - 13:00	SESSION 10	SESSION 11	SESSION 12
		AI-powered infrastructure advancements II	Hydrogen's role in sustainable utilities	Flexible power generation and clean energy solutions II
	14:00 - 15:30	SESSION 13	SESSION 14	SESSION 15
		Smart innovations for operational excellence I	Best safety, security, and asset maintenance practices within utilities	Transforming urban mobility with smart infrastructure
	15:30 - 16:30	SESSION 16	SESSION 17	SESSION 18
		Structuring energy markets with finance and regulation	Next-gen grids and logistics	Advancements in power and water project management
THURSDAY, 29 MAY	10:00 - 11:30	SESSION 19	SESSION 20	SESSION 21
		Accelerating net zero with AI, CCUS, and innovation II	Accelerating net zero with AI, CCUS, and innovation III	Wastewater treatment and best practices
	11:30 - 13:00	SESSION 22	SESSION 23	SESSION 24
		AI-powered infrastructure advancements III	Smart innovations for operational excellence II	Optimising digital energy systems
	14:00 - 15:30	SESSION 25	SESSION 26	SESSION 27
		Sustainable gas technologies for the low carbon world	Energy transition with district cooling	Accelerating net zero with AI, CCUS, and innovation IV

This Preview is accurate as of 30 April 2025. Sessions and topics will continue to evolve and are subject to change.

FUTURE UTILITIES AND ENERGY LEADERS (FUEL)

NEW FOR 2025

EMPOWERING THE NEXT GENERATION OF ENERGY LEADERS

Future Utilities and Energy Leaders (FUEL) at the World Utilities Congress empowers the next generation of professionals by bridging the gap between emerging talent and real-world opportunities. Engaging university students, as well as recent graduates, FUEL provides career insights, technical training, and direct access to industry leaders shaping the future of energy, water, and sustainability.

Through interactive panel discussions, mentorship sessions, and hands-on workshops, participants gain exposure to various career paths while developing essential skills in energy efficiency, grid modernisation, and advanced utility technologies. Networking sessions further connect them with policymakers, executives, and innovators, fostering meaningful relationships that accelerate their careers and contributions to the industry.

Youth Engagement

Graduate Programmes

Emiratisation Support

Interactive Agenda

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In collaboration with our Official Travel Partner, the World Utilities Congress will provide participants with comprehensive travel services, including business travel management and hotel accommodations.

Book your travel and accommodation today to ensure a smooth and enjoyable visit to the World Utilities Congress 2025.

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Mobile Number: +971 54 3054 622 (Call & WhatsApp)

Email: wuc25@flyt.ae

Our aim is to secure the best prices, thereby reducing costs for both groups and individual participants, tailored to meet their specific needs.

EXCLUSIVE AIRLINE RATES

We are pleased to offer special discounts on flights for attendees of the World Utilities Congress 2025:

Flight discounts: 5-15% T&Cs apply. Discounts available with Etihad Airways, Emirates Airlines, Qatar Airways, Turkish Airlines, British Airways and more.

Additionally, enjoy complimentary airport transfers with any ticket booked through us.

CONTACT THE TRAVEL PARTNER TO AVAIL THESE DISCOUNTS

EXCLUSIVE HOTEL RATES

We have partnered with all hotels surrounding the ADNEC area to provide convenient and comfortable accommodations at special rates. Below are some of the available hotels:

- Centro Rotana Capital Centre
- Premier Inn Capital Centre
- Pearl Rotana Capital Centre
- Aloft
- Andaz

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ABOUT THE VENUE

World Utilities Congress will be held at the ADNEC Centre Abu Dhabi, located in the capital city of Abu Dhabi. ADNEC Centre Abu Dhabi is a multi-award winning venue offering organisers of exhibitions, conferences and events outstanding facilities spread over a total space of over 153,000 square metres.

Address: Khaleej Al Arabi Street (also known as Coast Road or 30th Street), Abu Dhabi, U.A.E.

Phone: +971 (0) 2 444 6900
Email: customer.feedback@adnec.ae
Website: www.adnec.ae

GETTING TO THE VENUE

BY PRIVATE CAR

Visitors to ADNEC are welcome to use any of our the two on-site car parks, which together can accommodate up to 6,000 vehicles. The team are on-site 24 hours a day to assist with traffic management whilst a full valet service is also available.

BY TAXI

ADNEC is easy to get to via Abu Dhabi's extensive public transport network. If you are travelling by taxi from Abu Dhabi Airport, ADNEC is just a 20 minute drive. From Abu Dhabi Corniche, ADNEC is located just 15 minutes away.

Abu Dhabi's taxi network is operated by TransAD. To book a taxi through TransAD call 600 53 53 53 or download Abu Dhabi Taxi app.

A number of taxis are available from ADNEC at the onsite Aloft Hotel entrance and Andaz Capital Gate.

BY CAREEM

Enjoy a convenient ride to ADNEC with Careem.

Visitors and exhibitors can now benefit from a 15% discount on their rides to and from ADNEC with Careem. To avail the offer, simply download the Careem app and use promo code 'ADNEC' before booking your ride.

Download Careem App: Google Play and App Store

BY BUS

ADNEC is serviced by bus number 040, seven days a week

For more information on bus routes, services and fares please see the Department of Transport website.

BY AIR

ADNEC is 15 minutes away from the rapidly expanding Abu Dhabi International Airport, 20 minutes from Downtown Abu Dhabi and 60 minutes from Dubai. Over 50 international airlines operate a schedule of flights connecting Abu Dhabi to more than 80 destinations in 46 countries across the globe. Metered taxis to ADNEC are readily available outside the arrivals hall.

For more information please visit the Abu Dhabi International Airport website.

World Utilities Congress

Host TAQA طاقة

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Explore next-generation energy solutions, water management advancements, and smart grid technologies designed to enhance efficiency and sustainability. Connect with key decision-makers, discover groundbreaking innovations, and forge valuable new business relationships.

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