

تحت رعاية صاحب السمو الشيخ محمد بن زايد آل نهيان، رئيس دولة الإمارات العربية المتحدة  
Under The Patronage of H.H. Sheikh Mohamed Bin Zayed Al Nahyan, President of the United Arab Emirates

Host



2-5 October 2023, Abu Dhabi, United Arab Emirates

# Decarbonising. Faster. Together.

## EXCLUSIVE INTERVIEW

H.E. Suhail Mohamed Al Mazrouei says:  
*ADIPEC 2023 brings the world closer  
to realising clean energy solutions  
and opportunities*

## DECARBONISATION ACCELERATOR

Brand-new special area at  
ADIPEC 2023 is a must-attend  
for energy professionals

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**ADIPEC PREVIEW**

SEPTEMBER 2023



# ACCELERATING TOWARDS **NET ZERO**

Marking a new chapter in ADNOC's transformational journey to a lower carbon future, we have brought forward our Net Zero ambition to 2045 and aim to achieve zero methane emissions by 2030.

We are building on our legacy as a responsible global energy pioneer, backed by an initial \$15 billion allocation towards decarbonization and low-carbon solutions in addition to investments to grow renewables through our shareholding in Masdar.

We extend an open invitation to investors, climate technology providers and industry across all sectors to partner with us on our journey to accelerate decarbonization.



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## SHOW TIMINGS

<b>DAY 1</b>	Monday, 2 October	10:00am - 06:00pm
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All information contained in ADIPEC Preview 2023 is correct at the time of going to press. For the latest updates on the conference, visit [www.adipec.com](http://www.adipec.com)





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This year's ADIPEC will play a more critical role than ever before in accelerating action to decarbonise and deliver energy transitions, bringing the world closer to realising clean energy solutions and opportunities.  
.....

**His Excellency Suhail Mohamed Al Mazrouei**  
Minister of Energy and Infrastructure  
United Arab Emirates



# ADIPEC A GLOBAL PLATFORM TO ADVANCE CLEAN ENERGY FASTER, TOGETHER

In an exclusive interview with ADIPEC News, **His Excellency Suhail Mohamed Al Mazrouei**, UAE Minister of Energy and Infrastructure, shares his thoughts on the updated UAE Energy Strategy 2050, its focus on decarbonisation, and how ADIPEC will engage the industry this year under the theme of **Decarbonising. Faster. Together.**

**H**eld under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates, ADIPEC 2023 is at the heart of the global dialogue and collective action to decarbonise quicker and future-proof the energy system. In an exclusive interview, His Excellency Suhail Mohamed Al Mazrouei, UAE Minister of Energy and Infrastructure, shares his thoughts on how the world's most influential energy event will engage the industry this year under the theme of Decarbonising. Faster. Together.

## Your Excellency, how is the UAE setting a global benchmark for a prosperous, climate-safe, and clean energy future through the recently updated UAE Energy Strategy 2050?

The UAE has always been a pioneer of adopting policies and strategies that contribute to shaping a more sustainable future at home and globally. We undertook the task of updating the UAE Energy Strategy 2050 to accelerate the energy transition and increase the share of clean energy in our energy mix to achieve net-zero emissions by 2050.

The strategy reinforces our global vision of sustainable development, and sets ambitious targets for 2030: including increasing the contribution of clean energy generation to 32% of our energy mix, tripling the contribution of renewable energy, and achieving a grid emission factor of 0.27 kg Co<sub>2</sub>/kWh, making the UAE one of the lowest emitters, compared to the global average.

By reducing carbon emissions and enhancing sustainability, the strategy will contribute to achieving a financial saving of around AED 100 billion, create 50,000 new green jobs by 2030 and provide critical momentum to the

net-zero target by 2050. The updated UAE Energy Strategy 2050 therefore positions the country at the forefront of the global energy transition.

## How is the UAE taking the lead in decarbonisation initiatives?

The key element in creating a roadmap for a sustainable future lies in addressing the challenges of the energy transition while continuing to meet today's global energy needs and investing heavily in the clean energy systems of tomorrow. In this regard, the UAE aspires to be a role model for an ambitious yet pragmatic transition to clean energy sources.

Decarbonisation is an essential component of this strategy, and we are seeing transformational progress in this direction in the UAE. Building on its legacy as a responsible global energy pioneer, ADNOC recently became the first company in its peer group globally to accelerate its net-zero target to 2045, and has also allocated \$15 billion to low-carbon solutions. The UAE is working proactively to make manufacturing, transportation, and industrial processes more energy-efficient through innovative practices and smart technologies.

## Your Excellency, what are your thoughts on the newly launched National Hydrogen Strategy?

The launch of the UAE's National Hydrogen Strategy couldn't have come at a better time, as we mark the Year of Sustainability and prepare to host COP28. The National Hydrogen Strategy will position the UAE as a leading producer and supplier of low-carbon hydrogen by 2031. The strategy targets the production of 1.4 million tons of low-emission hydrogen per annum by 2031, out of which 71.4% will be green hydrogen.

By 2050, we aim to increase

production tenfold to reach 15 million tons per annum. The strategy is a crucial tool to help the UAE accelerate decarbonisation, achieve its net-zero commitment and help grow the global hydrogen economy.

## Taking place ahead of COP28, how critical is the role of ADIPEC this year in driving urgent action towards a more secure and sustainable energy future?

As one of the first countries in the region to ratify the Paris Agreement and as the host nation of COP28, the UAE perceives the global energy transition as a front-and-centre focus for its COP presidency, and is committed to joining forces with the international community to drive collective action to limit global warming. This year's ADIPEC will therefore play a more critical role than ever before in accelerating action to decarbonise and deliver energy transitions, bringing the world closer to realising clean energy solutions and opportunities.

As a global platform for promoting decarbonisation efforts, the challenges that ADIPEC will address are relevant not only for its host nation but for the world at large. I am confident that as the UAE prepares to welcome global leaders to COP28 in November, ADIPEC will be the perfect precursor in showcasing game-changing low carbon solutions and facilitating dialogue across the entire energy ecosystem that help deliver a COP of collaborative action, and a COP for all.

Get the latest insights from 1,600+ ministers, policymakers, energy CEOs and experts at the ADIPEC 2023 Conferences.

[VIEW THE PROGRAMMES](#)

[adipec.com/conferences](https://adipec.com/conferences)



Energy producers cannot deliver change alone. Every government, industry, business and individual has a role to play, acting together to decarbonise faster, while safeguarding energy security and ensuring nobody is left behind. In the UAE's Year of Sustainability, this will be the mission of ADIPEC 2023, the world's largest and most influential gathering of its kind.



# ADIPEC 2023 WILL ACCELERATE COLLECTIVE INDUSTRY ACTION TO DECARBONISE

**Tayba Al Hashemi**, Chair, ADIPEC 2023, and CEO, ADNOC Offshore

**T**he need to work together to transform, decarbonise and future proof energy systems has never been more pressing. Collective leadership and action from the world’s energy producers, their biggest industrial consumers, and the transformation-enablers in government, finance, and technology are the only way to decarbonise quicker, and create lower carbon pathways to a sustainable, higher growth future. This is the opportunity ADIPEC 2023 presents, and that’s why ADIPEC’s theme this year is Decarbonising. Faster. Together. By 2030, the world will be home to an additional half a billion people, requiring more energy every year. At the same time climate challenges call for urgent, game-changing solutions and partnerships to eliminate emissions. Against this backdrop, the UAE will host COP28 in November, where countries will formally measure climate progress for the first Global Stocktake since the Paris Agreement in 2015. However, as His Excellency Dr Sultan Ahmed Al Jaber, COP28 President-Designate, has said: “We don’t need to wait for the stocktake.” The science



The world needs credible solutions, we need tangible action, we need to act together, and we need to act now. Nothing short of transformational progress will do, phasing out emissions while breathing new life into economic growth

**His Excellency Dr Sultan Ahmed Al Jaber**, COP28 President-Designate

is already telling us the world is way off track and a major course correction is needed to keep the ambitions of Paris alive. A responsible global energy industry must lead the way in securing a more sustainable energy future. Many of the technologies, skills, and resources we are seeing pioneer our journey to a lower carbon future are coming from today’s energy sector. But energy producers cannot deliver change alone. Every government, industry, business and individual has a role to play, acting together to decarbonise faster, while safeguarding energy security and ensuring nobody is left behind. In the UAE’s Year of

Sustainability, this will be the mission of ADIPEC 2023, the world’s largest and most influential gathering of its kind. Don’t think of ADIPEC as a trade show and conference; instead recognise its power as a platform for leadership and transformation, for credible solutions and tangible action to decarbonise quicker and future-proof our energy system. Together in Abu Dhabi let’s spark innovation, explore new ideas, and showcase successes on eliminating methane, deploying decarbonisation technology, scaling clean energy and unlocking finance to ensure our industry delivers cleaner, affordable, and accessible energy for all. I look forward to seeing you in Abu Dhabi!

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ORGANISER'S WELCOME

# DRIVING DECARBONISATION AT SCALE AND CREATING THE SUSTAINABLE FUTURE OF ENERGY

**Christopher Hudson, President - dmg events**

**O**n behalf of dmg events and our event host ADNOC, it is my pleasure to welcome you to Abu Dhabi and ADIPEC 2023, held under the patronage of His Highness Sheikh Mohamed Bin Zayed Al Nahyan, President of the United Arab Emirates.

In the UAE's Year of Sustainability, and as the UAE prepares to welcome global leaders to COP28, ADIPEC builds on its nearly 40-year legacy of innovation and evolution, and emerges this year, with a stronger purpose and bolder ambition to unite industries towards a common cause – to accelerate collective action and tangible solutions to decarbonise quicker and create the energy system of the future.

Under the theme 'Decarbonising. Faster. Together.', ADIPEC 2023 will be the biggest edition yet, bringing together some of the brightest minds from across the energy ecosystem and beyond to tackle the biggest climate and energy challenges we face today. As the world's largest energy exhibition and conference, ADIPEC seeks to foster inclusive, open dialogue, facilitate global, cross-sector collaboration and inspire the credible solutions required to secure the clean, affordable energy the world needs. Fulfilling its pivotal role as the platform for a responsible energy industry, ADIPEC this year places decarbonisation at its heart – permeating the entire event, from the carefully curated conference programme and showcased solutions at the brand-new Decarbonisation Accelerator, to the Decarbonisation Connect initiative and several exciting new features. Our mission is clear: prioritising decarbonisation across the energy ecosystem, while reducing

emissions and fostering economic progress. That's why ADIPEC this year is perfectly placed to address the most urgent issues of our time, such as aiming for zero methane, phasing out carbon emissions across the value chain, assuring energy security and investment in the Global South, and scaling up clean energy technologies, including accelerating carbon capture. The reason for such urgency is simple: by 2030, the world will be home to an additional half a billion people, demanding more energy every year. At the same time, global climate challenges require game-changing solutions to eliminate emissions, now more than ever – which is why ADIPEC 2023 seeks to be a progressive force for transformation and leadership. More than 160,000 attendees are expected to attend ADIPEC 2023 in Abu Dhabi, along with more diverse energy producers, the biggest energy consumers, as well as enablers in government, finance, and technology to spark innovation and accelerate the tangible actions needed to realise a decarbonised, sustainable world. ADIPEC 2023 will see more than 1,600 conference speakers – including government ministers, CEOs, policy makers, energy experts and innovators – share their views on the actions needed to advance the world's climate and energy goals, across 350 unique sessions running through 10 strategic and technical conference programmes – including an expanded Decarbonisation Strategic Conference and a brand new Hydrogen Strategic Conference. The UAE, in its Year of Sustainability, has a clear focus on achieving sustainable economic and social



Our mission is clear: prioritising decarbonisation across the energy ecosystem, while reducing emissions and fostering economic progress.

development and, as the nation prepares to welcome global leaders to COP28 in November, ADIPEC 2023 will serve as an important forum to frame diverse, critical conversations from across nations and from across the energy value chain, while driving investment into the clean energies of the future. In this momentous year for the UAE and in support of the global drive towards decarbonisation, I look forward to four days of meaningful dialogue and collaborative partnerships, both on and off the stage, as well as on the show floor, as we seek to accelerate our collective efforts towards a cleaner, more secure and sustainable future for us all. On behalf of dmg events, I would like to thank our key stakeholders, sponsors and supporters – the UAE Ministry of Energy and Infrastructure, the UAE Ministry of Industry and Advanced Technology, the ADIPEC Executive and Technical Committees, and the Emirate of Abu Dhabi, including all the federal and local government departments that support ADIPEC behind the scenes – for facilitating and ensuring the safety and wellbeing of everyone, and helping us deliver a truly remarkable event this year. I look forward to meeting you all in person in October.

EXHIBITION OVERVIEW

# DECARBONISING. FASTER. TOGETHER.

## A GLOBAL PLATFORM FOR INDUSTRY COLLABORATION AND ACCELERATED ACTION TO DECARBONISE ENERGY

**M**ore than 2,200 companies from across the world, representing the entire energy ecosystem and beyond, will come together at the ADIPEC Exhibition to showcase the latest strategies and innovations that are defining the future of energy. Taking place from 2-5 October 2023 in Abu Dhabi, ADIPEC is the world's largest and most inclusive gathering for the energy industry. Hosted by ADNOC under the theme 'Decarbonising. Faster. Together.', ADIPEC this year builds on its nearly four-decade legacy as an inclusive platform, facilitating dialogue across the entire energy ecosystem and beyond, fostering cross-sector partnerships and inspiring game-changing solutions towards a cleaner, more secure energy future. With a comprehensive exhibition programme designed in response to the

challenges and needs faced across the energy value chain, ADIPEC 2023 will offer a comprehensive look into the actions and solutions needed to advance a low-carbon, high-growth world.

The exhibition will feature 54 NOCs, IOCs, NECs and IECs and 30 international exhibiting country pavilions, uniting under a common goal while presenting diverse perspectives and ideas, and forging the game-changing partnerships that will enable the world to decarbonise faster, together.

Alongside ADIPEC's 16 exhibition halls, it will host four specialised industry areas – Decarbonisation, Maritime & Logistics Zone, Digitalisation in Energy Zone, and Manufacturing & Industrialisation Exhibition & Conference. These dedicated areas will enable the industry to strengthen existing



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CONFERENCE**

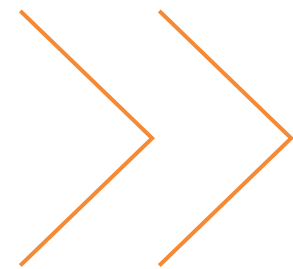
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business partnerships and form new models of cross-sector collaboration to unlock and maximise value across businesses and drive future growth. As the UAE prepares to welcome global leaders to COP28 in November 2023, ADIPEC will be the platform to frame diverse conversations that complement the nation's goal of delivering a COP of collaborative action, while driving investment into the clean energies of the future.



# Global reach. Local delivery.



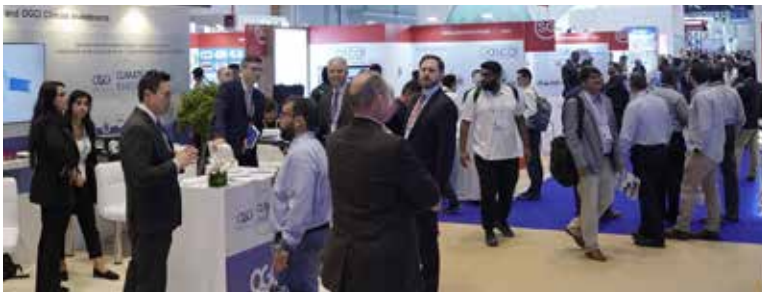
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## WHAT'S NEW

# ACCELERATING DECARBONISATION SOLUTIONS AT ADIPEC

More than **2,200 companies**, including **30 country pavilions**, will showcase the latest strategies and innovations defining the future of energy at ADIPEC 2023, with a special focus on accelerating decarbonisation solutions.



## DECARBONISATION ACCELERATOR

Brand new this year, the ADIPEC Decarbonisation Accelerator is a dedicated area that enables organisations to showcase their game-changing projects and solutions driving decarbonisation at scale. Visitors can experience the spark of disruptive thinking, witness industry-adopted decarbonisation strategies and explore innovations reshaping the energy ecosystem. Within the Decarbonisation Accelerator, a dedicated Start-up Hub will host the pioneers presenting groundbreaking technologies advancing the future of decarbonisation and accelerating energy progress. In addition, the Decarbonisation Strategic Conference, hosted in the Decarbonisation Theatre, will address critical topics impacting the future of the industry, including the need for innovative policies, new investment, technology advancement, new energy sources, and the decarbonisation of heavy industries.

REGISTER TO VISIT THE  
DECARBONISATION ACCELERATOR



## DECARBONISATION CONNECT

ADIPEC 2023 facilitates connections on the show floor through the Decarbonisation Connect initiative.

Exhibitors will showcase their decarbonisation strategies and innovations through dedicated spaces and presentations, fostering critical thinking, increasing use cases, and supporting global energy transition.

## DRIVING THE DECARBONISATION DIALOGUE

With more than 200 strategic and technical sessions on decarbonisation, the low-carbon agenda is the key focal point for the ADIPEC conference programme.

The dedicated ADIPEC 2023 Decarbonisation Strategic Conference, now in its second year, brings together leaders from the energy spectrum to tackle topics ranging from overcoming barriers to decarbonisation to mobilising finance for low-carbon technologies and the critical role of innovation in fast-tracking the journey to a brighter energy future.

REGISTER TO ATTEND





## ENRICHED AND EXPANDED ZONES, CONFERENCES AND AWARDS

Building on the nearly 40-year legacy of innovation and evolution, ADIPEC 2023 takes it to the next level, bringing together energy producers, consumers, government, technology, and finance, and support the global energy transition by focusing the wider industry's attention on key needs and issues:

Providing dedicated space for more voices including young people and women

Expanded youth programme

Expanded Strategic Hydrogen Conference

Enriched Maritime & Logistics Zone and Conference

All-new ADIPEC Awards categories

## CROSS-SECTOR CO-LAB

A unique platform that supports immediate action towards decarbonisation, the Cross-Sector Co-Lab at ADIPEC 2023 shines a spotlight on partnerships, alliances and joint ventures advancing the world's decarbonisation goals through an enabling ecosystem that connects policy, people, technology and capital.

## HYDROGEN STRATEGIC CONFERENCE

To lower emissions while advancing economic progress, a responsible energy industry must come together to decarbonise quicker and create the energy system of the future, today. Hydrogen can play a key role in delivering on these goals but for hydrogen to scale up, cross-sector innovation and collaboration are needed to lower technology costs and accelerate infrastructure investment. The ADIPEC 2023 Hydrogen Strategic Conference will gather some of the

most influential leaders in the energy ecosystem to discuss the role of hydrogen in global economies, the latest technological breakthroughs, near-term and long-term strategies and the actions required to scale the hydrogen economies of the future.

REGISTER TO ATTEND



## Special Areas at ADIPEC 2023



Decarbonisation Accelerator

**Decarbonisation Accelerator**

Advancing the decarbonisation agenda from goals to action



Digitalisation in Energy

**Digitalisation in Energy Zone**

Enabling game-changing technology innovation for a lower-carbon world



Maritime & Logistics

**Maritime & Logistics Zone**

Decarbonising global maritime and logistics industries at scale



Manufacturing & Industrialisation Exhibition & Conference

**Manufacturing & Industrialisation Exhibition & Conference**

Enabling sustainable industrial development

# A PLATFORM FOR INTERNATIONAL COLLABORATION

At the heart of the international energy sector, ADIPEC provides a platform for exhibitors from 58 countries, including 30 official country pavilions this year. ADIPEC 2023 will provide the ultimate business platform where companies convene for international collaboration, boosting bilateral trade and discussing innovations for a better energy future. Here's a map of exhibiting international country pavilions at ADIPEC 2023.

**30**  
COUNTRY  
PAVILIONS

**M**ore than 2,200 companies, including 30 country pavilions, will showcase the latest strategies and innovations defining the future of energy at ADIPEC 2023.

**\$8.2 billion**

Generated by ADIPEC 2022 in estimated business for exhibiting companies, according to a survey of 2,200 exhibitors.



**160,000**  
VISITORS

**2,200**  
EXHIBITING  
COMPANIES





### KNOWLEDGE EXCHANGE

With more than 1,600 ministers, CEOs, policy makers, innovators and energy experts speaking across 350 conference sessions, ADIPEC enables the global energy ecosystem to access the thought-leadership, direction and strategies necessary to thrive amid the swiftly evolving industry landscape.

### GLOBAL PERSPECTIVES

Attracting more than 2,200 exhibiting companies, 54 leading national, international and integrated energy companies along with 28 exhibiting country pavilions, ADIPEC provides unparalleled insights on the transformative strategic management agendas, driving innovation, growth and resilience across global energy markets.

### STRATEGIC CONFERENCES

The ADIPEC 2023 conference programme will connect the ideas, ambition, technology and capital needed to spark innovation, disruptive thinking and transformational change. Across 350+ sessions curated to address some of the world's most pressing energy challenges, more than 1,600 speakers will share diverse perspectives and approaches, forge collaborations and explore the strategies and innovations critical to accelerating a cleaner, more secure energy future. These voices will encompass key stakeholders from a wide range of industries and sectors, including tech, finance, government and private enterprise, in order to tackle crucial topics and solutions.



**REGISTER TO ATTEND**

DECARBONISATION ACCELERATOR

# SPARKING INNOVATION AND DISRUPTIVE THINKING FOR A SUSTAINABLE FUTURE

**B**rand new this year, the **ADIPEC Decarbonisation Accelerator is a dedicated area that enables organisations to showcase their game-changing projects and solutions driving decarbonisation at scale.**

As a pioneering concept that reflects the urgent need for transformative decarbonisation strategies across the energy industry, the Decarbonisation Accelerator at ADIPEC seeks to rally energy ecosystems towards a common cause – to advance decarbonisation and create the energy system of the future, in perfect harmony with the ADIPEC 2023 theme: Decarbonising. Faster. Together.

Visitors can experience the spark of disruptive thinking, witness industry-adopted decarbonisation strategies and explore innovations reshaping the energy ecosystem. Within the

# 2050

Is by when the world's most advanced economies are targeting to achieve net-zero emissions

Decarbonisation Accelerator, a dedicated Start-up Hub will host the pioneers presenting groundbreaking technologies advancing the future of decarbonisation and accelerating energy progress.

### Lower carbon technologies

The Accelerator will be a forum for leaders in the energy ecosystem to discuss lower carbon technologies and the essential role the energy sector plays in speeding up the transition from fossil fuels to cleaner forms of energy. The decarbonisation of global energy will be central to limiting average global warming to achieve net-zero by 2050, and the Decarbonisation Accelerator will be at

the centre of that conversation – with the most influential energy providers reinforcing their strategies and discussing lower carbon solutions and climate technologies as they navigate the route to decarbonisation.

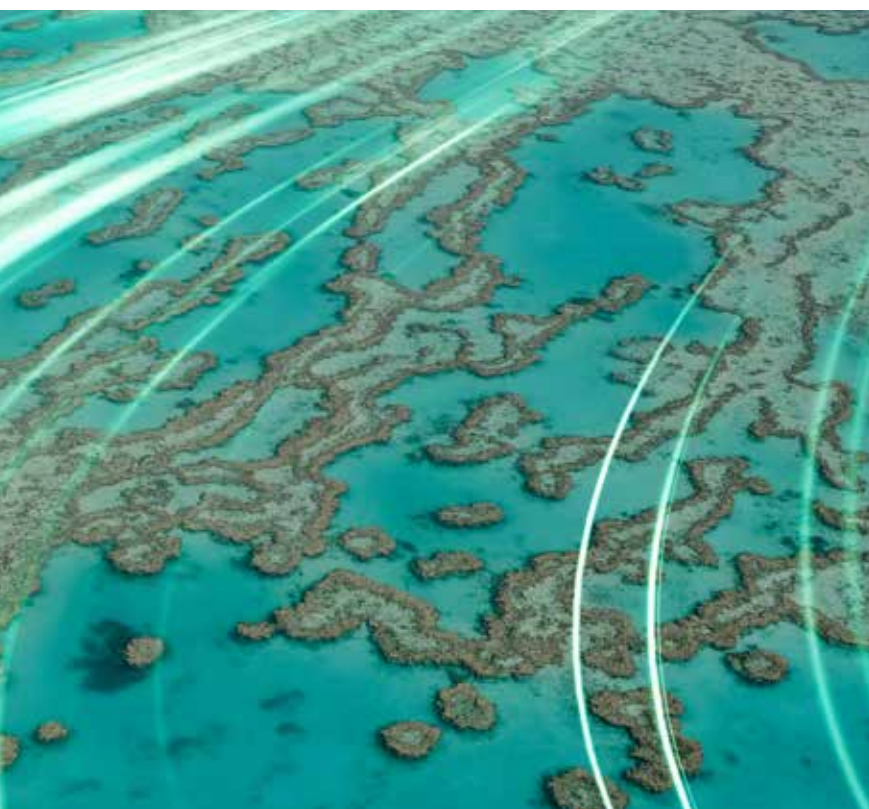
### Strategies for a net-zero future

The ADIPEC Decarbonisation Accelerator will facilitate discussions that drive significant progress towards a cleaner, more secure and sustainable future for everyone. By connecting stakeholders across the industry, the Accelerator will unlock real value for a decarbonised future and explore new technologies and solutions to the opportunities presented by the journey to net-zero.



[Click here to register and attend ADIPEC 2023 and the Decarbonisation Accelerator.](#)





The **ADIPEC 2023 Decarbonisation Strategic Conference** will bring together key voices across the energy value chain to explore innovative technologies and strategies to build clean energy systems and deliver tangible results from global net-zero pledges. With a focus on renewable energy deployment, carbon and methane management and decarbonising industrial systems, the conference will set the stage for the next phase of scaling up zero-emission technology, highlighting the supporting policies needed to enable a clean energy transition.

[REGISTER TO ATTEND](#)

The Decarbonisation Accelerator provides an influential platform to navigate the pathway to a lower carbon future.

# 5 reasons why... you should visit the Decarbonisation Accelerator at ADIPEC 2023

- Meet face-to-face with companies and decarbonisation experts from across the evolving energy ecosystem who are helping drive sustainable progress.
- Witness the power of collective action as the industry remains laser-focused on rolling back emissions and decarbonising at-scale while enabling growth.
- Gain latest insights into how the energy industry is collaborating across various sectors to meet ambitious global net-zero targets.
- Understand how innovative solutions like CCUS, hydrogen, and methane emissions reduction can deliver tangible impact at scale.
- Experience how emerging technology partnerships are helping support the global opportunities around decarbonising.

## MANUFACTURING &amp; INDUSTRIALISATION EXHIBITION &amp; CONFERENCE

# TRANSFORMING THE FUTURE OF GLOBAL MANUFACTURING AND INDUSTRIALISATION

**The Manufacturing & Industrialisation Exhibition & Conference at ADIPEC 2023 provides a unique platform for the industry to understand the complexities of the energy transition and identify the opportunities for manufacturing in a net-zero carbon economy.**

Bringing together global and local leaders from the manufacturing and energy industries, the ADIPEC Manufacturing and Industrialisation Zone is also the ideal platform to showcase the “Make it in the Emirates” campaign by the UAE Ministry of Industry and Advanced Technology (MolAT) to international stakeholders. The 10-year growth strategy of the Ministry, supported by robust pillars including its Operation 300bn strategy and the “Make it in the Emirates” campaign, are on course to significantly propel the UAE’s industrial sector into a global manufacturing hub. In response to the vast potential for advanced manufacturing and industrialisation in the UAE, and the need to collectively tackle the biggest energy and climate challenges we

face today, ADIPEC 2023, supported by MolAT, offers a unique opportunity for local and international companies to join the UAE in its journey towards manufacturing growth and contribute to global decarbonisation goals. This is in line with the fact that current global climate challenges necessitate urgent, collaborative action to decarbonise quicker, and create the energy system of the future, faster.

ADIPEC’s special focus on manufacturing and industrialisation in 2023, helps bridge the gap between the energy, manufacturing and high-tech sectors, facilitating the critical cross-sector collaborations and game-changing solutions needed to accelerate a lower-carbon, high-growth future. The Manufacturing and Industrialisation Zone at ADIPEC is thus the ideal platform for companies to showcase their smart manufacturing solutions to a global and local network of manufacturers.

The Manufacturing and Industrialisation Zone enables manufacturers, in partnership with the energy industry, to unlock greater value and boost productivity.

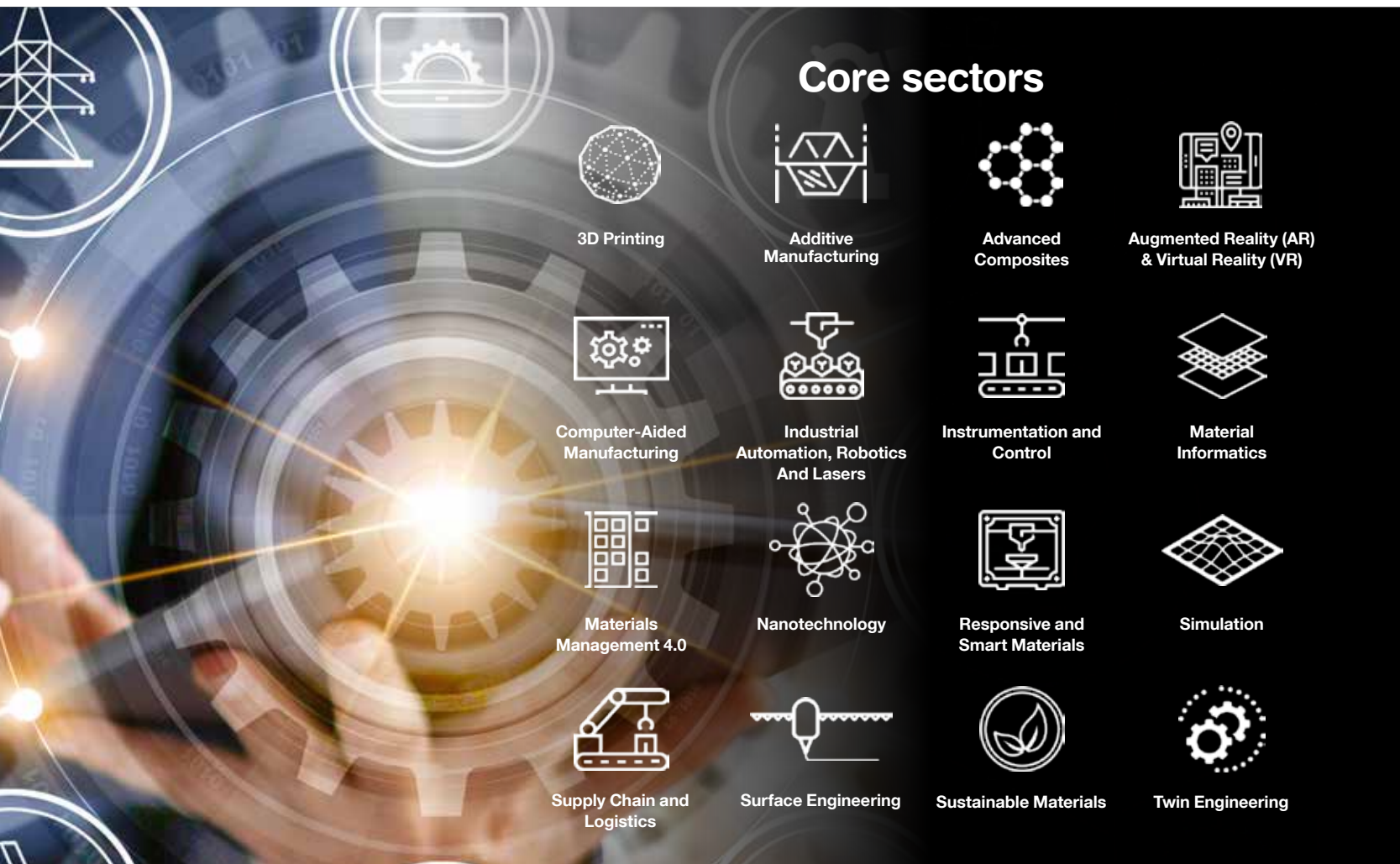


## \$19 billion

worth of products in ADNOC’S locally manufactured procurement pipeline by 2027.

[Click here to register and attend ADIPEC 2023 and the Manufacturing & Industrialisation Exhibition.](#)





## UAE's Manufacturing & Industrialisation Growth in Numbers

- *THE UAE INDUSTRIAL SECTOR WILL CONTRIBUTE AED 300 BILLION TO THE NATIONAL GDP BY 2031.*
- *THE UAE WILL INVEST MORE THAN \$160 BILLION TO ACHIEVE 50% CLEAN ENERGY BY 2050.*
- *INVESTMENTS WILL CREATE 13,600 JOBS IN ABU DHABI'S INDUSTRIAL SECTOR.*
- *THIS YEAR, ADNOC HAS SIGNED NEW AGREEMENTS THAT BRING IT CLOSER TO THE TARGET TO LOCALLY MANUFACTURE AED70 BILLION (\$19 BILLION) WORTH OF PRODUCTS IN ITS PROCUREMENT PIPELINE BY 2027.*
- *INDUSTRY WAS THE SECOND-LARGEST CONTRIBUTOR TO THE EMIRATE'S NON-OIL GDP IN 2021.*
- *THE UAE ADVANCED FIVE PLACES IN THE UNIDO COMPETITIVE INDUSTRIAL PERFORMANCE INDEX IN 2021.*

# DRIVING MANUFACTURING GROWTH AND DECARBONISATION ACROSS THE ENERGY VALUE CHAIN

**W**ith a focus on accelerating industrial decarbonisation while enhancing competitiveness and paving the way for more sustainable economic growth, the Ministry of Industry and Advanced Technology (MoIAT) has been at the forefront of forging a clear roadmap for industrial transformation across the energy value chain.

Headlined by the Operation 300bn strategy, Make it in the Emirates Forum and the National In-Country Value (ICV) programme, a key pillar of this transformation is the ministry's relentless efforts to accelerate decarbonisation and digitalisation in the manufacturing sector through smart energy engineering, as the UAE aims to achieve net zero by 2050.

The ministry also seeks to showcase best practices in the UAE's industrial sector, intensify the UAE's capabilities in sustainable manufacturing, and provide a platform for dialogue among policymakers, global technology experts and the energy industry. With clean technology investments breaking the \$1 trillion barrier for the first time in 2022 and heralding a new era of growth, in the words of His Excellency Dr Sultan Al Jaber, Minister of Industry and Advanced Technology and COP28 President-Designate, this transformation represents the greatest opportunity for human development since the First Industrial Revolution.

"It is our sector's paramount responsibility to demonstrate the feasibility of working concurrently towards two objectives: reducing emissions and achieving sustainable growth," HE Dr Al Jaber said at this year's Make it in the Emirates Forum. ADIPEC's focus on manufacturing and industrialisation in 2023, with the exclusive Manufacturing and Industrialisation Exhibition & Conference, will not only foster further cross-sector collaboration between the energy, manufacturing and high-tech sectors, but also facilitate the adoption of game-changing solutions needed to accelerate a lower carbon, high-growth future. Promoting the adoption of clean energy solutions within the industrial sector, the ministry is a critical pillar of ADIPEC's efforts to support decarbonisation across the industrial value chain and boost the UAE's capabilities as a global manufacturing hub.



## MAKE IT IN THE EMIRATES

- An open invitation to industrialists, investors, innovators and entrepreneurs, the Make it in the Emirates initiative by the Ministry of Industry and Advanced Technology (MoIAT) focuses on sustainable industrial development and path-breaking clean energy solutions.
- In 2021, during the first edition of the Make it in the Emirates Forum, MoIAT, in collaboration with strategic partners, identified offtake opportunities worth AED 110 billion for the next decade. Remarkably, more than 28% of this target, equivalent to AED 31 billion, was achieved within the first year.
- This year, the second edition of the Make it in the Emirates Forum continued to highlight opportunities, incentives, and enablers for entrepreneurs in the industrial sector, including the energy value chain.
- This event served as a gathering point for companies, entrepreneurs, startups, SMEs, decision-makers, and investors, facilitating the announcement of an additional Dh10 billion in offtake agreements within the UAE's industrial sector.
- These agreements, when combined with the previously identified Dh110 billion worth of opportunities, have elevated the total value of products earmarked for localisation to an impressive Dh120 billion, spanning across more than 1,400 products.





وزارة الصناعة  
والتكنولوجيا المتقدمة  
MINISTRY OF INDUSTRY  
& ADVANCED TECHNOLOGY



## National In-Country Value (ICV) Programme & Green ICV

- The Ministry of Industry and Advanced Technology (MoIAT) provides investors with key incentives and enablers through the National In-Country Value (ICV) Programme, to support the Make it in the Emirates initiative and strengthen partnerships between local and international companies.
- This year, several new entities have joined the National ICV Programme, contributing to a total of 28 federal and local government agencies and corporations participating in this initiative.



The Manufacturing & Industrialisation Exhibition & Conference is the ideal platform interlinking energy, manufacturing, and technology through facilitating collaborations and sharing best practices that support the lower-carbon, high-growth future that the (UAE/ World) pursues.

**His Excellency Omar Al Suwaidi**  
Undersecretary of the Ministry of Industry and Advanced Technology, United Arab Emirates

## 300bn

*In 2021, the UAE launched the Operation 300bn strategy to increase the manufacturing sector's contribution to the country's gross domestic product to Dh300 billion (\$82 billion) by 2031.*

## Industrial Technology Transformation Index (ITTI)

The Ministry of Industry and Advanced Technology (MoIAT) launched the Industrial Technology Transformation Index (ITTI) under the Technology Transformation Programme in February 2023. The index is a comprehensive framework to measure Industry 4.0, digital maturity and sustainability of factories, and formulate a roadmap for industrial transformation.

### The core objectives of ITTI are:

- Create awareness about Industry 4.0 technologies and practices in the manufacturing community.
- Accelerate innovation in the manufacturing community.
- Improve industry competitiveness through technology adoption.
- Promote sustainability and efficient resource management.

MoIAT has activated the ITTI through a 3rd party certification program where industrial companies can commission highly qualified assessors through <https://itti.moiat.gov.ae/> to conduct a one-day assessment that provides:

- Current Industry 4.0 and sustainability maturity along with industry benchmarks
- Prioritized areas of action with high impact potential
- Clear recommendations on the way forward

Moreover, the ITTI is linked to the ICV program, and industrial companies can boost their ICV by up to 5% based on their ITTI score. Other ITTI linked incentives will also be introduced in the near future to drive technology adoption.

## 3 THINGS to know about electrolyzers made in UAE

- 1** ADNOC has signed an agreement with Strata and industrial machines manufacturer John Cockerill to manufacture electrolyzers in the UAE.
- 2** The agreement is supported by the Ministry of Industry and Advanced Technology (MoIAT), and marks a significant boost for the development of the UAE's green hydrogen economy.
- 3** It brings the production of electrolyzers to the UAE for the first time, strengthening decarbonisation and domestic manufacturing.

## DIGITALISATION IN ENERGY ZONE

# EMBRACING THE DIGITAL REVOLUTION TO DELIVER CLEAN ENERGY SOLUTIONS

As per the World Economic Forum, digitalisation in industry could reduce CO2 emissions by approximately 15% by 2030. The dedicated Digitalisation in Energy Zone at ADIPEC 2023 is a global showcase of existing and emerging technological solutions that can help the energy sector unlock untapped value and opportunities as digital technology becomes more deeply integrated into all aspects of operations.

As the energy industry focuses on identifying the most effective solutions to adapt their businesses to deliver clean energy solutions for their customers, the Digitalisation in Energy Zone will bring together disruptive businesses and leading technology companies from the entire digitalisation spectrum, together with top energy companies, to anticipate and identify the digital solutions required to ensure a decarbonised future, faster and together.

### Harnessing the power of data

The zone not only supports the development of a sustainable, cybersecure, and competitive market for digital energy services, but also offers the latest insight into how companies can harness the power of data to optimise their investment in the digital energy infrastructure. New technologies on display at the Zone during ADIPEC 2023 will highlight how they can help improve the efficient use of energy resources, facilitate the integration of new energy, and save costs for energy companies and their customers – becoming an integral part of the energy transition and the journey to a lower carbon future.

### Real-time insight

Digitalisation also provides a significant value add within the energy sector when it comes to carbon monitoring programmes, providing a real-time insight into operating parameters as well as the potential for real-time



## PRODUCTS AND SERVICES AT A GLANCE

- ARTIFICIAL INTELLIGENCE
- AUTOMATION
- BIG DATA/ANALYTICS
- BLOCKCHAIN TECHNOLOGY
- CLOUD COMPUTING
- CYBER SECURITY
- DIGITAL TWIN
- DIGITAL AUTOMATION
- IOT & MACHINE LEARNING
- REMOTE MONITORING
- ROBOTICS
- DATA MANAGEMENT
- SOFTWARE SERVICES
- SYSTEMS INTEGRATION
- VIRTUAL VIEWING

optimisations based on energy usage. This will lead to new business models delivering cost reductions and introduction of new products, a digital business and culture of autonomous process operations, with minimum human interventions, and use of data and analytics, AI/ML and other technologies to drive continuous improvement and real time



.....  
The Digitalisation in Energy Zone will bring together disruptive businesses and leading technology companies from the entire digitalisation spectrum, together with top energy companies.  
.....

insights and decision making, driving higher reliability and predictability with modern technology to help scale operations and support IT/OT integration.

### Industry best practices

One of most popular zones at ADIPEC, the Digitalisation in Energy Zone is therefore the perfect venue for visitors to meet exhibitors showcasing their latest solutions, technologies, and best practices to decarbonise the industry through technology.

[Click here to register and attend ADIPEC 2023 and the Digitalisation in Energy Zone.](#)



# 4 REASONS WHY ... YOU MUST VISIT THE DIGITALISATION IN ENERGY ZONE AT ADIPEC



1

Understand how digitalisation impacts the entire energy value chain, ranging from exploration and production to transport, distribution, supply and consumption.

2

Get familiar with the technologies of tomorrow being showcased at the Zone, that will make energy systems more connected, intelligent, efficient and sustainable over the coming decades.



3

Take part in discussions and debates focusing on the implications of digitalisation for the industry and the best ways emerging technologies can be utilised.



4

Interact with industry experts and exhibitors with thorough knowledge and experience of the entire spectrum of digitalisation in energy, from Big Data and the Cloud to Machine Learning.



MARITIME & LOGISTICS ZONE

# CONNECTING GLOBAL MARITIME AND ENERGY INDUSTRIES



**E**nsuring that innovations in technology can be used to decarbonise the global maritime and logistics industries at scale requires continued progress in the development and roll-out of supportive policies and cross-sector strategies.

Through the Maritime & Logistics Zone, ADIPEC connects industry leaders, regulators and decision-makers from the global maritime and logistics supply chain with leading experts in energy and technology, driving the innovations that will accelerate the adoption of lower carbon solutions while maintaining sustainable growth. The Zone is therefore the leading global gathering of the offshore, marine, shipping, and logistics industries in the energy sector.

The Zone provides the perfect platform for visitors and attendees to stay updated on the latest technological advancements, connect with companies and experts, and build partnerships and business opportunities with NOCs, IOCs, NECs, IECs, service companies, EPC

contractors, subsea engineering firms, and supply chain companies. With the global maritime and logistics industries poised to significantly reduce emissions through advances in technology, supportive policies and inclusive partnerships are urgently needed to ensure that these technologies can be implemented to deliver a high impact and at scale. The Maritime & Logistics Zone at ADIPEC not only helps bring all stakeholders together to achieve this goal, but also sheds important light on the vital importance of the maritime energy transition that is transforming the industry not just for ship operators, but also suppliers, partners and countless other stakeholders across the value chain.

#### Vessels located on the ADIPEC Marina waterfront

A dynamic display of ships and offshore vessels on the ADIPEC Marina waterfront is a key aspect of the Maritime & Logistics Zone – where companies showcase their newest vessels, platforms and other maritime

equipment, designed with sustainable operations in mind that decrease fuel costs and reduce emissions. It is the ideal opportunity for companies to demonstrate their commitment to decarbonisation and the development of more efficient technologies.

## MARITIME AND LOGISTICS STRATEGIC CONFERENCE

The Maritime & Logistics Conference at ADIPEC will bring together industry leaders, regulators and decision-makers from the global maritime and logistics supply chain to identify cross-sector solutions that will accelerate the energy transition and enable the industry to meet its net-zero targets, while capitalising on the opportunities for growth in a rapidly evolving market.



[Click here to register and attend ADIPEC 2023 and the Maritime & Logistics Zone.](#)





1

Seamlessly connect with global maritime, logistics and energy professionals to form valuable partnerships.

2

Gain industry knowledge and share best practice with the global maritime, logistics and energy communities.

3

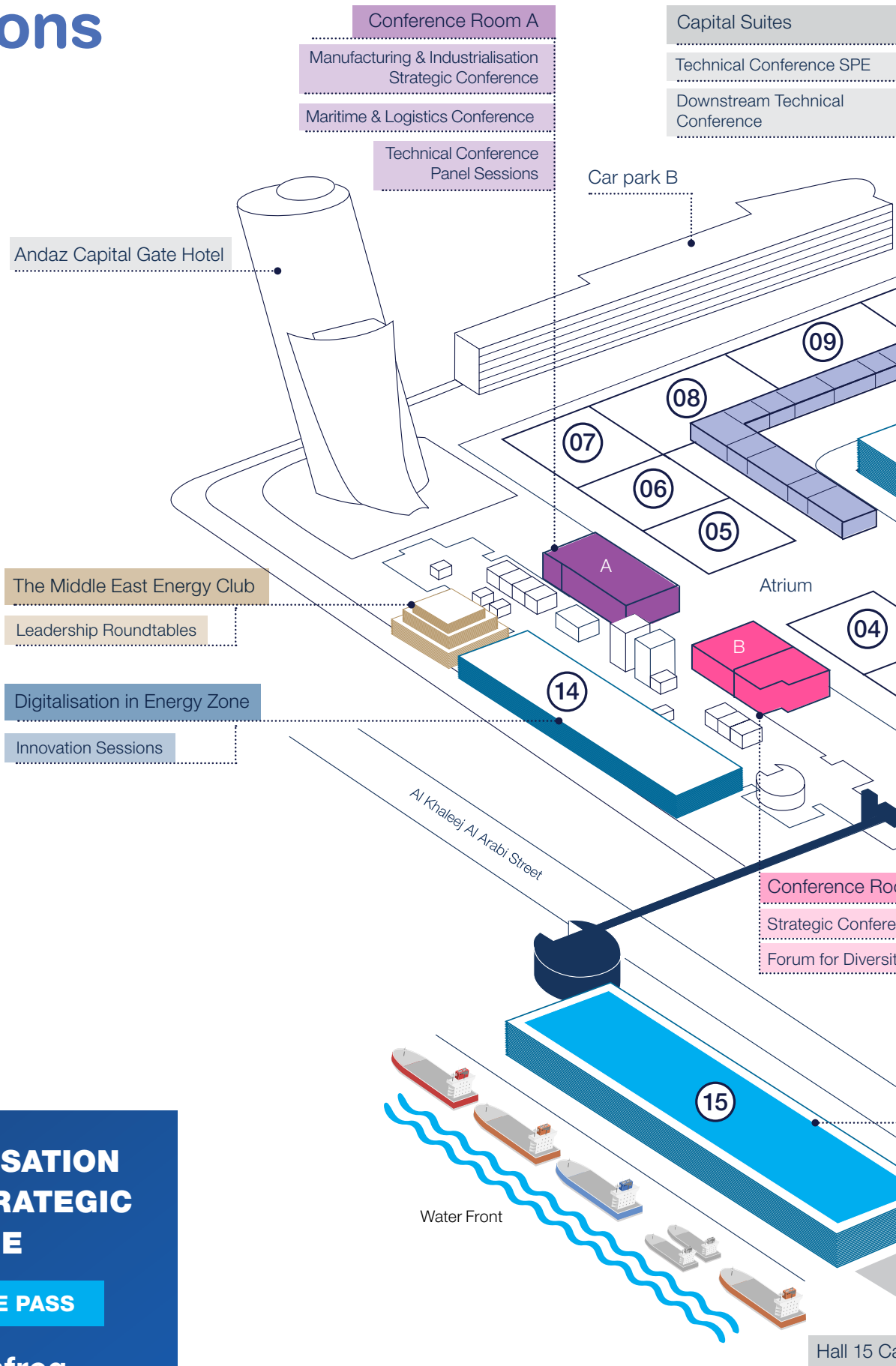
Find new business opportunities and understand new markets across the Maritime and Logistics industry.



## PRODUCTS & SERVICES ON DISPLAY

- MARINE SERVICES & EQUIPMENT
- OFFSHORE VESSELS
- PUMP EQUIPMENT & SERVICES
- SURVIVAL, SAFETY AND PROTECTION
- ENGINE TECHNOLOGIES
- STORAGE AND TANKS
- NAVIGATION, MAPPING AND POSITIONING
- PORTS, TERMINALS AND FACILITIES
- SUBSEA, DRILLING, PRODUCTION & WELL EQUIPMENT
- UNMANNED UNDERWATER VEHICLES
- DISTRIBUTION NETWORK SOLUTIONS
- FLOATING STORAGE REGASIFICATION UNITS (FSRUS)
- OCEANOGRAPHY
- POWER GENERATION & PROPULSION
- WELL COMPLETIONS
- ENGINE CONVERSION

# ADIPEC 2023 venue map and conference locations

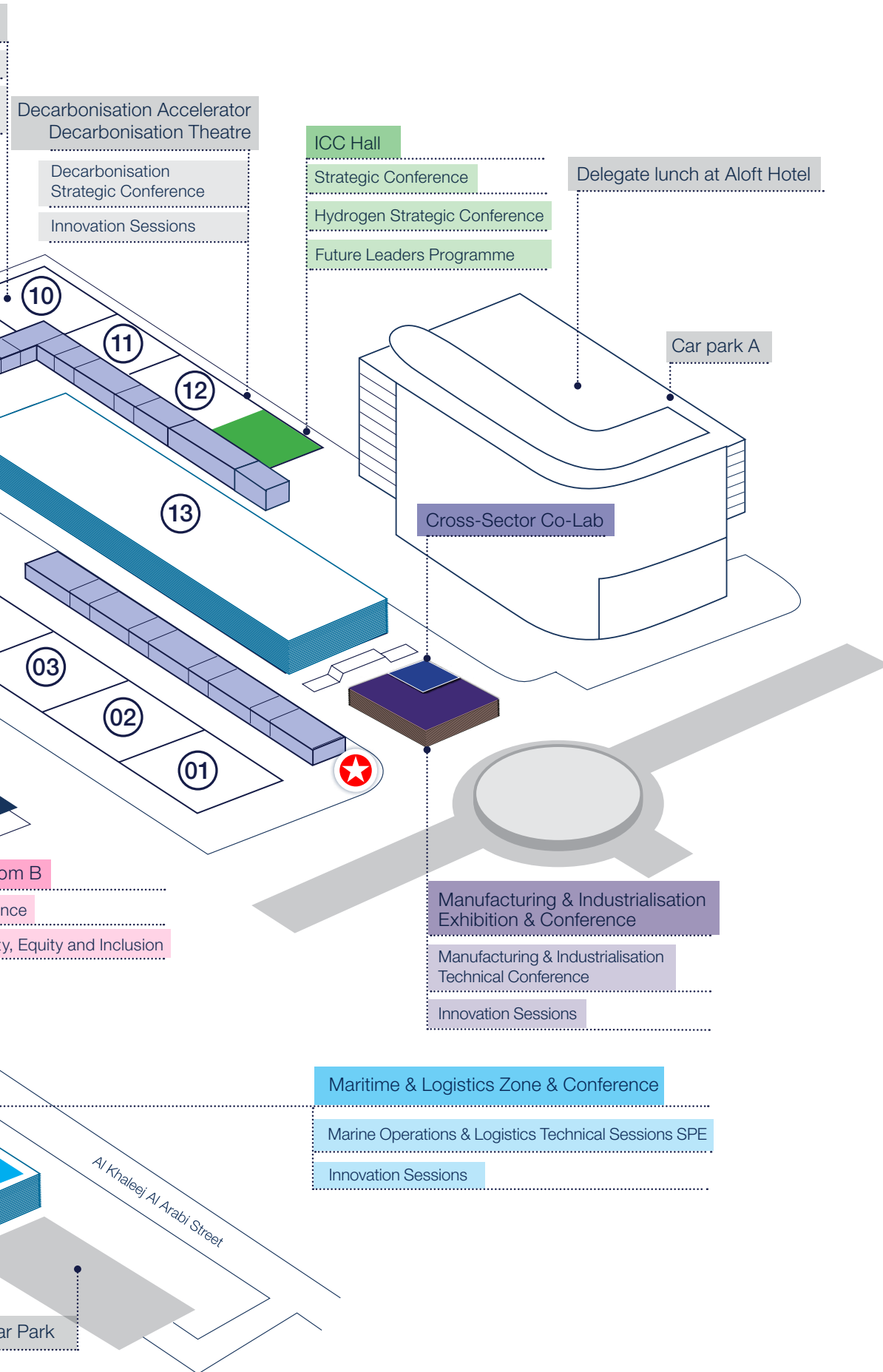


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AT THE ADIPEC STRATEGIC  
CONFERENCE**

**BOOK YOUR DELEGATE PASS**

[adipec.com/confreg](https://adipec.com/confreg)





**Venue Map legend:**

1 - 15 Exhibition Halls

ICC Hall

The Middle East Energy Club

Cross-Sector Co-Lab

Conference Hall A

Conference Hall B

Maritime & Logistics Zone

Manufacturing & Industrialisation Exhibition & Conference

Capital Suites - Mezzanine level

ADIPEC Booking Stand



**REGISTER TO VISIT THE ADIPEC 2023 EXHIBITION**

**CLICK HERE TO REGISTER**

[adipec.com/exhibition](https://adipec.com/exhibition)



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The energy transition requires addressing the urgency of climate change, without negative impacts on energy security and affordability, enabling industries and infrastructures to transform. As an energy company, Eni is aware that we must build a new, more resilient and redundant system to preserve the competitiveness of the economic system.

.....

**Claudio Descalzi**  
CEO, Eni



EXHIBITOR: ENI STAND: A300 HALL: ATRIUM

# BUILDING THE SUSTAINABLE ENERGY SYSTEM OF THE FUTURE

In an exclusive interview with ADIPEC News, **Claudio Descalzi**, CEO of Eni, outlines how the company is balancing energy security with tackling environmental sustainability challenges, Eni's projects and collaborations in decarbonisation, the strategic pillars of the Eni and ADNOC partnership, and much more.

## How is Eni focusing on the energy transition and helping the industry advance clean energy solutions?

The energy transition requires addressing the urgency of climate change, without negative impacts on energy security and affordability, enabling industries and infrastructures to transform. As an energy company, Eni is aware that we must build a new, more resilient and redundant system to preserve the competitiveness of the economic system. This means avoiding the gap between energy supply and demand, not relying on a single source, and being aware that different levels of development may require different paths to decarbonise the energy mix. Eni's strategy, therefore, combines the need to contribute to energy security and to tackle the environmental sustainability challenges. In this direction, in 2023 we confirmed our key medium-to-long term emissions targets: the pathway towards Eni's carbon neutrality by 2050 first envisages net-zero scope 1+2 emissions by 2035, with a plan to reach -35% of absolute carbon emissions, including Scope 3, by 2030 and -80% by 2040 (baseline 2018). Eni's strategy to reach carbon neutrality leverages on an industrial transformation to be implemented by strengthening available and economically sustainable technologies with a neutral approach. We believe in the key role of technology and our strategy grounded on a continuous focus on new technologies and their fast-track deployment. At the same time, we believe that natural gas is a "bridge" energy source in this transition path. Gas is the fossil fuel with the lowest carbon footprint capable of ensuring energy security: it is a programmable source that can support the penetration of renewable energy and the development of new energy solutions. Recognising this crucial role of gas, Eni has long been committed to reducing methane emissions.



Eni's strategy to reach carbon neutrality leverages on an industrial transformation to be implemented by strengthening available and economically sustainable technologies with a neutral approach.

## Tell us about the strategic pillars of the Eni and ADNOC partnership, also looking at the latest agreement signed earlier this year.

Eni has been present in the UAE since 2018 with a significant portfolio of activities. The Eni and ADNOC partnership spans from exploration, production and development initiatives in the upstream sector, to downstream activities. Last March, we signed a MoU which outlines a framework of cooperation for future joint projects on energy transition, sustainability and decarbonisation. With this agreement, Eni and ADNOC will explore potential opportunities in renewable energy, blue and green hydrogen, carbon dioxide capture and storage (CCS), in the reduction of greenhouse gas and methane gas emissions, energy efficiency, routine gas flaring reduction and the Global Methane Pledge, to support global energy security and a sustainable energy transition.

## Could you elaborate on Eni's projects and collaborations in decarbonisation? Is decarbonisation of transport a strategic focus area for Eni?

The development of bio-energy has an

important potential for decarbonising the transport sector. One of the distinctive elements of Eni's strategy is the innovative vertical integration along the biofuel value chain based on the construction of agri-hubs to produce vegetable oils from raw materials that do not compete with the food chain, to be used in Eni's biorefineries to produce biofuels.

Biofuels can play an important role right away, complementary to electricity, in transport decarbonisation, without requiring investments in the replacement of vehicles and infrastructure. For light transport on the road, they are necessary to decarbonise the vehicle fleet and to integrate electricity solutions during the path to fully develop the charging infrastructure and the growth of the renewable share in the electricity mix; for heavy transport by road, sea and air, they are indispensable, given the difficulty of electrification of these sectors and the low maturity of other solutions (hydrogen, e-fuel and ammonia/methanol).

Another crucial element for the success of the transition is, therefore, the partnerships with hard-to-abate sectors. In this sense, a fundamental lever of our decarbonisation strategy is the capture and storage of CO2 (CCS) which can play a key role in decarbonisation already in the short term.

## What are you particularly looking forward to at ADIPEC this year?

ADIPEC is one of the world's most influential meeting places where energy players and professionals come together discussing all the main topics in the energy sector. This year, it also comes at a crucial time, in a complex international juncture and in view of the upcoming COP28, where the UAE, as hosting country, is expected to set out its vision for a clean energy transition agenda.



ADIPEC has been one of the most important fixtures in my annual calendar for many years. Not only because of our longstanding excellent partnership with Mubadala and ADNOC, but also the ongoing fruitful multilateral exchange at the pulse of issues. This is also reflected in this year's theme 'Decarbonising. Faster. Together.'

**Alfred Stern**  
CEO, OMV AG



EXHIBITOR: OMV GROUP STAND: 4435 HALL: 4

# PAVING THE WAY FOR A DECARBONISED SOCIETY WITH SUSTAINABILITY AT THE CORE

By **Alfred Stern**, CEO of OMV AG

**A**DIPEC has been one of the most important fixtures in my annual calendar for many years. Not only because of our longstanding excellent partnership with Mubadala and ADNOC, but also the ongoing fruitful multilateral exchange at the pulse of issues. This is also reflected in this year's theme "Decarbonising. Faster. Together."

The significance of energy companies has taken on a whole new dimension in the quest for a reversal of climate change. With the importance of sustainability in mind – of which decarbonisation is a key element – we need to reduce our use of resources like fossil fuels, by replacing them with alternatives, and to find a quicker way to drive forward the circular economy. If we want to fundamentally realign towards a decarbonised society, we need not just a few but all stakeholders on board – investors, customers, employees, politicians, the media, and the public. In our "OMV Strategy 2030 – From Value Chain to Value Circle" we describe how that will work. We have chosen a fundamentally different path and redefined our very reason for being. We analysed future global developments and asked ourselves what OMV will look like. The result is summarised in our purpose "Re-inventing essentials for sustainable living": we see it as our duty to develop solutions to not only ensure our quality of life, but more importantly, to enable more people to share this sense of well-being with the smallest possible carbon footprint.

Stemming from this aspiration, we address the gradual replacement of fossil-based energy sources through sustainable operations in our new Energy business segment. In Fuels & Feedstock, we strive to contribute to climate-friendly mobility and materials management as a leading provider of sustainable fuels and chemical feedstocks. In the Chemicals & Materials business, we strive to become both a global provider of special



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polyolefin solutions and a leading company in the field of circular economy. While our Energy business segment is proving its worth as the financial driver of our transformation, the sustainable direction of Fuels & Feedstock and of Chemicals & Materials are taking shape. Since we presented our strategy last year, we have already taken several important steps in the new direction. We launched promising geothermal projects in Austria and Germany and entered into a joint venture agreement to develop the geothermal potential in Austria's Vienna Basin. We are successfully expanding our sustainable aviation fuels cooperations with airlines and are continually building up production at our ReOil® plant in Schwechat

near Vienna, targeting a processing capacity of 200,000 t of used plastics in synthetic feedstock for the petrochemical industry by 2027. Borealis reached quite a few milestones recently on the way to achieving its Strategy 2030 targets. Examples include the revamp of its cracker furnaces in Stenungsund, Sweden, improving its energy efficiency and reducing its CO2 footprint, or the recent signing of an agreement to acquire Rialti S.p.A., a European producer of recycled polypropylene compounds to expand Borealis' circular offering and help its customers in meeting their sustainability ambitions. In Romania, OMV Petrom is making strides in putting into action the transition towards a cleaner and more sustainable energy future. Our final investment decision for a strategic natural gas project, Neptun Deep, in the Black Sea, will turn Romania into one of the largest gas producers in the EU. Along its low and zero carbon targets, OMV Petrom managed to secure more than one gigawatt of capacity in photovoltaic projects and is advancing with the installation of electric vehicle charging points in Romania and the region. In view of the ever-growing threat to the climate, our Chemicals & Materials business will play a key role. With the accelerated development and production of high-quality, sustainable chemical and plastic products, we help to ensure the efficient use of resources and to increase energy efficiency of solar panels, wind farms, electricity transmission, and mobility solutions. Overall, until 2030, an average of 40 percent of our investments will be in sustainable projects. We have made sustainability the starting point and the core element of our strategy, and therefore the foundation of our successful development. And we will clearly stick to our chosen path.

INTERNATIONAL ENERGY FORUM

# UNLEASHING THE POWER OF DECARBONISATION TECHNOLOGIES

By **Joseph McMonigle**, Secretary General, International Energy Forum

As the demand for oil and gas continues to grow worldwide, the urgency of deploying decarbonisation technologies has never been greater. Notwithstanding the high readiness levels of carbon capture, use and storage (CCUS) technologies and support by individual governments, only around 40 million tons of carbon dioxide per year is abated today. This figure should rise to at least 7.6 Gigatons per year by 2050 if we are to have any chance of meeting our climate goals, according to a recent IEF analysis based on the most recent IPCC assessment. This leaves a gigantic abatement gap of 7.56 Gt that will not be overcome at current investment and deployment rates. Indeed, the current abatement gap is more likely to widen than to narrow. Fundamental shifts in strained global energy markets will increase carbon emissions in the face of unprecedented energy market volatility and rising energy poverty rates.

### Global commitment to accelerate carbon management

This makes a global commitment to accelerate carbon management even more important now and it was therefore timely that the US government announced the Carbon Management Challenge in April. The recent advances in this technology, spurred by the US Inflation Reduction Act and other incentive schemes, have also paved the way for more widespread adoption. US President Joe Biden announced the challenge at a meeting of other leaders at the Major Economies Forum and is expected to launch the project with several supporting governments and organisations, including the International Energy Forum, at the UN Climate Summit

(COP28) in the United Arab Emirates later this year.

At the IEF, we are committed to working with our 72 member countries to make real progress on CCUS adoption, to encourage countries to rapidly accelerate projects, which are mostly centred around industrial clusters and connected to storage sites in disused oil and gas fields. Other more experimental CCUS technologies are also getting a boost, such as direct air capture and enhanced weathering.

### Carbon abatement technologies

The advantage of CCUS is that these technologies cut CO2 emissions while at the same time preserving our standard of living through affordable and reliable energy. Carbon abatement technologies hold out the hope of addressing both the climate challenge and the energy crisis. Carbon management technologies are not a substitute for accelerating other efforts to tackle climate change including scaling up renewables and nuclear power, and putting a stop to deforestation. But they will help us to meet our twin goals of climate security and energy security more quickly. Notwithstanding progress made, viable CCUS projects still take too long to reach final investment decisions. Strong and clear long-term policy support is especially important now to enable industry to scale innovations and operations that move CCUS “from the mega to the giga” in order of magnitude worldwide. Though momentum is building, policy support and industry strategies remain too fragile and scattered for CCUS to enable just and orderly transitions or fulfil the role that the IPCC and other key international organisations assign to it. The carbon management challenge will



**Joseph McMonigle**  
Secretary General International Energy Forum



The advantage of CCUS is that these technologies cut CO2 emissions while at the same time preserving our standard of living through affordable and reliable energy.

allow governments to implement net zero climate ambitions faster and more comprehensively while reducing costs to consumers and stabilising markets. These technologies could also help to accelerate the quest for hydrogen and materials transitions and expand solutions to achieve other abatement goals, such as the Global Methane Pledge as well.



EXHIBITOR: KOREA NATIONAL OIL CORPORATION STAND: 8320 HALL: 8

# KNOC CHARTS A COMPREHENSIVE PATH TO DECARBONISE THE REGION

**In an exclusive interview with ADIPEC News, Dongsu Kim, CEO of Korea National Oil Corporation, talks about finding low carbon solutions while maintaining the company's hydrocarbon business in view of energy security, and creating CCUS and Ammonia hubs to decarbonise the region.**

## Can you tell us more about Korea National Oil Corporation and its strategy for the energy transition?

Korea National Oil Corporation (KNOC) was founded in 1979 to secure a reliable supply of oil after global oil disruptions in the 1970s. Since its establishment, KNOC has been an essential organisation that ensures national energy security. It pursues E&P activities, both domestically and internationally. On top of this, KNOC has stockpiling facilities that can store up to 146MMBOE in nine different sites in Korea and operates 31 oil and gas fields in 17 countries.

The world is in an energy trilemma and we must find solutions to resolve energy security, affordability, and sustainability. While renewable energy is growing fast, oil and gas reserves should also be maintained and added. Thus, developing low carbon energy and finding low carbon solutions while maintaining our hydrocarbon business for national security has become KNOC's strategy. Based on our strengths and experiences, we are expanding low-carbon businesses in CCS, hydrogen and floating offshore windfarms. Korea will become one of the biggest consumers of hydrogen and ammonia. We will continue to develop applications of hydrogen and ammonia and ways to transport and stock them by collaborating with global energy companies including ADNOC. KNOC's portfolio should be aligned with the national energy policy for optimal energy mix and therefore we keep on communicating with government.

## Could you elaborate on any innovation, projects or initiatives undertaken by your company that contributes to a lower carbon future?

In 2022, KNOC and ADNOC signed a JSA to perform a feasibility study for clean ammonia production in Abu Dhabi before moving on to FEED stage. In line with this, KNOC is working on the construction of ammonia receiving terminals and processing facilities. On top of this, KNOC is working on a project which is Korea's first large-scale carbon capture and storage (CCS) demonstration project. The initiative involves injecting 1.2Mtpa of CO<sub>2</sub> into Donghae gas field. Simultaneously, it is also exploring additional storage formations near the gas field and in other offshore basins to create a comprehensive CCUS hub to decarbonise the region. Korea is well known for manufacturing industries such as Samsung, Hyundai, SK, LG and Posco. Making a good use of abundant CO<sub>2</sub> coming from industries, we have huge opportunities to reduce CO<sub>2</sub> by commercialising CCUS. KNOC envisions to establish a platform for CCUS by creating CCUS hubs. It also requires international collaboration. In 2023, KNOC has signed an MOU with ExxonMobil to collaborate in CCS, hydrogen and ammonia business. It is also involved in developing a 200MW offshore floating wind farm project with Equinor. I strongly believe the technological innovation and digital transformation we are applying will accelerate the energy transition in Korea.

## In your view, what are the opportunities for the industry brought about by the decarbonisation of the energy sector?

Decarbonisation is an essential task for our future. This will create new business opportunities for the energy industry. I believe the energy industry already possesses various competencies and possibilities that can be applied for finding low carbon solutions. For



Dongsu Kim, CEO of Korea National Oil Corporation

instance, offshore windfarms and CCS also provide opportunities for oil companies since these projects have value chains that are similar to oil exploring mechanisms. Cross-industry wise, digitalisation can provide new and innovative methods to reduce CO<sub>2</sub>. As such, collaboration across sectors and industries is critical. In line with this, a platform such as ADIPEC becomes invaluable to gather people and call for collective actions, seizing the opportunities brought by the decarbonisation of the energy sector.

## How critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster, together and driving investments into the clean energies of the future?

ADIPEC has been taking a leadership role in energy industries by providing a comprehensive platform for industries to collaborate. This year's ADIPEC, taking place two months ahead of COP28, will certainly draw more attention. I strongly believe that ADIPEC will provide actionable solutions to reduce CO<sub>2</sub> while maintaining economic growth, energy security and affordability. The unprecedented and abnormal climate calls for the urgent need to accelerate the energy transition. Connecting industrial leaders to drive investments in right places is also ADIPEC's key role. At the end of the day, ADIPEC gets to diagnose, promote, and upgrade decarbonisation worldwide. It fosters collaboration among stakeholders, facilitates networking, and leads to impactful partnerships and initiatives to inspire concrete actions towards a sustainable future.

EXHIBITOR: INPEX/JODCO STAND: 6230 HALL: 6

# JODCO TAKES THE LEAD IN CLEAN ENERGY SOLUTIONS

**Hiroshi Fujii**, President & CEO of JODCO, speaks to ADIPEC News about the company's net zero businesses that aim to support the energy transition and ADIPEC's critical role in accelerating collective action to decarbonise the industry

**How are you focusing on the energy transition and helping the industry advance clean energy solutions?**

Early last year, INPEX Corporation, the parent company of JODCO, announced its long-term strategy and medium-term business plan called INPEX Vision@2022. The vision reflects our management policy towards a net zero carbon society by 2050, which consists of a two-pronged approach. We will continue to focus on our core business of developing and producing crude oil and natural gas to maintain and expand a stable supply of energy while making the business cleaner. Meanwhile, we will grow our five net zero businesses, which include hydrogen/ammonia, CCUS, renewable energy, methanation and forest conservation, allocating a portion of the revenue from our oil and gas business to invest in these businesses. Our five net zero businesses are positioned to support the energy transition and generate clean energy solutions, and some of our related initiatives are based in Abu Dhabi. Last year, INPEX demonstrated a clean ammonia supply chain linking the UAE and Japan, leveraging our close partnership with ADNOC. This year, Masdar and INPEX signed an agreement in Abu Dhabi to evaluate the production of synthetic methane (e-methane) using green hydrogen and CO2. We will assess the entire value chain, including hydrogen production and CO2 procurement, and explore opportunities to export e-methane to Japan.

**In your view, what are the opportunities for the industry brought about by the decarbonisation of the energy sector?**

We recognise that the decarbonisation of the energy sector presents challenges as well as significant growth opportunities for our industry. Leveraging our expertise in our core business of oil and natural

gas development, we are committed to advancing net-zero businesses. We are determined to address the energy trilemma and pioneer clean energy solutions. By embracing these opportunities, we can drive innovation, expand into new markets, and contribute to a sustainable and decarbonised future for the energy industry. One area where our existing capabilities can be fully applied is CCS/CCUS, especially targeting depleted oil and gas fields.

**Could you elaborate on any innovation, projects or initiatives undertaken by your company that contributes to a lower carbon future?**

In addition to the clean energy projects in Abu Dhabi mentioned earlier, we are driving some key initiatives in our core business areas including the following: INPEX recently acquired 50% of shares in Enel Green Power Australia (EGPA), expanding into diverse renewable energy markets leveraging wind, solar, battery storage and hybrid projects across Australia. In Japan, INPEX commenced construction of the "Kashiwazaki Clean Hydrogen/Ammonia Project," through which we will build an integrated hydrogen and ammonia value chain utilising natural gas to produce hydrogen, synthesise ammonia and contribute to a low-carbon society. And in Europe, INPEX's Snorre Project in Norway recently began receiving some of its power from the Hywind Tampen floating wind farm, which will reduce CO2 emissions by about 200,000 tons per year. INPEX also acquired a 16.7% stake in the Moray East Offshore Wind Farm in the UK which has been in commercial operation since April 2022 with an output scale of 950 megawatts.

**How critical is the role of ADIPEC in accelerating industry action to decarbonise faster together?**



Hiroshi Fujii, President & CEO of JODCO



ADIPEC plays a critical role in accelerating collective industry action to decarbonise and drive investments into clean energy.

ADIPEC plays a critical role in accelerating collective industry action to decarbonise and drive investments into clean energy. With the UAE being the first oil-producing country to aim for net-zero by 2050, ADIPEC has become a platform for showcasing energy transition initiatives and facilitating leadership dialogue. ADIPEC can actively promote the energy transition while leveraging existing energy resources and contribute significantly to shaping a sustainable and cleaner energy future by advocating faster and more collaborative decarbonisation efforts.

**What are the services and technologies that you are looking to showcase at ADIPEC this year?**

This year, we will showcase our clean energy projects as well as new generation chemical water shut-off technology, for which we were jointly awarded earlier this year. As in previous years, we will also be offering Japanese-style hospitality, providing a traditional tea ceremony service to visitors.

*This article is correct as of July 2023.*



# PTTEP Commits to Net Zero Greenhouse Gas Emissions by 2050

PTT Exploration and Production Public Company Limited (PTTEP) operates with consideration to create the right balance of business, social and environmental aspects. We take part in solving global warming issues and therefore set forth to achieve Net Zero Greenhouse Gas (GHG) Emissions by 2050 through our “EP Net Zero 2050” concept.

## Exploring for Lower Carbon E&P Portfolio

Our exploration and production portfolio is managed to transform PTTEP into a lower-carbon organization. New projects with an emphasis on natural gas and greenhouse gas intensity are factored into the investment decision-making process.

# EP

## Production and Planet in Balance

We pursue the development of technology to reduce GHG emissions, energy and production efficiency improvement, application of renewable energy in operations, as well as emissions offsetting through the planting of trees in forests and mangroves to increase the natural carbon sink.

# NET ZERO 2050



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EXHIBITOR: SAMSUNG ENGINEERING STAND: 9420 HALL: 9

# CREATING A CLEAN ENERGY VALUE CHAIN WITH ADVANCED TECHNOLOGY

In an exclusive interview with ADIPEC News, **Hong Namkoong**, President and CEO at Samsung Engineering, talks about the company's flagship projects that aim to deliver clean energy, and the critical role of ADIPEC in accelerating sustainable solutions for the planet.



**Hong Namkoong**, President and CEO at Samsung Engineering

## How is your company focusing on the energy transition and helping advance clean energy solutions?

Today's world is facing a growing demand to address a wide range of societal challenges, including achieving net zero emissions, improving waste treatment, and preventing environmental pollution to cope with climate change.

To become an engineering company that creates a better future with our advanced technology, Samsung Engineering is extending its business portfolio to focus on sustainable solutions in line with the energy transition paradigm. We are dedicated to proposing eco-friendly solutions related to carbon management, such as carbon emissions reduction and capture. Additionally, we are committed to establishing a clean energy value chain by leveraging hydrogen technology and achieving a circular economy through innovative water treatment solutions, waste-to-energy initiatives, and effective plastic waste management.

## Could you elaborate on any innovation, projects or initiatives undertaken by your company that contributes to a lower carbon future?

Amidst the global energy challenges, various stakeholders, including governments, international and national oil companies, licensors, manufacturers, and EPC contractors like Samsung Engineering are dedicatedly working together to address the energy trilemma through the development of cutting-edge technologies in the energy transition. Therefore, the importance of cooperation among all market players is growing significantly as the technical and commercial viability of the new technologies remains subject to further verification.

Samsung Engineering is developing flagship projects in collaboration with Korean and overseas partners with an end-to-end perspective to deliver clean energy, covering the entire value chain of producing, converting, transporting, and providing to end-consumers. We are currently working on two representative flagship projects for the energy transition — the H2biscus and the Shepherd CCS projects. The H2biscus project aims to produce green hydrogen and ammonia using hydropower generated in Sarawak, Malaysia, and then ship it to Korea, contributing to fulfilling the clean energy demand of the country. The Shepherd project is Asia's first transboundary CCS project that will collect the CO<sub>2</sub> generated in Korea and transport it to Malaysia by sea to store it underground.

## How critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster together and driving investments into the clean energies of the future?

ADIPEC is an event hosted by ADNOC, a key player in the global energy industry, in collaboration with many partners. In addition, as the host of the COP28 in 2023, the UAE is making strenuous efforts to achieve the country's goal of becoming a climate-neutral country by 2050. In this regard, this year's ADIPEC will be a great opportunity for major global energy providers to discuss what kind of changes are needed for our planet and how we should implement them as we move ahead toward COP28. As Samsung Engineering transforms its business to become a sustainable solution provider, we will provide the best solution based on our advanced technologies and expertise to

preemptively respond to changes in the global energy industry and take the lead in tackling global climate change.

## What are the services and technologies that you are looking to showcase at ADIPEC this year?

Samsung Engineering is participating in ADIPEC this year enabling a sustainable future under the slogan of "Core to Value: With Creativity, Collaboration & Commitment we aim to provide the world's best technological and innovative solutions to our clients globally". At our booth this year, we will be showcasing our technology roadmap with investment and partnership plans for the energy transition. We are introducing the development status and the execution performance of our flagship projects. The company's execution model for unique EPC performances, green solutions capabilities and performance in water treatment and waste-to-energy projects will be showcased through our flagship projects.

## How is your company focusing on safety to build a sustainable society?

Safety is always the most important aspect in our line of business, not only in our previously executed Oil & Gas projects, but now also for our energy transition projects. Samsung Engineering is operating "4S" at our sites by combining new Health, Safety & Environment (HSE) technologies to prevent safety accidents and to further manage high-risk at work efficiently. "4S" stands for "Smart Site Safety Solution" and is an on-site monitoring centre providing safety work management status in real-time that combines digital technologies, including AI, Internet of Things (IoT) sensors, and others.



EXHIBITOR: WOOD STAND: 7152 HALL: 7

# PATHWAYS TO A SUSTAINABLE ENERGY FUTURE

**Ken Gilmartin**, CEO of Wood, talks to ADIPEC News about why digitalisation and decarbonisation go hand in hand, integrated engineering solutions for cleaner energy systems, and the role of ADIPEC in accelerating initiatives to deliver a lower carbon future

## How is your company focusing on the energy transition and helping advance clean energy solutions?

The energy transition is here – and the world needs companies like Wood to deliver it at pace. We believe smart and integrated engineering solutions are the answer to reducing carbon emissions and connecting cleaner energy systems.

Our unrivalled experience across oil, gas and chemicals infrastructure uniquely positions us to advise, design, engineer and operate these assets through the next phase of the industry’s evolution to a more sustainable energy system. There will be no path to that energy system without carbon capture, and Wood is proud to have worked on more than half of the world’s CCUS studies. From the US and Canada to the Arabian Gulf in Saudi Arabia, we are advising and engineering both the design and digitalisation of more than 175 carbon capture projects. We are also pioneering the electrification of platforms in Qatar, designing hydrogen facilities in Saudi Arabia and integrating solar power to supply industrial assets with renewable electricity in Oman.

## What are the opportunities brought about by the decarbonisation of the energy sector?

Almost every project we work on has an element of decarbonisation. Whether it’s substituting hydrocarbons with lower-carbon alternatives, capturing emissions before they’re released into the atmosphere, and reducing emissions through infrastructure improvements – we’re able to apply decades of experience in new ways to produce maximum energy with minimum emissions. We continue to see a market for complex engineering with differentiated capabilities to enable our customers

to meet their strategic aims, aligned with national targets. For example, in Iraq we are deploying flare recovery solutions to capture gas, monetise savings and support the country’s broader economic development goals.

## Could you elaborate on any innovation or initiatives undertaken by your company that contributes to a lower carbon future?

We believe that digitalisation and decarbonisation go hand in hand. We’re deploying digital-led solutions to optimise assets and minimise emissions, supporting clients to navigate global policy changes and deliver their low-carbon goals. For example, methane abatement is driving increased demand for solutions across leak detection, monitoring and asset maintenance, as well as facility upgrades. The Inflation Reduction Act has stimulated this activity in the US, but we are also seeing increasing interest from the Middle East. Two solutions that I’m particularly excited about at Wood are our ENVision and ‘Iris Edge’ methane detection software. ENVision provides clients with real-time insights on the emissions profile of their assets. ‘Iris Edge’ enables clients to identify, quantify and visualise methane leaks.

## Ahead of COP28, how critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster together?

A premier meeting place for leaders, ADIPEC is at the heart of energy industry dialogue; encouraging balanced, reasoned debate and supporting real action to safeguard energy supply, whilst accelerating action to deliver a lower carbon future. Countries across the Middle East are showing real ambition in energy policy and net zero targets. ADIPEC and



Ken Gilmartin, CEO, Wood



A premier meeting place for leaders, ADIPEC is at the heart of energy industry dialogue; encouraging balanced, reasoned debate and supporting real action to safeguard energy supply, whilst accelerating action to deliver a lower carbon future.

COP28 both taking place in the UAE is an important moment for industry, governments and investors to come together and focus on near- and long-term challenges, opportunities and their global impact.

## What is your outlook on the global energy market in 2023-24?

We are experiencing fast-moving energy markets due to macro geopolitical and economic trends. The need for more affordable and reliable energy supply is driving a more balanced investment mix to ensure energy security today, while accelerating the energy transition. Climate change is now the world’s most important problem – and to fix it, we must play a role in conventional energy value chains and communicate to the world the impact that engineers will have on decarbonisation and new energy systems.



Over the past few years, ADIPEC's programming has been spot on, as we could see at last year's low carbon sessions that were left with standing room only! ADIPEC is a key event for PETRONAS, as we wish to inform our way forward and forge partnerships to navigate the energy transition in a just and responsible manner

**Charlotte Wolff-Bye**  
Chief Sustainability Officer, PETRONAS





EXHIBITOR: PETRONAS STAND: 7135 HALL: 7

# BUILDING THE FOUNDATIONS FOR A NET ZERO FUTURE

In an exclusive interview with ADIPEC News, **Charlotte Wolff-Bye**, Chief Sustainability Officer, PETRONAS, shares her views on the progress made on the company’s journey to net zero, pursuing nature-based climate solution projects, and the hydrocarbon sector’s unique strengths that can create new low carbon industrial value chains

**As the first Asian O&G company to set a Net Zero by 2050 target, how is PETRONAS focusing on the energy transition and helping the industry advance clean energy solutions?**

There is no net zero without Asia! Asia is on a growth trajectory, not least Southeast Asia that is anticipated to become the fourth largest economy in the world, with energy demand up by as much as 60% by 2040. The common ambition for Southeast Asian countries is to develop low carbon economies that are anchored to the commitments of the Paris Agreement. As a Malaysia-based integrated energy business with global reach, this context frames PETRONAS’ target of achieving net zero carbon emissions in our operations by 2050. Our main emission reduction levers are: energy efficiency, reducing flaring and venting, electrification and carbon capture and sequestration.

We are making good progress! Over the past decade we have reduced annual emissions by more than 18 million tonnes of carbon dioxide equivalent. We are well placed to help with the coal to gas switch, and plan to grow our renewables portfolio 30-fold by 2030, and scaling up circular economy and green mobility solutions, to name a few.

Partnerships and collaboration are key to our net zero delivery, e.g., we are working with partners to unlock CCS and hydrogen value chains, and have recently established the ASEAN Methane Leadership Programme. To go even further faster, in March this year, we concluded “Race to Decarbonise”, an open innovation challenge. And it worked! We had entries from 25 countries, with many of the winning ideas now brought into play.

**What are the opportunities brought about by the decarbonisation of the energy sector?**

The oil and gas sector has many unique strengths that are essential to deliver



Partnerships and collaboration are key to our net zero delivery, e.g., we are working with partners to unlock CCS and hydrogen value chains, and have recently established the ASEAN Methane Leadership Programme.

the needed systems-wide change: sub-surface geology knowledge, complex project execution capability, operating through partnerships and in challenging environments, not to mention a top cadre of professionals and technical staff. These attributes provide a strong foundation for new low carbon industrial value chains. As an example CCS, hydrogen and biofuels will require both technological advancement as well as new commercial value chains. In both cases, the demand and supply side need to be developed in unison, often across borders through multi-sector consortia.

**Could you share more details about how PETRONAS is helping unlock opportunities in the NBS market and helping restore the environment?**

In support of our net zero carbon emissions by 2050 pathway, we wish to demonstrate visible leadership on the nature and biodiversity agenda. In Malaysia it is particularly pertinent as it is one of only 17, so called megadiverse countries that are rich with biodiversity. We are actively exploring opportunities to make high-quality nature-based climate solution projects a reality.

Earlier this year, we participated in the inaugural voluntary carbon market auction by Bursa Malaysia, with the aim to promote NBS and to mobilise entrepreneurs to develop much needed nature conservation and reforestation projects.

**How critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster and drive investments into the energy systems of the future?**

What I find particularly inspiring is how ADIPEC involves and engages young professionals. An inspired, engaged and committed cadre of young leaders is critical to deliver the next generation of energy in support of a sustainable future.

Over the past few years, ADIPEC’s programming has been spot on, as we could see at last year’s low carbon sessions that were left with standing room only! ADIPEC is a key event for PETRONAS, as we wish to inform our way forward and forge partnerships to navigate the energy transition in a just and responsible manner.

**What are the services and technologies that you are looking to showcase at ADIPEC this year?**

At this year’s ADIPEC, the spotlight will be on how PETRONAS accelerates its decarbonisation efforts while growing production via technology and digitalisation. We are also excited to highlight our partnerships with industry players on our shared efforts including expediting methane emission mitigation.

Visit Petronas and 2,200 exhibiting companies showcasing the latest strategies and innovations that are defining the energy of tomorrow.

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# HYDROGEN AND ITS DERIVATIVES: POWERING THE JOURNEY TO A LOW-CARBON WORLD

By **Marco Alverà**, CEO of TES (Tree Energy Solutions)

In the pursuit of a sustainable and clean energy future, hydrogen has emerged as a promising contender to revolutionise our global energy landscape. As a versatile and abundant element, hydrogen holds tremendous potential to address climate change and help achieve net-zero targets. The hydrogen industry is currently experiencing a renaissance, gaining significant momentum as governments, businesses, and researchers increasingly recognise its potential as a key enabler of a low-carbon future. An International Energy Agency analysis found that the cost of producing hydrogen from renewable electricity could fall by as much as 30% by 2030. This happened as a result of the scaling up of hydrogen production and declining costs of renewables, which is mainly driven by enhanced market competition and economies of scale. While hydrogen has been in use for decades, the recent surge in interest can be attributed to growing concerns about climate change, the complexity of widespread electrification, and the desire to diversify energy sources. Worldwide, countries have begun adopting hydrogen strategies, investing in R&D, and implementing policies to promote hydrogen production and utilisation. The industry is witnessing rapid advancements in hydrogen technologies, such as hydrogen fuel cells for transportation, industrial applications, and power generation, as well as green hydrogen production and its derivatives through renewable energy sources like wind and solar.

## The critical role of hydrogen

Hydrogen plays a vital role in the race to achieve global net-zero emissions targets and holds the potential to decarbonise heavy industries. Manufacturing materials like steel, cement, and chemicals are notoriously hard to decarbonise and electrify due to their reliance on carbon-intensive processes. By replacing fossil fuels

with hydrogen, emissions can be significantly reduced, fostering a cleaner and more sustainable industrial sector. Hydrogen can also contribute to balancing the energy grid. Hydrogen fuel cells offer an alternative to battery-powered electric vehicles, particularly for heavy-duty applications like trucks, buses, and ships. By enabling emission-free transportation, hydrogen can play a crucial role in reducing the carbon footprint of the transportation sector.

## The potential of e-NG

At TES, we harness the properties of hydrogen and its derivatives to contribute to the green energy transition. TES is leading the way in the production of e-NG (electric natural gas), a sustainable synthetic methane that can seamlessly replace fossil molecules. e-NG is the combination of green hydrogen and recycled CO<sub>2</sub>. e-NG is identical to natural gas on a molecular level and blends easily into the existing energy mix without the need to adapt existing infrastructures, easing the transition process in hard-to-abate and hard-to-electrify sectors, thereby making it an attractive option for countries with well-established gas networks. As TES can generate it at scale, e-NG offers the fastest route to reducing emissions in the global energy system.

The potential applications of hydrogen derivatives such as synthetic methane or e-NG should not be underestimated. By utilising captured CO<sub>2</sub>, synthetic methane facilitates the recycling of CO<sub>2</sub> emissions, turning them into a valuable energy source rather than releasing them into the atmosphere. In this regard, a regulatory incentive by governments worldwide is needed to encourage and facilitate the deployment of Carbon Capture Usage and Storage (CCUS), as it is a vital component of reaching net-zero targets. Currently the deployment of CCUS is still in its infancy. Establishing a supportive regulatory framework is essential to build confidence with investors and



Marco Alverà, CEO of Tree Energy Solutions (TES)



TES is leading the way in the production of e-NG (electric natural gas), a sustainable synthetic methane that can seamlessly replace fossil molecules.

industry players in order to attract and boost investment. Governments must also design policies that encourage the usage of CO<sub>2</sub>, carbon pricing, as well as the production of green hydrogen and its derivatives.

The hydrogen industry is at a pivotal moment, and its success could significantly impact the global transition to a clean energy future. Hydrogen, along with its derivatives such as e-NG, plays a critical role in helping achieve global net-zero emissions targets. By harnessing the potential of hydrogen derivatives such as e-NG, we can accelerate the journey toward a truly sustainable energy landscape.



EXHIBITOR: HELMERICH & PAYNE STAND: 7340 HALL: 7

# A LEGACY OF PROVIDING PERFORMANCE-DRIVEN DRILLING SOLUTIONS AND SUSTAINABILITY BY DESIGN

In an exclusive interview with ADIPEC News, **John Lindsay**, President and CEO of Helmerich & Payne, talks about the opportunities for the industry brought about by the decarbonisation of the energy sector, the role of drilling contractors in the overall sustainability landscape, and why company culture is critical to the success of a clean energy future



John Lindsay, President and CEO of Helmerich & Payne

**A**lmost every aspect of modern life depends on energy – its availability and access to it. Ensuring the availability of efficient and responsible energy requires innovation and planning. Planning for the known as well as the unknown – taking calculated risks and anticipating future needs. H&P is rich in history and that history helps form how we work today. With more than 100 years of innovation under our belts, we are uniquely positioned to assist in the enablement of energy production in an efficient and responsible manner to the benefit of people across the globe.

We are committed to enacting positive change within our own operations and throughout the oil and gas value chain for our stakeholders, the communities in which we operate, and future generations to come. Hear from John Lindsay, Helmerich & Payne President and CEO:

**What are the opportunities for the industry brought about by the decarbonisation of the energy sector?**

We believe access to energy is fundamental to sustaining and improving the quality of all lives. At the same time, we are fortunate that our role in the energy value chain positions us to meaningfully impact the efficiency, safety, and environmental responsibility with which energy is sourced. This is particularly important as the world grapples with the effects of climate change. As such, we are wholeheartedly

committed to driving positive change, and we will continue to do so with the various levers at our disposal.

**How does company culture factor into H&P's sustainability mindset?**

We continuously strive to be better than the day before; it is part of our culture. Some contend that the term 'company culture' often gets overused and is overly popularised such that it starts to lose its meaning. It does not at H&P. Our deep-rooted foundational elements in 'Do the Right Thing' have served as a basis in our culture for more than 100 years.

**What part does a drilling contractor have to play in the overall sustainability landscape?**

As we move forward in becoming more transparent and better custodians, we appreciate more of what we can control, what we have influence over, and frankly what we cannot control. Given our place in the overall oil and gas value chain, we acknowledge the important part we play. Absent the drilling of wells, the entire oil and gas value chain would shut down. With that realisation, we are also aware of our ability to influence the efficiency, safety, and environmental impacts and will continue to utilise that influence to direct positive improvements in drilling a well. Additionally, I am gratified by the accomplishments we have made during the past year, but I am equally proud to see the core values that are instilled in the employees of H&P. These values not only reflect who we



Given our place in the overall oil and gas value chain, we acknowledge the important part we play. Absent the drilling of wells, the entire oil and gas value chain would shut down. With that realisation, we are also aware of our ability to influence the efficiency, safety, and environmental impacts.

are, but also how we interact with our stakeholders, including one another, our shareholders, our customers, our suppliers, and the communities in which we operate. On behalf of everyone at H&P, we remain committed to our core purpose of improving lives through efficient and responsible energy.

Visit ADIPEC to connect with the energy ecosystem and create unrivalled business opportunities.

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EXHIBITOR: PETROFAC STAND: 9210 HALL: 9

# ENERGY TRANSITION REPRESENTS A CLEAR OPPORTUNITY FOR INNOVATION AND VALUE CREATION

In an exclusive interview with ADIPEC News, **Elie Lahoud**, Chief Operating Officer for Petrofac's Engineering & Construction division, talks about how hydrocarbon asset owners are increasingly thinking about carbon intensity, why existing energy businesses are best placed to deliver on decarbonisation, and the company's plans to showcase its integrated approach to energy at ADIPEC

## How is your company focusing on the energy transition and helping the industry advance clean energy solutions?

Everything we do is related, in one way or another, to the energy transition. Our corporate purpose is to enable our clients to meet the world's evolving energy needs. And we are living that purpose every day in everything we do. In oil and gas, every asset owner is thinking about carbon intensity. The International Energy Agency estimates that oil and gas production, transport and processing account for 15% of the world's total energy-related emissions. For some facilities, these operational emissions can reach 40% of the full lifecycle emissions. So, there's huge scope to reduce the industry's carbon intensity before we even think about new energies. There are also many readymade solutions, like tackling methane emissions, eliminating non-emergency flaring, and electrifying upstream facilities. These are the sort of things we're working on with every client, either by retrofitting existing facilities or designing-in sustainability to planned ones. It's become central to what we do.

Then, there's our renewables and new energies business, which is substantial and increasing rapidly. In fact, the US\$14 billion Framework Agreement we signed with TenneT, which covers HVDC platforms and grid connections for a vast offshore wind grid expansion in the North Sea off the Netherlands, represents the largest in our 40-year history. We're also working on many first-of-a-kind hydrogen and carbon



**Elie Lahoud**, Chief Operating Officer, Petrofac Engineering & Construction

capture initiatives that have the potential to scale significantly – a great example from the MENA region is an early-stage feasibility study for a new green-hydrogen-to-ammonia facility for Mediterranean Energy Partners, which will use a mix of wind and solar power to produce 125,000 tonnes of green ammonia a year. Finally, there's the late-life asset management and decommissioning business, including prestigious new projects in Australia and the Gulf of Mexico. As the transition gathers pace, this market will only get bigger.

**In your view, what are the opportunities for the industry brought about by the decarbonisation of the energy sector?**



ADIPEC is where the world's energy industry meets. We see it as the biggest and most influential industry event in the world bar none... Also, it's the last chance for the industry to come together before COP28. And, when the world's attention falls on Dubai, I believe the region will have a strong story to tell. The fact is, MENA's resources are as well suited to new energies as they are to oil and gas.





I see it in simple, matter-of-fact terms. The world needs energy. With its wealth of relevant skills, the existing energy businesses are best placed to deliver it. And those countries with an established energy mindset are best placed to support them. Yes, of course, there will be challenges and difficult decisions along the way. But, at Petrofac, we believe the transition represents a clear opportunity for innovation, value creation, and differentiation.

**Could you elaborate on any innovation, projects or initiatives undertaken by your company that contribute to a lower carbon future?**

The most exciting and high-profile example is the TenneT agreement I mentioned. But, again, almost everything we do contributes to a lower carbon future. It's already deeply integrated into the way the business works. In addition, we have our own environmental targets. Our commitment to reaching net zero

by 2030 adds to our authority in the industry. It also forces us to develop and apply innovative approaches within our own business. The recent Gold Impact Seal award for delivering on our sustainability strategy in the UAE demonstrates our success.

**Ahead of COP28, how critical is the role of ADIPEC in accelerating collective industry action to decarbonise, faster, together and driving investments into the clean energies of the future?**

ADIPEC is where the world's energy industry meets. We see it as the biggest and most influential industry event in the world bar none, we've had a big presence for the last 20 years and, during that time, we've seen many significant industry developments catalysed here. Also, it's the last chance for the industry to come together before COP28. And, when the world's attention falls on Dubai, I believe the region will have a strong story to tell. The fact is, MENA's resources are as well suited to new energies as

they are to oil and gas. With intense sun, strong winds, a long coastline, and an energy mindset, the region is poised to be a strong player in new energies – and governments across the region are making ambitious climate commitments and putting enabling policies in place.

But that's just part of the story. Irrespective of the exact pace or nature of the energy transition, the world will continue to rely on oil and gas as part of an integrated energy mix for several more decades. And, increasingly, the onus will fall on this region to produce the necessary hydrocarbons at the lowest possible levels of intensity.

**What are the services and technologies that you are looking to showcase at ADIPEC this year?**

We'll be highlighting our wide range of services from concept through to decommissioning, and our capabilities across oil and gas, refining and petrochemicals, and new energies. We can work with clients on one aspect. Or we can develop a deeper relationship, spanning more of the asset lifecycle. And, the more integrated our approach, the more value we can bring - that's the one key message I hope to get across.

**What is your outlook on the global energy market in 2023-24?**

There's no doubt the industry is in an upcycle. Our recent new business record reflects this, with big wins as far afield as Abu Dhabi, Algeria, the Gulf of Thailand, Lithuania, Ivory Coast and the UKCS, and our bidding pipeline remains busy.

The challenge for the industry is the sudden change of gears, accommodating the growth and delivering with consistency. Fortunately, with such deep roots in the region and a delivery-focused culture, we're well-placed to succeed.

**ADIPEC convenes innovative thinkers, industry experts and political leaders to spark new financing opportunities and partnership frameworks that can accelerate a successful energy transition.**

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EXHIBITOR: SIEMENS ENERGY STAND: 3550 HALL: 3

# BUILDING RESILIENT ENERGY NETWORKS TO HANDLE THE DEMANDS OF THE FUTURE

In an exclusive interview with ADIPEC News, **Dietmar Siersdorfer**, Managing Director of Siemens Energy Middle East, explains how growing decarbonisation efforts are shifting the focus of power generation, why demand growth and climate change are two sides of the same coin, and what new technologies will drive the energy transition.

## What is your outlook for the energy sector and the energy transition in the coming years?

Global energy demand is growing rapidly, as access to electricity increases, raising living standards, and as industries expand to cater to the expanding needs for products, services, and new end-uses, such as electric vehicles. Electricity is forecast to grow by around 50% over the next 20 years. But demand growth and climate change are two sides of the same coin. We need to meet the rising demand for electricity around the world sustainably, affordably, and reliably.

As such, we are seeing a much greater push to decarbonise the energy sector, with more renewable energy projects, and efforts to digitalise and decarbonise traditionally carbon-intensive processes. Growing decarbonisation efforts are shifting the focus of both centralised and distributed power generation from conventional to renewables. Although this is a positive trend, the electricity sector still emits around 13 gigatons of carbon dioxide, accounting for over one-third of global energy-related CO<sub>2</sub> emissions.

Looking ahead, renewables, led by solar PV and wind, are forecast to dominate global capacity additions, accounting for 75-80% of all new capacity to 2050. Although this will have a positive impact on carbon emissions, this shift increases the burden on grids for reliability, stability, and affordability, requiring efficient and environmentally friendly products and systems.

The integration of wind and solar power, as well as other intermittent or distributed energy resources, but also of energy storage, into efficient and reliable power networks increases

grid complexity. Growth in demand for transmission technologies is driven by large-scale sector coupling, for instance, the increase of green hydrogen production in countries with cheap electricity from renewable sources.

Industry itself accounts for significant CO<sub>2</sub> emissions, from the transportation sector on land, sea and air and others. To decarbonise, renewable and green hydrogen-based E-fuels and chemicals like methanol will play a significant role. Increasing efficiency in existing grid assets, and their performance, through digitalisation, is vitally important.

## How is Siemens Energy focused on the energy transition?

With a global footprint and a portfolio of technologies and solutions that spans the entire energy value chain, Siemens Energy is well-positioned to shape the energy transition towards decarbonised energy technologies and to promptly react to customer needs worldwide. Unfortunately, we cannot all simply switch to a carbon-free world overnight. We need to take action now and adopt interim solutions, always with the overarching goal in mind: creating a reliable, affordable and CO<sub>2</sub>-free energy supply for all people.

Reduction of primary fossil energy demand is key. We can increase the efficiency of existing power plants. Modern, efficient gas technologies will play a fundamental role in delivering energy security whilst supporting the energy transition, by balancing the fluctuating supply of renewable energy and stabilizing electricity grids. Furthermore, gas turbines will be able to run on carbon-neutral hydrogen in the future. Our industrial gas turbines



Dietmar Siersdorfer, MD of Siemens Energy Middle East



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We cannot all simply switch to a carbon-free world overnight. We need to take action now and adopt interim solutions, with the overarching goal of creating a reliable, affordable and CO<sub>2</sub>-free energy supply for all.  
.....

can currently co-fire up to 60% of green hydrogen with modern dry low emission combustion systems and we're working to make this 100% by 2030. Across the Middle East, we are working with our partners to build resilient energy networks capable of handling the demands of the future. We're collaborating with partners to innovate new technologies that will drive the energy transition, and even helping countries develop road maps to support their green energy ambitions.

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EXHIBITOR: BAKER HUGHES STAND: 6230 HALL: 6

# TECHNOLOGY AND COLLABORATION: THE DRIVING FORCES OF THE ENERGY TRANSITION

By **Alessandro Bresciani**, Senior Vice President, Climate Technology Solutions, Baker Hughes

**D**espite positive progress in the energy transition and the fight against climate change, we confront many challenges to keep global temperature increases below 2 degrees of warming.

As the UN Secretary-General remarked after the release of the IPCC's latest synthesis report, we need an "everything, everywhere, all at once" approach to reach net zero. At Baker Hughes, we believe that if we work together in partnership to accelerate the deployment of technologies that are available today, we can achieve a reliable, efficient and net-zero energy system for the future.

As an energy technology company, we have always taken a portfolio approach to climate technology solutions. We recognise that there is no single solution but rather an ecosystem of technologies that must be harnessed and tailored to help make energy cleaner and more efficient.

While much of this technology is new to our customers, it is not new to us. We built our first hydrogen compressor in the 1910s and now have over 5,000 installed worldwide, and we've been involved with CCUS projects for more than a decade. We're harnessing our long-standing expertise to deliver many significant projects around the world, spanning technologies from carbon capture, utilisation & storage (CCUS), to hydrogen, emissions measurement and abatement, and clean power systems.

To mention a few, Petronas' Kasawari project in Malaysia is expected to be the world's largest offshore CCS facility, able to sequester 3.3 MTPA of CO<sub>2</sub>. And we're continuing to work with Air Products to also support its \$4.5 billion Louisiana Clean Energy Complex, which will create hydrogen by using

CCS technology to capture 95 per cent of the carbon emissions from the plant. Our work with Snam, one of Europe's largest gas transmission and storage operators, will help it adopt hydrogen blended with natural gas into its existing transmission infrastructure thanks to our NovaLT hydrogen-ready turbine technology.

We're also playing our part to invest and grow new decarbonization technologies to commercial scale. In the past few years, we've made several investments across graphene, methane pyrolysis, CCUS and next-generation electrolysis spaces. In fact, in 2022 we invested more than \$556 million in R&D.

However, we're not doing it alone. We firmly believe that there is no pathway to net zero without partnership and collaboration. The good news is that the industry has shown an increased willingness for, and even a demand for, new levels of collaboration through partnerships and alliances, bringing us closer to our shared goal.

Indeed, in May we secured an agreement with ADNOC to accelerate the development and commercialisation of technology solutions for green and low-carbon hydrogen, as well as graphene.

In March we also announced a collaboration with HIF Global, a leading e-fuels company, on the development of technology to capture carbon dioxide directly from the atmosphere (CO<sub>2</sub> Direct Air Capture or DAC). More specifically, HIF Global and Baker Hughes intend to test Baker Hughes' Mosaic DAC technology pilot units to accelerate DAC deployment at commercial scale. We also continue to partner with NET Power, where we are applying our advanced technical capability to develop supercritical



**Alessandro Bresciani**, Senior Vice President, Climate Technology Solutions, Baker Hughes

CO<sub>2</sub> turboexpanders and other critical pumping and compression technology for NET Power zero-emissions power plants.

Broader collaboration on major issues, such as through the OGCI's Aiming for Zero Methane Emissions Initiative, of which we are a supporter, are equally important. Methane is one of the most harmful forms of emissions — approximately 80 times more potent than carbon dioxide over a 20-year period. Cutting methane emissions is predicted to be the quickest way we can slow the rate of global warming.

However, the success of our decarbonisation ambitions cannot rest solely with the providers of solutions and their ability to collaborate. The role of public policy is critical in helping overcome barriers. To advance policy discussions, as an industry, we must look to engage policymakers to ensure governments make decisions based on the best available facts and data, that will ultimately help to deliver the most cost-effective and sustainable pathway to reach net zero.

With the UAE hosting COP28, this year's ADIPEC will play a more critical role than ever before in accelerating action to decarbonise and deliver energy transitions across the world. Platforms such as ADIPEC and COP28 help to deliver opportunities to evolve these collaborative approaches and engage policymakers, bringing the world closer to realising clean energy solutions and opportunities.





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Just as businesses are moving from procuring green power on an annual basis to 24x7 green power, the hydrogen industry must do the same as a greener grid makes such a policy possible. But in the meantime, we must not strangle a necessary industry by letting the perfect get in the way of the good.

**Samantha Gross**

Director – Energy Security and Climate Initiative & Fellow, Foreign Policy, Brookings Institution





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# HYDROGEN IS PART OF OUR FUTURE – LET’S GET STARTED

By **Samantha Gross**, Director – Energy Security and Climate Initiative & Fellow, Foreign Policy, Brookings Institution

**H**ydrogen can be a key component of the world’s goal of achieving net-zero greenhouse gas emissions by 2050. However, we must keep in mind what hydrogen is as we think about where it makes sense in our changing energy system.

Hydrogen is not a fuel like oil, coal, or natural gas. Instead, it is an energy carrier like electricity, made from other forms of energy. The advantage of hydrogen is that it has many of the useful properties of a fuel. It can be burned to produce high heat for industrial processes. Hydrogen can be stored and shipped via pipelines or ships, sometimes in the form of hydrogen carriers like ammonia since hydrogen molecules are tiny and difficult to handle. Hydrogen carriers have a higher energy density than electricity stored in a battery, making them suitable for long-distance transport like marine shipping. Hydrogen can serve as a decarbonisation pathway when certain properties of fossil fuels are necessary and other pathways don’t work or are prohibitively expensive.

Today, most hydrogen is made from natural gas, splitting the methane atom to produce hydrogen and carbon dioxide as a waste product. Future hopes for hydrogen lie in splitting water atoms using electrolysis instead, producing hydrogen along with oxygen instead of carbon dioxide. To be zero carbon, carbon dioxide associated with the process must be captured or electrolysis must use zero-carbon electricity.

The facts of zero-carbon hydrogen seem relatively straightforward, but the politics and understanding around developing the hydrogen economy are not. I’m frequently asked if hydrogen is the fuel of the future, and generally begin the discussion by stating that hydrogen isn’t even a fuel. In applications where electricity can be used directly, it should be. The extra



Insisting on pairing renewable generation with hydrogen production on an hourly basis is likely to strangle the nascent clean hydrogen industry. To produce hydrogen efficiently at low cost, electrolyzers need to run constantly, a constraint at odds with pairing them directly with intermittent renewable generation.

step of transforming electricity into hydrogen makes no sense in such applications, since transformation always involves energy losses. (The laws of thermodynamics have not been repealed for the energy transition.) Hydrogen only makes sense when you need its special qualities and electricity won’t do.

Additional policy arguments centre about how to get the new industry off the ground. To be truly green, you want hydrogen produced via electrolysis to use carbon-free electricity all the time. But practically, such projects are unlikely to be paired directly with renewable projects and operate only when those projects are generating electricity. Running hydrogen generation that way would be prohibitively expensive and fail to take advantage of the fact that renewable energy works best when it is spread across geography; when it isn’t windy and sunny in one place, it may be in another. In the future, producing

hydrogen from a zero-carbon grid makes sense, but how do we get from here to there? This argument is raging in both the United States and Europe. Insisting on pairing renewable generation with hydrogen production on an hourly basis is likely to strangle the nascent clean hydrogen industry. To produce hydrogen efficiently at low cost, electrolyzers need to run constantly, a constraint at odds with pairing them directly with intermittent renewable generation. For now, ensuring that enough new zero-carbon generation is added to the grid to cover demand from hydrogen production can help the industry get off the ground. This challenge is analogous to many businesses today that purchase credits for enough renewable power to cover their overall demand. These practices, both from hydrogen production and other businesses, increase demand for renewable power, a noble goal when the US grid is still 60% fossil-powered and the EU grid is at about 40% fossil. This constraint should be tightened over time to ensure that green hydrogen is truly zero-carbon. Just as businesses are moving from procuring green power on an annual basis to 24-7 green power, the hydrogen industry must do the same as a greener grid makes such a policy possible. But in the meantime, we must not strangle a necessary industry by letting the perfect get in the way of the good.

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EXHIBITOR: EMERSON STAND: 14330 HALL: 14

# DIGITALISATION A STRONG CATALYST FOR DECARBONISATION

In an exclusive interview with **ADIPEC News**, **Mathias Schinzel**, President, Middle East & Africa at **Emerson**, shares his views on the evolving priorities of the energy industry and the role of digitalisation in accelerating sustainability and decarbonisation

## How are the current macro dynamics around energy security and operational resilience playing out against the need to transition to a sustainable, lower carbon future?

In the current market environment, the energy industry is balancing three critical objectives – ensuring global energy security in the short term, operational resilience and the need to transition towards a sustainable future. There is a global consensus that fossil fuels will continue to be a part of the energy mix in the medium to long term, even as renewables become a greater part of the energy mix. Considering this, industrial operators are looking at opportunities in their operations that can both support operational performance and progress on sustainability.

## What is the role of digitalisation in accelerating sustainability and decarbonisation, and how is Emerson contributing to that?

Digitalisation is a strong catalyst and can add a lot of momentum to an industrial operator's sustainability and decarbonisation journeys. If we look at the journey around emissions reduction, a digitalised approach can support emissions monitoring as well as prevention – point monitoring for relief valves can provide operators visibility around previously blind devices – monitoring these at scale provides operators with analytics and dashboards that can provide real-time insight into relief valve discharges as well as estimated production losses. Similarly, digitalisation via intelligent measurements can help operators create AI/ML based models of targeted processes based on variables such as pressure, temperature, and flow along with the process layout – these Predictive Emissions Monitoring Systems help operators arrive at a predicted value for most emissions and

pollutants for these processes. As we shift our focus to industrial energy consumption, we realise that as much as 67% of industrial energy is lost due to inefficiencies before reaching its intended purpose – through fouling in heat exchangers, poor combustion control, leaking compressed air systems or steam trap failures. A digitalisation approach that focuses on the monitoring of steam systems to identify early leaks, targeted monitoring of compressors and compressed air systems to improve efficiency, and the deployment of advanced process control and AI/ML approaches to optimise steam consumption has the potential to reduce energy consumption by as much as 15%.

This is quite significant, considering that industrial energy accounts for between 30% and 50% of the operating spend for a typical downstream operation. Emerson's advanced process control technology has been successfully deployed by a large Middle East based petrochemicals producer to reduce energy related emissions by as much as 100,000MT of CO<sub>2</sub> equivalent annually. Another focus area is carbon capture, which is a viable decarbonisation approach especially in Enhanced Oil Recovery operations, where CO<sub>2</sub> is injected back into reservoirs to improve hydrocarbon flow rates.

## Could you give us an insight into Emerson's strategic partnerships and knowledge sharing that are shaping the industry landscape?

Emerson has formed several strategic partnerships that underline our commitment to working with industry and regulatory stakeholders towards sustainability. Over the years, we have forged strong partnerships with the UAE Ministry of Climate Change and Environment (MOCCA). Emerson



**Mathias Schinzel**, President, Middle East & Africa at Emerson

has been one of the first companies to sign the UAE Climate-Responsible Companies Pledge, affirming our commitment to sustainable practices, and we routinely participate and lead the National Dialogues for Climate Ambition, which brings a cross sectoral group of companies together focusing on specific action areas around sustainability. In the run up to COP28, we have joined the Global Decarbonisation Alliance under the COP28 presidency, as well as the CSO Regional Network under the stewardship of ADNOC.

## How important is it for your company to be at ADIPEC as an exhibitor, and what are you particularly looking forward to this year?

ADIPEC offers a significant platform for industry leaders, it provides opportunities for networking with professionals and decision-makers, fostering new business connections, partnerships, and collaborations. The event delivers valuable industry insights through conference sessions and technical presentations, keeping participants updated on the latest trends, technologies, and innovations – whatever we do at ADIPEC is visible at a global scale, and the reach to our target audience is beyond the region. Our technology exhibit gets a lot of attention every year but the impact is beyond the technology exhibit – we have a strong participation across the various strategic conferences through panels and being members of the technical and executive committees, and shape the event by sharing global best practices and experiences from our work with customers all over the world.





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EXHIBITOR: KENT STAND: 8230 HALL: 8

# NEW TECHNOLOGIES TO DECARBONISE ENERGY PRODUCTION IN THE MIDDLE EAST

By **Tush Doshi**, Chief Operating Officer, Kent

A successful energy transition will end with the global energy supply being predominantly sourced from commodities other than coal and hydrocarbons. But given that it has taken us well over 100 years of oil and gas to get to where we are today, making that shift is going to take time and money.

The Middle East is known for its significant oil and gas reserves, which have been the backbone of its energy production and export. However, many Middle Eastern countries have also been actively investing in and developing clean energy initiatives with a view to becoming global leaders in renewable energy. In the past year, the UAE has announced plans to triple its renewable energy sources with a \$54 billion investment (Bloomberg, 2023) and Saudi Arabia have announced plans to invest around \$266 billion into clean energy (Reuters, 2023) – both citing the intention to introduce clean hydrogen into their energy mix.

## Decarbonising conventional energy

Historically, oil and gas have been the primary source of revenue and energy for many countries in the region. However, continued reliance on fossil fuels contributes significantly to greenhouse gas emissions and climate change. Reducing emissions in these fossil fuel-rich countries can be challenging, as it requires a careful balancing act between transitioning to cleaner energy sources and managing their economic dependencies on oil and gas exports.

At Kent, we've been helping oil and gas operators assess and reduce their greenhouse gas emissions by providing a clear cost/benefit analysis of various emission reduction options using our award-winning Carbon Intensity Reduction Tool.

Drawing upon our extensive expertise

in asset planning, brownfield modifications, and asset life extension, using the Kent Carbon Intensity Reduction Tool, we can accurately simulate and assess the impact of operational and physical modifications on an asset's emissions and production. By providing a detailed offline evaluation, we offer a safe and comprehensive environment to explore different scenarios and fine-tune emissions reduction strategies. By evaluating these options based on technical and economic criteria, we prioritise and rank them, ensuring a holistic approach to achieving sustainability goals thus enabling our clients to make well-informed investment decisions for life-of-asset. Thanks to its effectiveness, our Carbon Intensity Reduction Tool has also become a crucial component of our concept and select studies. Developing roadmaps that allow clients to monitor their emission reductions in a step-by-step approach, we are helping them identify a timeline of events for creating a comprehensive plan.

## Opportunities for new energy

The Middle East is prime for developing a clean hydrogen value chain, something these countries have recognised and committed to investing in. However, implementing effective and economically viable low carbon projects like hydrogen can be challenging due to unique production methods and associated complexities. Evaluating an even growing supply of new technologies, lack of infrastructure and scalability are a few of the hurdles to overcome to unlock the full potential of hydrogen as a clean energy carrier. Abundant renewable resources, lower cost of production, strategic location for export, economic diversification, and energy transition goals in this region make hydrogen production an attractive



Tush Doshi, Chief Operating Officer, Kent



Abundant renewable resources, lower cost of production, strategic location for export, economic diversification, and energy transition goals in this region make hydrogen production an attractive option.

option. Early signs of collaboration can already be seen with the Green Hydrogen Company at NEOM in Saudi Arabia planning to supply clean hydrogen to European buyers. At Kent, Hydrogen is not a new concept. We have been working with hydrogen on a large scale for over 50 years, gaining valuable insights into its production, handling, and use. We are using that experience to evaluate and recommend the latest technologies, pioneer new concepts, help clients gain permitting and financial decisions, and design end-to-end project solutions that drive the development of the clean energy solutions our world needs. Our deep knowledge of technologies and industrial processes gives us authority to produce bankable engineering packages and deliver low carbon projects safely, on time and to quality.



EXHIBITOR: SIEMENS STAND: 14130 HALL: 14

# SUPPORTING THE ENERGY TRANSITION WITH A CALM APPROACH

**John Nixon**, Vice President Global Strategy - Energy, Chemicals and Infrastructure, Siemens, speaks to ADIPEC News about the decarbonisation of the energy sector, the capabilities needed for clean energy solutions, and how to accelerate digital transformation easier, faster and at scale.



**John Nixon**, Vice President Global Strategy - Energy, Chemicals and Infrastructure, Siemens

**How is your company focusing on the energy transition and helping advance clean energy solutions?**

Siemens is excited to support the energy transition our industry is experiencing. The means for generating, transporting, storing, distributing and consuming energy is changing, and with it digitalisation is evolving to support this transformation. Areas such as equipment design exploration supported by AI, model based financial optimisation with physics informed digital twins and visual navigation of the increasing complexity of infrastructure are three areas we are focusing on. Clean energy solutions such as hydrogen, carbon capture, renewables, energy efficiency tech and small modular reactors require capabilities that Siemens is uniquely positioned to provide with a long history in the energy industry combined with our continuous investment and evolution of digital solutions.

**What are the opportunities for the industry brought about by the decarbonisation of the energy sector?**

Decarbonisation of the energy sector drives a rethink across the entire industry value chain, yielding many opportunities. The industry will look at how to not only eliminate carbon emissions, but also how to eliminate solid waste generation during construction, how to enhance the asset integrity of clean energy assets to improve reliability and ROI, and how to challenge our next generation of engineers to rethink how to decarbonise every aspect of global supply chains. Even oil & gas, providing much needed petrochemical inputs for clean tech materials, must decarbonise to minimise impact and maximise value.

**Could you elaborate on any innovation, projects or initiatives**

**undertaken by your company that contributes to a lower carbon future?**

At Siemens Digital Industries Software, I focus on the energy industry, where we are driving Capital Asset Lifecycle Management (aka CALM). This brings a manufacturing mindset to asset heavy industries such as oil, gas, chemicals, renewable power, nuclear, and infrastructure. Right now, there is roughly \$13 trillion in capital investment globally in these industries over the next five years with more than \$4 trillion of that in clean tech.

Global clean tech capital projects, the multi trillion-dollar portfolio of investments we are making for future generations, must perform, on time, on budget, with solid asset integrity, and continuous optimisation. Our CALM initiative now provides the level of scrutiny throughout design, fabrication, construction, commissioning, and maintenance, needed to effectively create the complex digital twin enterprises; engineering, work and installation breakdown structures that yield an unprecedented plant breakdown structure that serves as the foundation the AI investments of both today and the future will require.

**Ahead of COP28, how critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster together?**

How do we support our transformation from legacy fossil to future clean tech? How do we keep the “lights on” for consumers and the “energy” for the supply chain flowing while we meet our agreed targets? ADIPEC is crucial to answering these questions. ADIPEC is the forum to exchange best practices and innovations for oil & gas as foundational to the complete energy landscape. COP28 is a holistic discussion on our global climate impact



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 .....

and ADIPEC addresses areas we must shine a light on for the continuously improving use of hydrocarbons.

**What are the services and technologies that you are looking to showcase at ADIPEC this year?**

At Siemens, our clear aim is to facilitate co-creation and collaboration between partners, customers, developers. Our single open digital business platform, Siemens Xcelerator, enables customers to accelerate their digital transformation easier, faster and at scale. We approach the challenges of digitalisation with three pillars: a curated portfolio of connected hardware and software, a powerful ecosystem of partners, and an extensive marketplace. We encourage all ADIPEC visitors to visit our booth in the Digitalisation Zone, to discover how we can help transform your business.

EXHIBITOR: GS ENERGY STAND: 3450 HALL: 3

# EXPLORING NEW ENERGY SOURCES FOR A SUSTAINABLE FUTURE

Ahead of **ADIPEC 2023**, **Hyong Loh Jin**, **Senior Vice President** of **GS Energy**, talks about how the company is building a new business foundation to meet sustainable growth demands and lead in the clean hydrogen economy

**T**hrough expansion into new eco-friendly businesses, **GS Energy is creating synergy along with its existing business portfolio which includes electric power district heating, LNG, and E&P.** Within business fields such as green power generation, clean hydrogen, power solutions, and circulating resources, we are building a new business foundation that can respond to changes in the energy market and sustainable growth demands. GS Energy is continuously trying to discover energy sources and new energy businesses which incorporate various new technologies that can contribute to a green sustainable future. By doing so, GS Energy is leading the domestic energy industry and is striving to lead the overseas market as well. As a responsible energy company that is preemptively responding to climate change, we will make aggressive efforts to achieve carbon neutrality by diversifying our business portfolio. Now that the energy paradigm is set to change, GS Energy is relentlessly exploring new energy businesses that display various technical expertise, such as renewables. We've especially been putting emphasis on the business models of our six new businesses, renewable energy, hydrogen, SMRs (small modular reactors), VPPs (virtual power plants), EV charging and battery recycling. Our priority is to develop growth strategies and action plans regarding these new businesses. Throughout our path to achieving carbon neutrality, we will not settle for the current state and continuously challenge ourselves to discover sustainable sources of energy that will contribute to creating a better future for society and the environment.

## 1. Expanding the company's green power generation portfolio

In order to successfully implement environment management, GS Energy has targeted large-scale solar and wind power generation in Korea as one of its future growth engines. We are pushing ahead with a 160 MW solar power generation project in Dangjin, Chungcheongnam-do, which will begin commercial operation in 2025. In June 2021, the company signed a business agreement with Iberdrola, the world's second largest renewable energy company, thereby establishing a foothold for entering the global renewable energy market, beyond Asia. We also signed an investment contract with NuScale of the US, a SMR technology developer, to preemptively get involved with the development of next-generation technology, therefore aligning our company with future potential markets.

## 2. Leading the infrastructure restructuring of the clean hydrogen economy

Initiated with the eco-friendly blue ammonia development project (annual production target of 1million tons) of ADNOC, GS Energy is reviewing participation in more projects aimed at securing a continuous supply of clean hydrogen and ammonia overseas. In addition, we are pushing ahead with the construction of infrastructure which allows imported clean hydrogen and ammonia to be stably supplied to end users. Other efforts include exploring various business models that utilise CCUS (carbon capture, utilization, and storage) as a means to reduce greenhouse gas emissions.

## 3. Leading the smart electric power solutions market

GS Energy is making a foray into EV



**Hyong Loh Jin**, Senior Vice President of GS Energy

charging infrastructure installation and charge point operation business, which is essential to the electric vehicle (EV) ecosystem. It currently operates over 40,000 EV chargers, making the company the market leader within the domestic Level1/2 AC charger market. Furthermore, we are continuously putting effort into laying the foundation for a VPP (virtual power plant) business, whereby surplus power is collected from distributed energy sources such as PV (photovoltaic), DR (demand resource), and ESS (energy storage system). The collected energy is subsequently supplied to an end user requiring electricity, based on real-time data collection and analysis.

## 4. Creating a closed-loop circular economy for resources

GS Energy is exploring business opportunities correlated to EV battery recycling. To elaborate we are currently developing a BaaS business model (diagnosis and evaluation of battery condition) for EVs. Against this backdrop, our expansion into the battery recycling business will contribute to the creation of a closed-loop circular economy for batteries. In order to implement the secondary battery recycling business, which extracts lithium, nickel, cobalt, manganese, etc. from disposed batteries of electric vehicles and supplies them back as cathode materials, POSCO GS Eco-Materials, a joint venture (JV) with POSCO, was formed in December 2022 to establish a closed-loop for the recycling business.



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EXHIBITOR: PTTEP STAND: CN51 HALL: CONCOURSE

# CHARTING A PATH TO A GREENER FUTURE: PTTEP'S AMBITIOUS PURSUIT OF NET ZERO GREENHOUSE GAS EMISSIONS

**P**TT Exploration and Production Public Company Limited or PTTEP recognises the importance of balancing aspects of business, society, and the environment. As part of this, PTTEP plays a part in managing greenhouse gas emissions and solving global warming issues. The effort is in line with global action on climate change and Thailand's commitment to the UN Climate Change Conference of the Parties (COP26) in Glasgow, where Thailand agreed to reach carbon neutrality in 2050 and Net Zero Greenhouse Gas Emissions in 2065.

PTTEP has set an ambitious target to reach Net Zero Greenhouse Gas Emissions by 2050, guided by its EP Net Zero 2050 concept. This goal encompasses both direct emissions (Scope 1) and indirect emissions (Scope 2) from its exploration and production activities. To realise this vision, PTTEP has established interim targets to reduce greenhouse gas emission intensity by at least 30% by 2030 and 50% by 2040 (in comparison to the base year of 2020).

Under the EP Net Zero concept, PTTEP has devised comprehensive plans: The "E" in EP Net Zero represents PTTEP's commitment to Exploring for Lower Carbon E&P Portfolio. PTTEP is actively transforming its operations to become a lower-carbon organisation. Investment decisions will prioritise natural gas projects and reduce greenhouse gas intensity. While "P" signifies PTTEP's commitment via Production and Planet in Balance in which the company is introducing several initiatives to minimise greenhouse gas emissions throughout the production process.

To this end, PTTEP is implementing a Zero Routine Flare initiative for new projects and employing innovative solutions to recover



PTTEP has set an ambitious target to reach Net Zero Greenhouse Gas Emissions by 2050, guided by its EP Net Zero 2050 concept.

and utilise flare gas. PTTEP is pioneering Carbon Capture and Storage (CCS) technology, capturing, and permanently storing carbon in underground geological formations located in the Gulf of Thailand and Malaysia. These initiatives will mark a significant milestone for Thailand and the region. PTTEP is also studying Carbon

Capture and Utilisation (CCU) technology, which can potentially convert CO2 into value-added products or future materials. Furthermore, PTTEP is prioritising the use of renewable energy sources such as solar and wind power and exploring emerging energy alternatives like hydrogen for its operational sites.

As well as its unwavering commitment to offsetting emissions, PTTEP is implementing reforestation efforts for forests and mangroves. By increasing the natural carbon sink, PTTEP aims to increase its capacity to absorb more than 2 million metric tonnes of CO2 by 2050. The company's Ocean for Life projects will be conducted in parallel to improve the abundance of biodiversity and marine ecosystems as healthy oceans and coastal ecosystems are efficient sources of carbon sinks.



EXHIBITOR: SCHNEIDER ELECTRIC STAND: 4250 HALL: 4

# UNLOCKING OPPORTUNITIES TO SPEED UP DECARBONISATION

In an interview with ADIPEC News, **Ronan Trégouët**, Vice President, Energies and Chemicals for Middle East, Schneider Electric, shares his views on an inclusive energy transition and ADIPEC's key role at the heart of the industry's decarbonisation agenda

**How is your company focusing on the energy transition and helping advance clean energy solutions?**

Schneider Electric is committed to an inclusive energy transition. Our focus lies in advancing our technology portfolio to expedite energy transition, emphasising green electrification and decarbonisation across all energy sources.

Our primary goal is the shift to green electrification by leveraging alternative and clean energy sources such as solar energy, among others, especially since a single power source is not sufficient. We work with the Energies and Chemicals industry on decarbonisation, guiding them through plans to reduce Scope 1 and 2 emissions through energy-efficiency technology. We empower them with data-driven decision-making for risk reduction, improved operational performance, and optimised production across projects and assets.

**In your view, what are the opportunities brought about by the decarbonisation of energy?**

Decarbonisation requires innovation and technological advancements. The scale is simply not possible without intelligent digital products and smarter software to monitor consumption. Businesses that strategically position themselves within this transition stand to gain numerous opportunities for long-term success. Unlocking opportunities that deliver additional efficiency gains is a goal for most companies. According to a Schneider Electric-commissioned global research on the demand side of the energy transition, only 31% of organisations currently push electrification as a way to decarbonise operations.

This will change when all companies

adopt and embrace sustainability as a business imperative. Energy systems are shifting from linear fossil fuel supply-and-demand to a cleaner energy supply with increasing renewables and prosumers feeding a bi-directional, flexible grid.

**Could you elaborate on any innovation, projects or initiatives undertaken by your company that contributes to a lower carbon future?**

We have a clear goal of achieving net zero emissions by 2030 and extending this to our suppliers and customers by 2050 to tackle Scope 3 emissions upstream and downstream.

We launched the Zero Carbon Project (ZCP) that aimed at partnering with our top 1,000 suppliers which represent 70% of Schneider's upstream carbon emissions, with the goal of reducing suppliers' carbon footprint by 50% by 2025. Additionally, and as an impact company, we focus on supporting decarbonisation projects and technologies that are aligned with our customers' journey.

**Ahead of COP28, how critical is the role of ADIPEC in accelerating collective industry action to decarbonise faster together?**

ADIPEC is a key platform for the energy industry. It convenes industry professionals, experts, stakeholders, and companies to gather, share knowledge, showcase technologies, discuss trends, and network. ADIPEC unites a comprehensive network of partners with a shared objective that benefits society at large.

As the Energy and Chemicals sector gains momentum as an important fixture within the energy mix, platforms such as ADIPEC are crucial to build links within the ecosystem. Schneider Electric is



**Ronan Trégouët**, Vice President, Energies and Chemicals for Middle East, Schneider Electric



Unlocking opportunities that deliver additional efficiency gains is a goal for most companies. According to a Schneider Electric-commissioned global research, only 31% of organisations currently push electrification as a way to decarbonise operations.

pleased to be here and be part of the industry's decarbonisation agenda.

**What are the services and technologies that you are looking to showcase at ADIPEC this year?**

At ADIPEC this year, Schneider Electric will launch a unique carbon traceability, reporting and advisory solution integrated with real-time process control. This solution can help improve transparency while minimising Capex and optimising Opex. This year we are aiming to show our new integrated, tailored, cybersecure end-to-end solutions for power management, distribution, and process automation. We will also be showcasing how advanced, digital technologies, like our IoT-enabled EcoStruxure platform optimises the energy and process solutions scope and facilitates 100% decarbonisation of operations.

## THOUGHT LEADERSHIP

# IPIECA HELPS THE INDUSTRY ADVANCE CLEAN ENERGY SOLUTIONS

 By **Brian Sullivan**, Ipieca Executive Director

**The major challenges faced by the world's population are dependent on an orderly and just energy transition. The world's relationship with energy is a key enabler to address climate change and to achieve sustainable development.**

The oil and gas industry has a significant role to play and the organisation I lead - the global oil and gas association for advancing environmental and social performance across the energy transition - is here to help.

The transition needs to help the world to achieve its goals to reach net-zero emissions while also providing access to secure, affordable, modern energy to all, ensuring the opportunities of sustainable development are available to all parts of society, everywhere. These goals are articulated through agreements reached at the UN...the Paris Agreement and the 2030 Agenda for Sustainable Development. As the industry's interface with the UN on environmental and social issues, Ipieca supports these agreements and they are enshrined in the Ipieca Principles; a condition of membership.

The transition requires management of both future energy systems and the current energy mix. The oil and gas industry has a role to play in this to reduce operational emissions associated with production and supply; and to support reduction in emissions associated with energy use. Energy transition features strongly in Ipieca's strategy as part of our vision and through key elements of our work programme.

Operational emissions have been a focus for the industry for some time. Key opportunities are centred on energy consumption by the industry, through increased energy efficiency and electrification; through eliminating routine flaring and eradicating methane leakage. Over recent years, an increasing number of companies

have made public their aims to achieve net-zero emissions. Companies and countries have signed up for the World Bank's Zero Routine Flaring by 2030 initiative, and the recently launched Aiming for Zero Methane Emissions initiative, led by the Oil and Gas Climate Initiative (OGCI), is gaining momentum. Ipieca supports this by providing a forum for members to share knowledge and good practice. Within our Climate Change Group, we have work programmes sharing and promoting good practice and developing guidance for the whole industry on net-zero targets; energy efficiency; methane emissions; and flaring. We work with a number of partner organisations on this such as the World Bank's Global Gas Flaring Reduction Partnership, OGCI, and the International Association of Oil and Gas Producers.

Moving beyond operational emissions, the industry is actively pursuing scale up of technologies to address emissions associated with energy consumption. Ipieca members are investing in technologies such as CCUS, direct air capture, natural climate solutions, low-carbon energy technologies and renewable energy, for their use, but also as new business models. Ipieca companies are planning to add over 200 GW of renewable energy capacity by 2030. Despite these being relatively new technologies at scale, the oil and gas industry has a huge wealth of relevant knowledge, skills and expertise that can contribute to their sustainable scale up. Its experience and knowledge also extends to ensuring that as carbon sequestration technologies and low-carbon energy sources scale, they are underpinned by the highest environmental and social practices. Regardless of where they are and their role in the transition, projects still need comprehensive environmental, social and health impact assessments and



Brian Sullivan, Ipieca Executive Director

action planning to minimise, mitigate and offset negative impacts. Ipieca has produced a compendium mapping our library of good practice guidance to a range of energy technologies and we have current workstreams looking at environmental and social good practice tailored to renewable energy scale up. Finally, it is vital the transition to a lower-carbon world is just and fair for workforces, communities and consumers. This will require collaboration between governments, employers, businesses, unions, communities, civil society, UN agencies and other international organisations. A just transition will need to address impacts on those who currently depend on the oil and gas industry for jobs and energy, or benefit from its social investments. It will also need to address the impacts of new types of business, promote long-term opportunities for decent work and sustainable livelihoods and make lower-carbon energy affordable and reliable for developing nations as well as developed countries. Ipieca, our members and our partners are working hard to support these aims.

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EXHIBITOR: DNV STAND: 9157 HALL: 9

# UAE MARITIME DECARBONISATION CENTRE PIONEERS A GREENER MARITIME FUTURE IN THE MIDDLE EAST

By **Benjamin Dineshkar**, Head of Advisory Middle East & Africa, DNV Maritime and **Ian Edwards**, Area Manager, Middle East & Africa, DNV Maritime

**A**s the world confronts the ever-pressing challenge of climate change, the maritime industry stands at the forefront of efforts to reduce greenhouse gas emissions. Acknowledging the urgency to combat global warming, the UAE Ministry of Energy and Infrastructure has recently joined forces with DNV to establish a UAE Maritime Decarbonization Centre. The initiative aims to spearhead the decarbonisation agenda in the maritime sector. Considering the recent Marine Environment Protection Committee 80 (MEPC80) discussions, the UAE Maritime Decarbonization Centre will play a key role in achieving the decarbonisation goals of the region and beyond.

## MEPC80 and global maritime decarbonisation efforts

The International Maritime Organization's (IMO) MEPC has emerged as a crucial platform for international collaboration to drive environmental sustainability in the shipping industry. During the latest MEPC80 session, member states, industry stakeholders and environmental advocates deliberated on ambitious measures to decarbonise the sector. The UAE, a significant player in the global maritime industry, took centre stage in the discussions, pledging its commitment to further decarbonisation efforts. Recently, the UAE Ministry of Energy and Infrastructure partnered with DNV to capitalise on the classification society's maritime sustainability expertise, creating the UAE Maritime Decarbonization Centre. This collaborative venture demonstrates the UAE's commitment to leading and driving sustainability initiatives in the region and globally. The Centre aims to act as a focal point for nurturing research, innovation, joint industry projects and knowledge exchange, related to the maritime



**Benjamin Dineshkar**  
Head of Advisory Middle East & Africa

sector's decarbonisation. Its strategic location in the Middle East grants it a unique advantage, considering the region's significant maritime activities, including extensive shipping routes and busy ports. By leveraging the Centre's expertise, the UAE intends to promote adopting clean energy solutions, cutting-edge technologies, and best practices to tackle emissions reduction head-on.

## Advancing decarbonisation

Establishing the UAE Maritime Decarbonization Centre signals a turning point in the Middle East's efforts to curb maritime emissions. While the region is a vital hub for international shipping, it has also faced criticism for its high carbon footprint in the industry. With this initiative, the UAE aims to drive change, setting an example for neighbouring countries and fostering regional cooperation to collectively address the decarbonisation challenge. The Middle East's unique energy landscape also presents opportunities for innovative decarbonisation solutions. As a major oil and gas-producing region, the Middle East can explore the potential of renewable fuels, hydrogen, and other low-carbon alternatives to power ships. The Centre is expected to catalyse research in these areas, offering a sustainable transformation pathway for the maritime sector.



**Ian Edwards**  
Area Manager, Middle East & Africa, DNV Maritime

## Global decarbonisation strategy

The successful implementation of the UAE Maritime Decarbonization Centre's mission hinges on robust collaboration among various stakeholders, including governments, shipping companies, port operators, and research institutions. Industry players must come together to share knowledge, best practices, and resources to expedite the adoption of sustainable technologies. One key aspect is the development of international regulations that promote decarbonisation uniformly across borders. MEPC80, with its discussions on ambitious greenhouse gas reduction targets, provides an opportunity to establish a global framework for the maritime industry. Through the UAE Maritime Decarbonization Centre, the UAE can actively contribute to these dialogues.

Discover innovations in technology which can be used to decarbonise the global maritime and logistics industries at scale.

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## HYDROGEN PARTNER: HYDROGEN COUNCIL

# THE WAY FORWARD FOR HYDROGEN IS ‘SQUIGGLY’

By **Daryl Wilson**, Executive Director of the Hydrogen Council

**I was riding the London Underground recently when I noted this British term as the title of a new career book: squiggly.** A term often used to describe a line that curves or twists in a way that is not regular. The squiggly line urges one to deviate from the ordinary and venture into uncharted territories. Human nature does not prefer squiggly, but squiggly is truer to reality than we would like to admit.

Just like this undulating line represents continuous growth and change, the same comparison can be drawn to hydrogen. After a very rapid, dare I say linear, rise of hydrogen in the past few years, we are now into the reality of squiggly. Uncertainty reigns in policy, funding, permitting and public sentiment on many fronts, making the way forward not easy.

Faced with uncertainty, there is a strong temptation to stop and wait for the clouds to clear, but inaction is not the answer. The complex development of new energy ecosystems needs constant action and engagement. There are some actions that just make sense no matter what happens. Getting together, driving cost down and concentrating efforts are three key vectors of action under uncertainty. Convening the public and private parties to engage about the way forward costs little but brings great reward. Governments and industry have a lot of building to do, and the more collaboration and interaction that can happen, the better the joint solutions we forge will be.

Efforts around innovation and cost reduction are also critical under all scenarios. It will be difficult to afford all the change we need to make. If we can lower the cost of change, it will come faster and easier. Focusing and concentrating efforts is also key. Unfortunately, there is a tendency to spread resources over too much territory, diluting the impact for all efforts. Hydrogen ports and valleys need to further coalesce into thoughtful ecosystems involving multiple

hydrogen applications clustered around supply and demand. Embracing the ecosystems way of thinking is vital at this stage. While the rapid growth of the project roster is exciting, an unconnected mess of super demonstration projects does not make the coherence of our future energy system. It is great that new policies and funding mechanisms have spawned a lot of project activity, but a random call for projects into no ecosystem or infrastructure thinking is simply a mess of projects. The hydrogen port or hydrogen valley approach is a microcosm of ecosystem thinking, but we need to go a step further. A holistic complete vision of “beginning with the end in mind” is needed. There are three elements of this ecosystem approach I would like to highlight here:

**1 Minimum viable starts:** in June, I had the opportunity to stand aboard the Suiso Frontier, the world’s first liquid hydrogen carrier ship. This is the culmination of a vision conceived five years ago and the foundation for the first ever international trade in liquid hydrogen. It is a great example of “a minimum viable start”. Through the work of a consortium of companies in Japan and Australia, the project has proven that “it can be done” and that some of the previously never accomplished aspects of port infrastructure are possible. The long-term dividends for large scale change are enormous.

**2 Diversity, teamwork and collaboration are essential:** the scale and pace of change that needs to be sustained in overcoming climate change demands no less. There is no one company or government that can undertake all the jobs required. Over the past six months, Hydrogen Council members have concentrated their efforts on building the vision and foundation for multiple hydrogen ecosystems. If we are going to build elegant functional and cost-effective future energy systems, it will require the work of good design arising from strong teams.



**Daryl Wilson**, Executive Director of the Hydrogen Council

**3 Step-by-step:** thoughtfulness around what needs to be accomplished in each step of the ecosystem journey is the way we will make the most progress. What are the most essential things to learn, to prove, to test, to confirm now? What are the most constructive next steps? This forms the basis of effective and expedient next step action. The harder work is to formulate what to do next.

I mention many of the items above as a backdrop to the upcoming ADIPEC exhibition and conference in Abu Dhabi from October 2-5. It is here the “squiggly journey” can find its way. The collaboration between major energy players and governments is just the type of “convening” that needs to happen right now. The global scale capacities of the major incumbent energy players are gradually being focused on the pressing needs at hand.

The theme for this year’s ADIPEC – Decarbonising. Faster. Together. – speaks well to resolving what to do amid uncertainty, having the right conversations and collaborating on the ecosystems we need to build. The panels, the booth conversations, the presentations, and leadership roundtables are a rich environment to help any attendee find their way on the squiggly journey.

I attended ADIPEC for the first time last year, and I was heartened by the size and strength of the leaders in the new and old energy industry “getting down to business” on many of the themes outlined above. Looking forward to seeing you there.

EXHIBITOR: MARSHAL OFFICE OF THE SILESIA REGION STAND: 14160 HALL: 14

# REVIVING A REGION AND GROWING UAE TIES WITH GREEN GOALS IN MIND

As Marshal of the Silesia Region, in Poland, **Jakub Chelstowski** is personally involved in activities aimed at transforming once coal-reliant area. The organisation has returned to ADIPEC having last year opened a regional office in Abu Dhabi

## What is the primary business of the Marshal Office?

Located in southern Poland, Silesia is the country's leading economic centre with a strong export position. We have enormous investment potential, especially human capital, and an excellent scientific and technological base. We focus our activities on effective economic promotion, investment attractiveness, and internationalisation of enterprises. Our title of European Entrepreneurship Region 2021-2022, for outstanding and innovative entrepreneurship strategy, is testimony to the region's potential. Silesia is among the top 10 European regions in terms of its strategy of attracting foreign direct investment, openness to business and cost effectiveness (FDI Intelligence for 2023 for the Financial Times). We set ourselves ambitious goals in the field of economy and modern technologies, looking boldly to the future and facing challenges that will define our place in the changing global reality. The Voivodship Development Strategy is based on five smart specialisations: medicine, information technology, power engineering, green economy, emerging industries. Silesia has the power to attract and propose high-tech solutions. We have six companies representing a wide spectrum of the energy industry at our stand.

## How do you view the 2023-24 global energy market?

European Union countries are collectively facing a structural fossil energy deficit. The continent's oil, gas and coal resources are very limited and building new dependencies is a source of tension and increasing geopolitical challenge - fuel imports cost the EU EUR 720 billion last year alone. Meanwhile, the climate crisis and environment are putting enormous

pressure to move away from fossil fuels. Just 10 years ago, there were few viable alternatives. Today, new technologies - renewables, storage, digitalisation - are transforming the energy industry. In the face of a Russian attack on Ukraine, in the midst of a climate crisis, the EU's energy security strategy needs to be rewritten. The basis of this should be a cost-effective, decentralised, digitised and decarbonised energy system based on renewables.

Reducing emissions, renewables and energy conservation are the new pillars, not only of climate policy, but energy security. Analytical support is needed for institutions responsible for planning and implementing the energy transition. Growing demand for electricity is being met by renewable energy sources. In 2022, production from photovoltaics increased by 4TWh (+102% y/y) and from onshore wind farms by 3 TWh (+19% y/y). What is missing, however, are realistic energy targets that would motivate market participants to invest.

## How are you focusing on transition?

This is our main purpose and task for coming years. For regions such as Silesia, it is an urgent task to create development alternatives as soon as possible in order to mitigate the effects of transformation in the social, environmental and economic dimensions. For years, our region was identified only with heavy industry and coal mining.

This is beginning to change - the transformation process has been underway for 30 years and is probably entering its most important phase. The Green Silesian 2030 resolution adopted by the regional parliament three years ago, the anti-smog resolution, and the leading position of the Silesian Voivodship in the Clean Air Programme prove we are moving in the right direction. More than EUR 2 billion



Jakub Chelstowski, Marshal of the Silesia Region, Poland



.....  
Our energy security must be built on new technologies that take into account the strategy of achieving climate neutrality.  
.....

from the (EU) Fair Transition Fund will be used, among other things, to create jobs in modern technologies. We are also implementing our own Marshal's Air Quality Improvement Programme, for which this year we have allocated nearly PLN 6 million (\$1,484m) to be distributed among municipalities.

## Are you innovating towards a new energy landscape?

We are focusing on green energy. We must rely on a modern, competitive, climate-neutral economy. The region's future lies in solutions based on knowledge and modern technologies. Our transformation must create new spaces in industry with environmentally friendly technologies as the common denominator. We have to reckon with the fact the mining sector will gradually close; trade unions have signed a social contract in which they have agreed to such a scenario. Aware of this, we need to create completely new industries... post-mining and post-industrial areas must be given new life.



EXHIBITOR: SCOTTISH DEVELOPMENT INTERNATIONAL STAND: 8450 HALL: 8

# FOCUS ON SCOTLAND'S LONG LEGACY OF DECARBONISATION

By **David Decrock**, Europe, Middle East and Africa Team Leader Trade – Energy and Low Carbon Transition, Scottish Development International

## Decarbonising the energy system is one of the greatest challenges of our time.

Whether it's governments creating legislation to cut emissions, businesses introducing new ways of working or academics conducting research to support the transformation of the industry, some of the world's leading minds are focused on finding solutions that will deliver a cleaner, more secure energy future.

Bringing such stakeholders together to have an open conversation about the trilemma of security, affordability and sustainability of energy supply, not to mention having a forum where companies can exhibit their low-carbon products and capitalise on future global economic opportunities, is therefore essential.

That's where ADIPEC comes in. The world's most influential gathering for industry professionals, ADIPEC aims to accelerate action to decarbonise and future-proof the energy system. Hosted by ADNOC under theme 'Decarbonising. Faster. Together', the event has been strategically arranged to take place a month before COP28 in the UAE, to continue the theme of inclusion and to build momentum towards energy transition.

ADIPEC will see 160,000+ attendees, 2,200 exhibiting companies, 28 country pavilions and 164 countries represented, as well as approximately 1,600 speakers delivering remarks across 350 sessions. And that number will include Scotland's international trade and investment agency, Scottish Development International (SDI).

Via our Scottish Pavilion, alongside the UK pavilions, we will highlight the innovative products and services produced by our world-class energy sector businesses, as well as showcase our country as an incredible investment opportunity for companies to achieve their net zero aspirations.

SDI will have approximately 20 Scottish companies join us at ADIPEC, all of which are focussed on delivering energy transition innovations.

Representatives from the Net Zero Technology Centre (NZTC), a cross sector organisation that is developing and deploying technologies for an affordable net zero energy industry, will also be with us in Abu Dhabi.

We are returning to ADIPEC following our productive attendance at last year's event when Scotland's voice was well received by those in attendance. Post event evaluation data indicated that the Scottish companies hosted by SDI last year forecasted more than £63 million in new international sales as a result of their attendance at ADIPEC 2022, with more than 300 jobs potentially being created or safeguarded.

Alongside our pavilion providing a platform for these innovative Scottish companies, we will be speaking with senior influencers at ADIPEC to not only create future opportunities for Scottish businesses in the UAE and the wider GCC region, but to also share our country's world-leading energy transition story.

There's certainly a lot to shout about when it comes to the low-carbon transition activities taking place in Scotland as the country carefully undertakes a just transition away from fossil fuels and towards a zero-carbon economy. Whether it's in carbon capture and storage, hydrogen, offshore wind or tidal, Scotland is leading the way when it comes to decarbonising the energy system and identifying ways to help the world reach net zero. For example:

- Scottish history and experience in the North Sea oil & gas sector, and the chemicals industry, provides the necessary workforce skills and infrastructure to apply to carbon capture and storage.
- As part of its Hydrogen Action Plan,



**David Decrock**, Europe, Middle East and Africa Team Leader Trade – Energy and Low Carbon Transition, Scottish Development International



Whether it's in carbon capture and storage, hydrogen, offshore wind or tidal, Scotland is leading the way when it comes to decarbonising the energy system and identifying ways to help the world reach net zero.

the Scottish Government aims for Scotland to produce 5GW of renewable and low carbon hydrogen by 2030 and 25GW by 2045, with up to 94 TWh green hydrogen for export.

- Scotland is home to one of the world's largest offshore leasing rounds, ScotWind, which will deliver up to 27GW worth of new offshore wind power.

Backed by decades of engineering experience, unique offshore energy capabilities and a supportive business environment, Scotland is a natural supply chain partner for renewable energy and low carbon transition projects worldwide.

Scotland has a lot to offer when it comes to the global conversation on how to decarbonise the energy system. That's why we will be delighted to attend ADIPEC to promote Scotland's low-carbon trade and investment capabilities, as well as sharing our commitment to energy transition. Make sure you come and visit us!

LEADING THE TRANSFORMATION

# CELEBRATING THE IDEAS, INITIATIVES AND DISRUPTORS SHAPING THE FUTURE OF ENERGY

The ADIPEC Awards 2023, now in its 13th year, remains dedicated to honouring visionaries in innovation and collaboration, the changemakers transforming energy towards a sustainable future for all.

As a highly esteemed energy sector recognition and a vital part of ADIPEC, the ADIPEC Awards hold an even greater significance this year, as we seek to unify the industry and accelerate urgent collective action and game-changing solutions to address critical climate challenges.

Being held under the theme of 'Leading the Transformation', the ADIPEC Awards 2023 have introduced eight new curated categories that directly address the challenges faced by the energy industry in supporting the global energy transition.

These categories reflect the need for universal access to cleaner and more secure energy, tangible and credible solutions that drive impactful change, and transformational progress for the advancement of humanity.

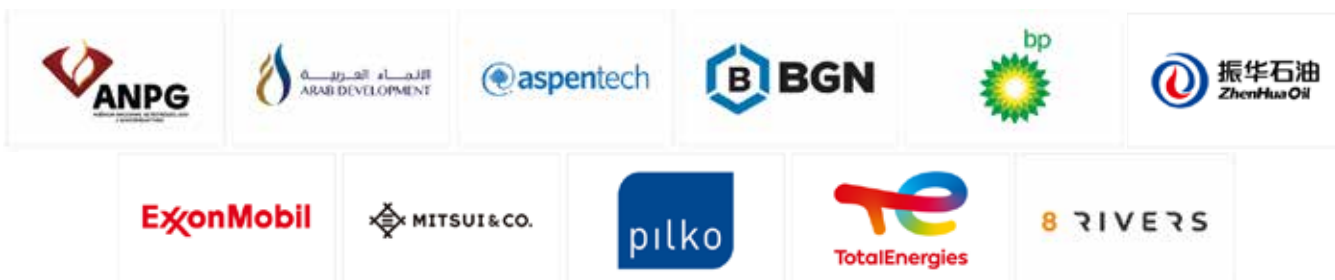
As in previous years, the winners of the 2023 ADIPEC Awards will represent the industry's best in class, & trailblazers who continually redefine boundaries, accelerate innovative solutions, and explore new ways to do business to address the ever-evolving challenges and opportunities shaping the future of our industry. Handpicked by our esteemed jury of global leaders, the winners will be announced in front of a global audience at an exclusive ceremony on 2 October 2023.



“ We are living in a time of transformation for technology, industry, and society. With the global energy transition at the centre of change, now more than ever, we need to recognise the visionaries who are leading the way to a brighter, more sustainable energy future. I am proud to chair the ADIPEC Awards 2023, which celebrates the changemakers our world needs. ”

**Fatema Al Nuaimi**  
ADIPEC Awards Chair, EVP Downstream Industry  
Marketing and Trading Communications  
ADNOC Group

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## 8 new categories to honour the pioneers and achievers of the energy industry

### GAME-CHANGING PARTNERSHIP

Recognising companies collaborating across the energy ecosystem for a cleaner energy future

### DEVELOPING ECONOMIES ENERGY COMPANY OF THE YEAR

Celebrating the trailblazers supporting lower-carbon development in developing economies

### DECARBONISATION AT SCALE

Recognising projects and initiatives that have demonstrated their ability to accelerate decarbonisation in any industry

### YOUNG CHANGEMAKER OF THE YEAR

Honouring a young professional under 30, helping achieve tomorrow's lower carbon future

### TRANSFORMATIVE HYDROGEN PROJECT

Recognising companies that have launched a significant green hydrogen project or joint venture

### CLEAN ENERGY TECHNOLOGY INNOVATION OF THE YEAR

Awarding the innovators using technology to make the energy sector cleaner

### FUTURE ENERGY WORKFORCE DEVELOPMENT

Awarding responsible energy companies helping to develop the energy workforce of tomorrow

### PASSIONATE DRIVER OF PROGRESS

Spotlighting an individual or organisation, for outstanding leadership in driving a more sustainable energy future

## 2023 AWARDS JURY MEMBERS



His Excellency  
Suhail Mohamed  
Al Mazrouei  
Minister of Energy and  
Infrastructure  
United Arab Emirates



His Excellency  
Tarek El Molla  
Minister of Petroleum and  
Mineral Resources  
Arab Republic of Egypt



Fatema Al Nuaimi  
EVP Downstream  
Industry, Marketing  
& Trading  
Communications  
ADNOC Group



Lorenzo Simonelli  
Chairman and CEO  
Baker Hughes



Vicki Hollub  
President & CEO  
Occidental



Dr Pratima Rangarajan  
CEO  
OGCI Climate  
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Proscovia Nabbanja  
CEO  
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Dr John Sfakianakis  
Director of Economics  
Research Gulf Research  
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Vicki Knott  
CEO and Co-Founder  
CruxOCM



Samantha Gross  
Director - Energy Security and  
Climate Initiative Fellow  
- Foreign Policy  
The Brookings Institution

# CONNECTING THE GLOBAL ENERGY INDUSTRY LEADERS



**T**he Middle East Energy Club (MEEC) is an exclusive, invitation-only, business-focused VIP club connecting the energy industry's leaders, innovators and influencers.

The MEEC provides a platform for members to network and host meetings in a private setting with world-class amenities and hospitality, in parallel to ADIPEC, the most anticipated exhibition and conference on the global energy calendar.

Membership to the MEEC consists of a range of unique benefits during ADIPEC, including a dedicated registration portal and onsite receptions, VIP parking and complimentary concierge services. In addition, members will have the opportunity to register their interest in attending the invitation-only ADIPEC Leadership Roundtables hosted at the Leadership Suite.

The MEEC is specifically intended for the industry's most senior leaders and influential individuals, and membership is restricted to ministers, dignitaries, C-level executives and senior decision-makers from energy companies including national oil companies (NOCs), international oil companies (IOCs), service companies and global EPC contractors.

## Communicate

With members including Ministers, dignitaries, CEOs and global leaders, the Middle East Energy Club offers the ultimate platform to connect with like-minded executives.

## Influence

A stimulating environment where members can engage in business-critical conversations that can lead to future growth and influence industry trends in an evolving energy landscape.

## Connect

With so many distinguished members gathered under one roof across four days of high-volume business discussions, the Middle East Energy Club provides the ideal environment for building successful business partnerships.



# MEMBERS

**2,500**

MEMBERS

725

GOVERNMENT OFFICIALS

1,775

SENIOR EXECUTIVES

100

COUNTRIES



# MIDDLE EAST ENERGY CLUB SUITES

The MEEC is a purpose-built structure for ADIPEC, and includes a range of platinum meeting suites, gold meeting suites and the ADIPEC Leadership Suite. All meeting suites at the MEEC are equipped with state-of-the-art technology and impeccable services and amenities suited for corporate meetings and gatherings.



# MEEC MEMBERSHIP BENEFITS

The invitation-only Middle East Energy Club is intended to offer exclusivity and privacy for the industry's most senior executives and influential individuals. Members are required to meet the identified criteria for job titles and organisations to be invited and accepted.

1. Access to the MEEC for the duration of ADIPEC
2. Opportunity to network with fellow energy industry leaders, innovators and policymakers
3. Opportunity to be invited to the coveted Leadership Roundtables
4. Opportunity to host 1-2-1 meetings in a private setting
5. Dedicated ADIPEC and MEEC member registration reception
6. Dedicated VIP parking and drop-off zones
7. Complimentary food and refreshments
8. Complimentary Wi-Fi and VIP concierge services



To apply to become a MEEC member, please visit: [www.adipec.com/meec](http://www.adipec.com/meec)



# ADIPEC LEADERSHIP ROUNDTABLES



The invitation-only ADIPEC Leadership Roundtables gather ministers, c-level industry executives and policymakers to explore new ideas and transformative thinking, shaping the energy sector. As an important cornerstone of ADIPEC's strategic conference programme, the Leadership Roundtables provide the thought leadership and direction to drive growth over the next decade and define the global energy future. This year's invitation-only Leadership Roundtables will foster conversation, generate insight, and provide networking opportunities around the energy industry's greatest challenges, bringing together policy makers, energy leaders and industry professionals to address the solutions required to build a cleaner and more sustainable future. In 2023, the ADIPEC Leadership Roundtables will include 8 sessions and each roundtable is limited to 90 minutes of discussion.

## WHY ATTEND

Participants are positioned at the forefront of the energy industry, influencing change with insights and solution led outcomes and building a trusted support group of like-minded executives.

The sessions are facilitated by an experienced moderator and hosted by an industry thought leader, ensuring a highly interactive discussion, and offering fresh and objective perspectives on the actions required to drive growth over the next decade.





# ADIPEC LEADERSHIP ROUNDTABLES PROGRAMME

MONDAY 2 OCTOBER 2023	TUESDAY 3 OCTOBER 2023	WEDNESDAY 4 OCTOBER 2023	THURSDAY 5 OCTOBER 2023
<p><b>13:00-14:30</b>  <b>UAE Climate Technologies</b></p> <p>.....</p> <p><b>15:00 – 16:30</b>  <b>Ministerial: Accelerating the pace of policy innovation to a secure, affordable, lower carbon energy future</b></p> <p>Knowledge Partner:</p> <p><b>S&amp;P Global</b></p> <p>Host Partner:</p> 	<p><b>09:30 – 11:00</b>  <b>How NOCs will position in a net-zero world</b></p> <p>Host Partner:</p>  <p>.....</p> <p><b>12:00-13:30</b>  <b>Delivering rapid scalability to triple renewable capacity by 2030</b></p> <p>.....</p> <p><b>14:00 – 15:30</b>  <b>Cross-sector partnerships: Accelerated pathways to industrial decarbonisation through strategic collaboration</b></p> <p>.....</p> <p><b>16:00 - 17:30</b>  <b>Establishing the hydrogen economy and ecosystem required to achieve 180mt by 2030</b></p> <p>Knowledge Partner:</p> 	<p><b>09:30 – 11:00</b>  <b>An equitable transition: Supporting the rapid development of vital infrastructure to expand access to secure lower carbon energy across Africa</b></p> <p>.....</p> <p><b>12:00 - 13:30</b>  <b>Delivering lower carbon capital projects in times of uncertainty</b></p> <p>.....</p> <p><b>14:00-15:30</b>  <b>Pathways to near zero methane emissions from oil and gas by 2030</b></p> 	<p><b>09:30 – 11:00</b>  <b>ADIPEC Youth Council: Energising the future – Incorporating the vision of the next generation of energy sector talent in the transition blueprint</b></p> 

## APPLY TO ATTEND THE ADIPEC LEADERSHIP ROUNDTABLES

Held under Chatham House Rule, the invitation only ADIPEC Leadership Roundtables are open for attendee applications. For an applicant to be considered, attendees are required to meet the job and organizational criteria. Each roundtable is restricted to 30 members per roundtable including ministers, ambassadors, CEO's and presidents. Applicants are required to meet the organisation type, to be accepted. Organisations include Governments, Embassies/Consulates, National Oil Companies, International Oil Companies and Energy Companies.



To apply to attend the ADIPEC Leadership Roundtables, please email: [roundtables@adipec.com](mailto:roundtables@adipec.com)

# CONFERENCES OVERVIEW



**HE Suhail Mohamed Al Mazrouei**  
Minister of Energy and Infrastructure  
United Arab Emirates

**HE Shri Hardeep Singh Puri**  
Minister of Petroleum and Natural Gas  
Minister of Housing and Urban Affairs, India

**HE Tarek El Molla**  
Minister of Petroleum and Mineral Resources  
Arab Republic of Egypt

**Special Presidential  
Amos Hochstein**  
United States of America

This Preview is accurate as of August 2023. Sessions and topics will continue to evolve and are subject to change.

**T**aking place in Abu Dhabi from 2-5 October 2023, ADIPEC is the world's largest exhibition and conference uniting the energy ecosystem towards 'Decarbonising. Faster. Together.'

Hosted by ADNOC, ADIPEC builds on its nearly 40-year legacy of innovation and evolution, to serve as an inclusive platform to accelerate the urgent, collective action and game-changing solutions needed to future-proof our energy system.

The ADIPEC conference programme will connect the ideas, ambition, technology and capital needed to spark innovation, disruptive thinking and transformational change.

Across 350+ sessions curated to address some of the world's most pressing energy challenges, more than 1,600 speakers will share diverse perspectives and approaches, forge collaborations and explore the strategies and innovations critical to accelerating a cleaner, more secure energy future. These voices will encompass key stakeholders from a wide range of industries and sectors, including

tech, finance, government and private enterprise, in order to tackle crucial topics and solutions.

Energy markets are changing, driven by evolving micro and macroeconomic trends, transforming the way businesses operate and creating new pathways that drive innovation and sustainability. With the critical COP28 climate conference taking place in the UAE less than two months after ADIPEC, the event will act as a crucial forum for the entire energy value chain to address the most pressing issues around the security, affordability and sustainability of energy.

It is against this backdrop that the ADIPEC 2023 conference programmes will provide strategic and technical insights, hosting over 1,500 ministers, global policy makers and energy CEOs, and welcoming more than 15,000 delegates, to discuss the key trends shaping the future of energy, including the challenges and opportunities of the energy transition, geopolitical factors influencing energy markets, new finance and partnership frameworks and the latest technical developments.

**10**  
Conferences

**350**  
Sessions

**1,600**  
Speakers

**15,000**  
Delegates



## Strategic Conferences

### Strategic Conference

The ADIPEC 2023 Strategic Programme will provide critical knowledge and insights on the solutions for change and transformational progress across the energy ecosystem. It will showcase how the industry is coming together to address and solve some of its biggest challenges and help shape the future of energy.

### Hydrogen Strategic Conference

The ADIPEC Hydrogen Strategic Conference will gather the most influential leaders in the energy ecosystem to discuss the role of hydrogen in global economies, the latest technological breakthroughs, near-term and long-term strategies, and the actions required to scale the hydrogen economies of the future. Delivering on strategic, technical, and operational insights, the conference will provide the insights necessary to shape and accelerate continued growth of the hydrogen value chain.

### The ADIPEC Forum for Diversity, Equity and Inclusion

The Forum will focus on the challenges as priorities continue to change for the global workforce, redefining operating models that will deliver business performance in a sustainable energy system. Conversations around bias and inequalities, equal opportunities and representation as well as transparent leadership, will inform the discussion as policymakers, business leaders, organisations and the workforce navigate the changing dynamics of the energy industry workplace.

### Future Leaders Programme

The ADIPEC 2023 Future Leaders Programme will bring together the brightest young minds to discuss with industry leaders, policy makers, regulators, investors, and academic experts, how to attract, engage and nurture the future leaders of the energy transition.

### Decarbonisation Strategic Conference

The Decarbonisation Strategic Conference will gather energy industry leaders, policymakers, governments, financial institutions and cross-sector industries to deliberate on the opportunities in a decarbonised future and the importance of new partnerships to unlock new value pools. In support of industry decarbonisation commitments, the conference will also host discussions on key topics around emissions abatement, clean energy technology, carbon tax, carbon capture, renewables, nuclear energy, battery storage, low-carbon solutions, circularity, energy efficiency, and electrification.

### Manufacturing & Industrialisation Strategic Conference

The Manufacturing and Industrialisation Strategic Conference at ADIPEC 2023 will provide key insights on the role of manufacturing in building economies of scale and scope, the interdependencies between the manufacturing and energy sectors, and the digital enablers accelerating growth for industrial readiness.

### Maritime & Logistics Conference

The ADIPEC 2023 Maritime and Logistics Conference will bring together industry leaders in shipping and logistics to discuss decarbonisation, digital innovation and viable pathways toward sustainable shipping and resilient supply chains.

## Technical Conferences

### Technical Conference

The Technical Conference, organised by Society of Petroleum Engineers, brings together an unparalleled mix of the world's leading engineers and experts from across the energy value chain. Connecting the industry's changemakers, the Technical Conference fosters the sharing of deep knowledge, cutting-edge technologies and technical expertise, sparking the innovations needed to create tangible, collective solutions towards a secure and sustainable energy future.

### Downstream Technical Conference

The Downstream Technical Conference promotes the exchange of best practice, drives innovation and unlocks market opportunities for investment and growth that will help refining and petrochemical operators navigate the shifting energy demand through collaboration and partnerships. In 2023 the conference will continue to bring together downstream leaders, experts and innovators from across the energy industry to share the latest strategies, technologies and best practice on operational transformation, circularity, energy efficiency, hydrogen capabilities and talent management.

### Manufacturing & Industrialisation Technical Conference

The Manufacturing & Industrialisation Technical Conference will showcase the latest innovations in technology across the entire manufacturing cycle, based on the four pillars of manufacturing operations: Plan, Source, Make and Deliver. The conference will ignite key discussions on how technologies can accelerate industrial decarbonisation, helping business leaders make better-informed decisions with intelligent data, automated operations and digital tools.

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# GLOBAL INDUSTRY LEADERS



**His Excellency  
Suhail Mohamed Faraj Al  
Mazrouei**  
Minister of Energy and Infrastructure  
United Arab Emirates



**His Highness  
Sh. Nasser bin  
Hamad Al Khalifa**  
Chairman  
Bapco Energies



**His Excellency  
Dr. Mohamed bin Mubarak  
Bin Daina**  
Minister of Oil and Environment  
Special Envoy for Climate Affairs  
Kingdom of Bahrain



**His Excellency  
Sheikh Dr. Nimr Fahad  
Al-Malik Al-Sabah**  
Undersecretary of the Ministry of Oil  
Kuwait



**His Excellency  
Tarek El Molla**  
Minister of Petroleum and Mineral  
Resources  
Arab Republic of Egypt



**His Excellency  
Dr. Saleh Al Kharabsheh**  
Minister of Energy &  
Mineral Resources  
Jordan



**Her Excellency  
Leila Benali**  
Minister of Energy Transition &  
Sustainable Development  
Morocco



**His Excellency  
Parviz Shahbazov**  
Minister of Energy  
Azerbaijan



**Honourable  
Vikram Bharrat M.P.**  
Minister of Natural Resources  
Guyana



**Honourable  
Ruth Nankabirwa Ssentamu**  
Minister of Energy and Mineral  
Development  
Uganda



**His Excellency  
Francisco da Costa Monteiro**  
Minister of Petroleum and Mineral  
Resources  
Timor-Leste



**Her Excellency  
Devika Vidot**  
Minister for Investment  
Entrepreneurship, and Industry  
Seychelles



**Dr. Roland Busch**  
CEO  
Siemens AG



**Musabbeh Al Kaabi**  
Executive Director of Low Carbon  
Solutions & International Growth  
ADNOC



**Anders Opedal**  
President and CEO  
Equinor



**Alfred Stern**  
CEO  
OMV



**Lorenzo Simonelli**  
CEO  
Baker Hughes



**Douglas Pferdehirt**  
CEO  
TechnipFMC



**Tomasz Wiatrak**  
Chairman of the Board of  
Directors and CEO  
ORLEN Unipetrol



**Ichiro Takahara**  
Chairman and CEO  
JOGMEC



**Girish Saligram**  
President and CEO  
Weatherford



**Caspar Herzberg**  
CEO  
AVEVA



**Akshay Kumar Singh**  
Managing Director and CEO  
Petronet LNG



**Phil Caldwell**  
CEO  
Ceres Power



**Jane Toogood**  
CEO – Catalyst Technologies  
Johnson Matthey



**Sophie Hildebrand**  
CTO  
ADNOC



**Meg Gentle**  
Executive Director  
HIF Global



**Olivier Le Peuch**  
CEO  
SLB



**Ahmed El Hoshy**  
CEO  
OCI Global



**Nancy Buese**  
CEO  
Baker Hughes



**João Henrique  
Rittershausen**  
Board Member and VP, Digital  
Technologies, Investments &  
Knowledge Management  
Braskem



**Ibrahim N. Al Zu'bi**  
Chief Sustainability Officer  
ADNOC



**Dr. Pratima Rangarajan**  
CEO  
Climate Investments



**Marco Alvera**  
Co-Founder and CEO  
TES



**Thomas Storch**  
Managing Director  
Affinity Partners



**Cedric Cremers**  
EVP, LNG  
Shell



**Gautam Reddy**  
COO & Head of New Energy  
Greenko Group



**Georges Tijbosch**  
CEO and Board Member  
MIQ



**Andreas Slettvoll**  
CEO  
Choose



**Emmanouel Givanakis**  
CEO  
ADGM Financial Services  
Regulatory Authority



**Thomas McMahon**  
Co-CEO & Co-Founder  
ACX



**Arne Peder Blix**  
CEO  
ICA Finance



# TO SPEAK AT ADIPEC 2023



**His Excellency Haitham al-Ghais**  
Secretary General  
OPEC



**His Excellency Nakatani Shinichi**  
State Minister of Economy, Trade and Industry  
Japan



**His Excellency Arifin Tasrif**  
Minister of Energy and Mineral Resources  
Indonesia



**Her Excellency Belinda Balluku**  
Deputy Prime Minister and Minister of Infrastructure and Energy  
Albania



**His Excellency Hakob Simidyan**  
Minister of Environment  
Armenia



**His Excellency Sebastian-Ioan Burduja**  
Minister of Energy  
Romania



**Dai Houliang**  
Chairman  
CNPC



**Wael Sawan**  
CEO  
Shell



**Patrick Pouyanné**  
Chairman & CEO  
TotalEnergies



**Bernard Looney**  
CEO  
bp



**Vicki Hollub**  
President and CEO  
Occidental



**Claudio Descalzi**  
CEO  
Eni



**Martin Helweg**  
CEO  
P&O Maritime Logistics



**Christina Verchere**  
CEO  
OMV Petrom



**Dr. Alex Karp**  
Co-Founder and CEO  
Palantir Technologies



**Jeff Miller**  
President and CEO  
Halliburton



**Antonio Pietri**  
President and CEO  
AspenTech



**Takayuki Ueda**  
President and CEO  
INPEX



**Mansoor Mohamed Al Hamed**  
CEO  
Mubadala Energy



**Håkan Agnevall**  
President and CEO  
Wartsila



**Proscovia Nabbanja**  
CEO  
Uganda National Oil Company (UNOC)



**Thomas Gangl**  
CEO  
Borealis



**Carsten Poppinga**  
Chief Commercial Officer  
Uniper



**Alessandro Bernini**  
CEO  
MAIRE



**Bill Vass**  
VP, Engineering  
AWS



**Clay Neff**  
President International Exploration and Production  
Chevron



**Gordon Birrell**  
EVP, Production and Operations  
bp



**Ken Gilmartin**  
CEO  
Wood



**Alessandro Bresciani**  
SVP, Climate Technology Solutions  
Baker Hughes



**Anne-Laure de Chamard**  
Member of the Executive Board  
Siemens Energy



**Berislav Gaso**  
EVP, Energy  
OMV



**Philippe Roodhooft**  
EVP, Joint Venture and Growth Projects  
Borealis



**Franck Neel**  
Executive Board Member  
Gas & Power  
OMV Petrom



**Khalid M. Nouh**  
CEO  
TAQA Saudi Arabia



**Majid Jafar**  
CEO  
Crescent Petroleum



**Jiří Hájek**  
CEO, Chairman of the Board of Directors  
Orlen UniCRE a.s.



**Talal Hasan**  
Founder and CEO  
44.01



**Afif Saif Al Yafei**  
CEO  
Abu Dhabi Transmission & Despatch Company (TRANSCO)



**Daniel Dean**  
Chairman  
International Bank for Nuclear Infrastructure - Implementation Organization Strategic Advisory Group



**Stephane Germain**  
President  
GHGSAT



**Steve Kelly**  
President  
One Point Five International



**Brandon Spencer**  
President, Energy Industries  
ABB

# STRATEGIC CONFERENCE PROGRAMME OVERVIEW



ADIPEC 2023 will be a progressive force for energy transformation and leadership. It will unite the expanding and increasingly diverse world of energy and help us work together to transform, decarbonise and future-proof our industry, by accelerating the innovation and tangible actions needed to enable a lower-carbon and higher-growth future for the world.

**Tayba Al Hashemi**  
CEO, ADNOC Offshore and Chair, ADIPEC 2023

The world is adapting to change on many disparate fronts, from geopolitical conflict to tackling the climate challenge, highlighting how external events will shape and reshape the energy transition.

The collective intensity of issues the energy industry has had to face over the last 12 months has forced it to think differently about how we access secure, affordable and sustainable energy sources. It has forged new energy trading patterns, business and technology partnerships, and has brought forward innovative and far-reaching policy mandates, incentivising investment in low carbon energy sources and the deployment of climate technology solutions.

The emergence of this new and evolving energy system will test the resilience of businesses engaged in a fundamental transformation to decarbonise their legacy operations, while developing low carbon and green solutions and services. Digital technologies and capabilities will be at the core of delivering this strategic change to operations. With this comes the need to attract, retain and train the workforce required to implement effective change. COP28 will be a pivotal moment for the energy transition. At the crossroads of North, South, East and West, it will provide a platform to engage in climate discussions and solutions for all energy industry stakeholders. Dialogue will focus on the transformational progress needed

to produce the tangible results the world requires. Over four days of informed debate, exchanging knowledge, ideas and conducting business, ADIPEC 2023 will mobilise the experience, expertise and resources of a responsible energy industry to address the challenge of driving sustainable economic progress while holding back emissions. Taking place shortly before COP28, ADIPEC 2023 will connect policy, people, technology and capital to accelerate the next phase of the energy transition; bringing together diverse energy industry stakeholders in a forum that will quicken industry action to decarbonise faster, future-proof sooner and create the energy system of the future, today.



# Conference themes

## Transforming the global energy system to create better energy security

Disruption to the global energy system has resulted in a complex and diverse set of challenges spanning the global economy. Today's energy system must transform to enable choice in energy sources while creating opportunities for new partnerships and supply routes. Much of the developed and developing world will need to evolve policy and activate direct government intervention to drive energy security through variety and volumes, to tackle energy affordability and to accelerate access to sustainable new energy sources - all at the same time.

## Mobilising finance and investment for a secure energy future

To deliver net-zero ambitions, companies and governments must do more to attract the capital required to match the growing demand for existing fossil fuel projects as well as low carbon energy solutions and services. High cash flow returns in the energy sector create the opportunity to invest in low carbon programs, develop new energy services and enter new markets. Climate investment will need to increase by three to six times today's levels to address the required global emissions reductions, support developing countries in their energy adaptation needs, and scale-up available green financing.

## The emerging and critically important industrialisation of new energy solutions and technologies

Investment and technology innovation will need to be incentivised to address climate, energy security and industrial agendas. This will open opportunities for partnerships in advancing an affordable, resilient and lower carbon energy future while accessing the economic growth created by a new energy system. Digital technologies and capabilities will need to be built into the core of business operations in order to transform business and operating models, including hydrogen, CCUS, direct air capture, methane emissions reduction and electrification.

## Global decarbonisation and energy transition: the role of the energy industry in the climate roadmap

Hosted by the United Arab Emirates in 2023, COP28 will provide a pivotal platform for energy leaders to focus on energy supply challenges, decarbonisation and transparent emissions reporting in the global stocktake of the Paris Agreement goals. An equitable and inclusive energy transformation will require time, investment, supportive policy and behavioural changes across the energy value chain from producers to end-users. Global society expects energy industry leaders to be bold in demonstrating their strategic commitments and capabilities around reduced emissions and net-zero targets, while engaging essential talent, ingenuity, capital and engineering expertise.

## Creating cross-sector industry participation and collaboration: developing a zero-carbon value chain

The path to net-zero by 2050 requires multi-stakeholder collaboration between energy suppliers and energy consumers. This is critical for heavy industry sectors like aluminum, aviation, chemicals, concrete, shipping, steel and trucking. New partnerships - not polarisation - will be needed to enable the services and solutions required to tackle emissions and drive efforts to find and implement the right decarbonisation technologies.

## The talent landscape transformation: attracting the right people to ensure continued success during the energy transition and beyond

It is estimated the energy transition will create 14 million new jobs in clean energy technologies and drive the migration of nearly five million workers away from fossil fuel sectors. The energy industry is reinventing its reputation as a primary instigator of climate change to that of an impactful leader in creating a cleaner, low emission energy future. This agenda of innovation and change will enhance the industry's ability to attract the digitally savvy talent required to address the challenge of maximum energy with minimum emissions.



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# STRATEGIC PANEL SESSIONS

Global CEOs, industry experts and influencers will discuss the important trends around the future of energy, solutions for a lower-carbon energy world, and the industry trilemma of security, affordability and sustainability.

## DAY 1

Monday 2 October 2023

13:00 – 14:00

Location: ICC Hall

### Actions for a net-zero world: solving the current energy trilemma

A net-zero world will see multiple energy sources being integrated, at the same time as the emergence of global markets in Asia and the Middle East. Creating a cost-competitive portfolio will require a multitude of strategies and creative solutions, where major companies must prepare to meet investor and consumer expectations and deliver net-zero pledges. Companies will also need to create resilient workforces as well as secure the finance and investment needed to build successful new operating models. As the industry moves from net-zero pledges to decisive actions, what does it need to do to ensure sustainable, secure and affordable energy, while continuing to create shareholder value?

14:00 – 15:00

Location: ICC Hall

### The reinvention of new asset and portfolio models: the renaissance of resilience

With pressures to decarbonise, amplified market volatility, rising inflation and evolving regulatory policies, business resilience continues to be tested. In order to build robust business models, companies must anticipate future opportunities as well as redesign their operations to build greater competitive advantage. These new business and operating models must incorporate the technological advances, skills evolution and new asset portfolio choices that will equip them for future success.

15:00 - 16:00

Location: ICC Hall

### Transforming upstream portfolios to secure lower carbon solutions

If energy companies are to meet global targets and navigate through constant market volatility, while addressing emission offsets and accelerating energy progress, a restructuring and reengineering of upstream portfolios is needed. New investment, technology and optimisation of operations, as well as diversification, can help solve some of the biggest challenges to thriving in the near-term, and create bold change for future success. Technologies such as CCUS, emissions detection and management and other climate technology solutions can support companies in accelerating their lower-carbon strategies and creating new market opportunities for growth.



16:00 - 17:00

Location: ICC Hall

### The ever-changing landscape of the downstream industry: demand vs. decarbonisation of value chains

With public and investor concerns over how the energy industry is reducing emissions and setting goals for net-zero targets, coupled with the full decarbonisation of value chains and immediate reduction of Scope 1, 2 and 3 emissions, the downstream industry is faced with challenges that cannot be overlooked in the short or long-term. Electrification, improving energy efficiency and developing CCUS can help mitigate some of these issues and investments are being made to incorporate this, but a long road ahead remains until full emissions mitigation is completed. Is collaboration and integration with industry and upstream the key to faster decarbonisation of petrochemicals and refinery operations and how will these new partnerships impact investments in products, margin optimisation and meeting customer demand?

## DAY 2

Tuesday 3 October 2023

11:00 – 12:00

Location: ICC Hall

### How to fast track finance and prioritise investments for the energy transition

If the world wants to keep its 2050 net-zero goals on track, substantial amounts of investment will be required. Companies will need to invest in clean energy projects across industry sectors, and have a smart, consistent investment strategy, which ensures returnable profits, delivers the industry's ambition of net-zero and meets ESG expectations. In addition, sustainable green finance must progress, particularly in developing countries, where investments in hydrocarbon projects still support the national economy and provide access to electricity, power and other much needed resources to the population.





12:00 – 13:00

Location: ICC Hall

**Cross-sector partnerships: overcoming barriers to reduce emissions**

Reducing emissions is one of the toughest challenges for fossil fuel companies, and across many other industries, in particular, heavy industry sectors, which require further technology and investment for their decarbonisation. These industries cannot meet ambitious climate goals without further emissions reductions, clearly illustrating the importance of cross-sector partnerships to achieve this common goal. However, high material costs, carbon taxing and a lack of infrastructure developments may create challenges that would mean that even with the right alliances and collaboration in place, a full value chain decarbonisation would still not be possible in the timeframes agreed.

13:00 – 14:00

Location: ICC Hall

**Gas and LNG: driving energy security and sustainability goals**

Natural gas and LNG will play an increasingly important role in the energy transition as the industry continues to move towards lower carbon fuels and cleaner energy solutions. Energy security will have a critical role in the future of this fuel as governments prioritise gas and LNG imports to ensure stable supplies that can also be used as a lower carbon fuel in hard-to-electrify industries. In Asian markets, specifically in Japan and China, gas and LNG consumption will likely continue to increase, meaning higher competition for supply between Europe and Asia.



14:00 – 15:00

Location: ICC Hall

**Decarbonising energy systems with sustainable fuels: where, how and when?**

Industry forecasts expect demand for sustainable fuels to increase as transportation sectors such as aviation, shipping and automotive require them to decarbonise. Investment and attractive regulatory frameworks are needed to incentivise their development both in terms of technology and consumer demand. Technology is advancing, but how quickly and at what cost can it be deployed? Meanwhile, cross-sector collaboration is increasing, facilitating partnerships for investment and developments. The benefits in the long-term are vast. However, there is still a long way to go for these fuels to become preminent.

DAY 3

Wednesday 4 October 2023

10:00 – 11:00

Location: ICC Hall

**Scaling up technology for an efficient and sustainable transition**

Technology is one of the key enablers of the energy transition, supporting industries, businesses and governments to decarbonise operations and find efficient solutions to mitigate emissions and improve performance across value chains. Lower carbon technology solutions for storage, CCUS, hydrogen, methane emissions and electrification, are being developed globally, but still require sufficient infrastructure along with the regulatory frameworks that will really accelerate widespread deployment. How can digital technologies, such as the Internet of Things, AI, big data and blockchain create solutions and efficient platforms for companies to increase energy efficiency and adopt an integrated system to help improve operations and create new business models to deliver on climate goals?

11:00 – 12:00

Location: ICC Hall

**Trade and supply chains: rethinking strategies for energy security and an effective transition**

In recent years, markets have experienced extreme volatility affecting the energy and commodities sectors. Whilst trade facilitates the export of goods and services critical for businesses and societies, secure and resilient supply chains are essential for an effective transition. Global standards to support innovation and create diversity will boost demand, lower costs, encourage greater flexibility and incentivise innovation within the industry.

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# ENERGY TALKS

Global CEOs, industry experts and influencers will discuss the important trends around the future of energy, solutions for a lower-carbon energy world, and the industry trilemma of security, affordability and sustainability.

## DAY 1

### Monday 2 October 2023

14:00 - 14:25

Location: Conference Room B

#### Maintaining a stable global energy market

With external geopolitical factors impacting the global energy landscape, a greater focus on stability and security of supply is needed by OPEC and OPEC+ countries, which control 80.4% of the world's proven oil reserves.

14:25 - 14:50

Location: Conference Room B

#### Saudi Arabia: energy markets, climate change initiatives and new energy solutions

The Kingdom of Saudi Arabia is going through a series of new reforms, including the launch of initiatives that are diversifying the country's economic landscape. The Saudi Green Initiative (SGI) and the Middle East Green Initiative (MGI) are some of the projects being implemented which will scale climate action, diversify the country's energy mix and promote the development of investment, infrastructure and clean energy solutions. Simultaneously, as part of OPEC, the Kingdom continues to play its role in a balanced energy market.

14:50 - 15:15

Location: Conference Room B

#### How will the business model of an IEC change due to the imperatives of net-zero?

As the international oil companies rebrand themselves as integrated energy companies, this session will welcome an IEC CEO who will discuss the company's strategies and commitments towards lower carbon solutions and how they are supporting the transformational progress required to collectively achieve the world's net-zero goals. We will also be joined by a member of ADIPEC's Youth Committee.

15:15 - 15:40

Location: Conference Room B

#### The importance of gas markets: energy security and affordable energy solutions for all

Europe continues to deal with the challenges of gas and LNG supply security whilst simultaneously implementing green policies to diversify energy sources towards a cleaner and faster energy transition. IECs and major exporting countries have an opportunity to supply vast quantities of gas and LNG to Europe, and key LNG players are investing in new assets to explore these resources. This session will welcome the CEO of a major portfolio player to discuss strategies and expansion plans, the commitments of net-zero and energy supply and the major opportunities in today's gas and LNG markets.

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15:40 - 16:05

Location: Conference Room B

#### De-globalisation and polycrisis: the decade's new reality?

This year's World Economic Forum highlighted the emergence of an unfamiliar term, polycrisis, to describe the multitude of challenges which have arisen simultaneously, including global inflation, soaring energy costs, geopolitical events in Europe, the refugee crisis, heightened tensions with China, food insecurity and the climate crisis. With these in mind, how does the world move on? How do we create the right frameworks to empower governments, businesses and people to overcome these major challenges?

16:05 - 16:30

Location: Conference Room B

#### Preserving oil and gas market stability whilst addressing climate change and transitions

Despite ever growing calls to stop upstream oil and gas investment, an orderly transition cannot thrive without balanced energy investments. OPEC and OPEC+ countries have a commitment to ensure the stability of oil and gas markets, such as the Declaration of Cooperation, which places great importance in addressing the future of energy, climate change, energy transition, sustainable development and eradication of energy poverty.

## DAY 2

### Tuesday 3 October 2023

10:45 - 11:10

Location: Conference Room B

#### Success stories of transition and effective leadership

Meeting the challenge of transition requires a wholesale rethink of company strategy and priorities. This talk will welcome an energy leader who is delivering growth for their organisation through key industry collaborations to develop and deploy new climate technologies. Part of this decarbonization journey and realignment of business strategy incorporates a greater emphasis on diversity, equity and inclusion as a tool for promoting greater sustainability and maximising the potential of the workforce. In this Energy Talk, we will welcome a prominent CEO to share insights into their company's sustainability projects, and commentary about how the industry should continue focusing on DEI and talent development. We will also be joined by a member of ADIPEC's Youth Committee.

12:10 - 12:35

Location: Conference Room B

#### The realities of Africa's energy transition

Africa's energy transition is not developing at the same pace as the rest of the world. African economies still rely heavily on hydrocarbon production and focus primarily on delivering energy security for all and ending poverty. The development of resources is fundamental for prosperity and growth across the continent, securing international investment is critical, and partnerships continue to be at the core of Africa's energy business.



تحت رعاية صاحب السمو الشيخ محمد بن زايد آل نهيان، رئيس دولة الإمارات العربية المتحدة  
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## DAY 3

## Wednesday 4 October 2023

12:35 – 13:00

Location: Conference Room B

**India's energy industry: from diversification to economic growth**

In 2023, India became the world's most populous nation, and it is the third-largest energy consumer. As such, the country has been going through a revamp of its energy policies by diversifying its supply sources and moving towards alternative fuels. Whilst the energy transition is key for the country's future development, there is also a commitment to ensure security of supply, affordability and easy access of resources to assure growth today.

14:00 – 14:25

Location: Conference Room B

**ASEAN's critical role in the world's net-zero journey**

ASEAN is the world's fourth-largest energy consumer, and its energy transition policies will be critical in meeting global environmental targets. Whilst the region is dependent on fossil fuels, countries are investing in cleaner energy sources that will diversify their energy mix and attract new investment opportunities. ASEAN is also rich in the raw materials required for clean energy products, including bauxite, nickel, tin and rare earth elements. To attract investors, ASEAN governments will have to implement enticing policies and show support towards the green energy agenda, including revision of fossil fuel subsidies, attractive investment opportunities and a favourable regulatory climate.

14:25 – 14:50

Location: Conference Room B

**Sustainable aviation for a cleaner energy transition**

Decarbonisation of the aviation sector will be critical in achieving net zero emissions. We talk to an airline industry leader on sustainability fuel objectives and company growth strategy, with a focus on cross-sector opportunities and partnerships.

15:40 – 16:05

Location: Conference Room B

**The road to COP28: how is the energy industry preparing for COP?**

COP28 will be pivotal in assessing the global stocktake on the Paris Agreement on climate change. The energy industry has a major role in tackling global emissions and in taking the immediate actions needed to limit the global temperature rise to 1.5°C. Ahead of COP28, what actions should the energy industry prioritise? What are the achievable targets? How can investment and cross-sector partnerships help the industry deliver on its climate responsibilities?

16:05 – 16:30

Location: Conference Room B

**Accelerating infrastructure projects for the energy transition**

New clean energy infrastructure projects are needed globally including infrastructure for renewables development, electrification and other cleaner energy sources such as hydrogen and ammonia. The infrastructure for these projects will take many years to develop, so what are the short-term solutions to scale them up and how can governments introduce policies that support their development and create attractive frameworks to fast track their implementation?

10:00 – 10:25

Location: Conference Room B

**The new leader in a changing energy industry**

The energy industry has changed dramatically in recent years, with different challenges making "traditional" business models obsolete and forcing organisations to transform the way they operate externally and internally. One of the biggest challenges is how to attract and retain knowledgeable and highly skilled staff in an environment where the industry has negative perceptions and can often be under immense scrutiny.

11:10 – 11:35

Location: Conference Room B

**Gearing up for electric cars and the future of EVs**

For electric vehicles to thrive, major infrastructure developments are needed, including a significant increase in the number of urban charging stations. Governments will need to implement policies such as the recent one announced by the Biden administration of \$2.5 billion in grants for EV chargers, which will fund the installation of 500,000 new charging stations across the United States by 2030. Concerns related to battery recycling and manufacturing might also delay the scale-up of EVs, but the future is promising for this industry.

12:35 – 13:00

Location: Conference Room B

**Finance and investment landscape: top considerations to watch out for**

The finance and investment community has encountered similar challenges to those faced by the energy industry. This year, inflation, geopolitical tensions and extreme climate events have affected investment decisions. Meanwhile, ESG continues to influence financial institutions on investments in both oil and gas and clean energy opportunities.

14:40 – 15:05

Location: Conference Room B

**How raw materials are key for the energy transition**

As the world utilises more metals and minerals for cleaner technologies, demand for raw materials is increasing, with the energy transition bringing an array of challenges, but also opportunities for these industries. According to the IEA's Sustainable Development Scenario, total demand will rise significantly over the next two decades to over 40% for copper and rare earth elements, 60-70% for nickel and cobalt, and almost 90% for lithium. If well positioned, such rises will present unique opportunities for these industries to thrive in the years ahead.

15:05 – 15:30

Location: Conference Room B

**Youth: the leaders of tomorrow**

Embracing youth perspectives in today's energy and climate change strategies can provide fresh ideas and solutions. It will also deliver a greater voice to young people and engage them in an industry young talent are often reluctant to join, due to negative perceptions of the sector's climate impact and sustainability efforts.

16:05 – 16:30

Location: Conference Room B

**How AI is supporting a clean energy transition**

Artificial intelligence can deliver transformative progress and improve operations and energy efficiency. With the support of AI, industries can progress in delivering new technologies and innovations that can fast track their net-zero strategies and begin to automate processes for fast delivery of products. AI can also help enhance and scale up sustainability projects by offering predictive capabilities and greater efficiency.





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# LEADERSHIP PERSPECTIVES

Renowned speakers will deliver critical insights on trends that will affect the industry in the short and mid-term.

Sub-themes will include perspectives on:

- Globalisation
- Emissions control
- Global challenges
- Climate change
- Methane
- Heavy emitting sectors
- Decarbonisation
- Gender equality
- Circular economy

## DAY 2

Tuesday 3 October 2023

## DAY 3

Wednesday 4 October 2023

10:00 – 10:45

Location: Conference Room B

### Energy Policy

#### The role of policy in the fight against climate change: insights into the US and EU

New policies, such as the US Inflation Reduction Act, a huge investment bill pouring billions of dollars into producing US-made clean energy and technology and the EU's Green Deal, a set of proposals to govern the EU's climate, energy, transport and taxation policies, have shaken confidence in global competitiveness and related policy towards international trade. What impact will these and other clean energy policies have on future energy markets and the journey to Net Zero in an increasingly protectionist world?

11:10 - 12:10

Location: Conference Room B

### Emissions Management

#### Reducing indirect emissions through value chain decarbonisation

Whilst emissions management for Scope 1 and 2 are more straightforward to track, those of Scope 3 are challenging as they require further data, sectorial collaboration and criteria clarification. Effective cross-sector partnerships are crucial in reducing indirect emissions, as they gather a broader range of expert knowledge, measurement tools, and resources. Ultimately, full value chain decarbonisation will become even more a part of company and government targets and policies, so organisations need to start tackling these issues by investing in the right technologies and processes and taking definitive actions to measure them.

14:50 – 15:40

Location: Conference Room B

### Methane

#### Tackling methane emissions: where are we now and where do we need to be?

The Global Methane Pledge is a collective effort to reduce global methane emissions by 2030 by a minimum of 30% from 2020 levels. But, what progress have industries made to date? Whilst it is clear the industry is heavily investing in technologies and infrastructure to cut emissions, there is, however, a need for more monitoring, reporting and, verification to ensure the world is on track to keeping the global temperature rise below 1.5°C.

11:35 – 12:35

Location: Conference Room B

### Global Challenges

#### Solving the world's most pressing issues

Addressing global challenges is no easy task, as volatility impacts nations across multiple geopolitical, economic and social spheres. Understanding the key challenges the world is facing and how to map them out in an economic and social capacity can provide the thinking and resources needed to tackle some of these issues, in particular the energy crisis.



14:00 – 14:40

Location: Conference Room B

### Heavy Emitting Sectors

#### Accelerating decarbonisation in heavy industry sectors

Heavy industry sectors are particularly challenging to decarbonise due to a lack of technology and investment. Chemicals, mobility, steel and cement are the most difficult sectors to abate with steel and cement accounting for approximately 14% of global CO2 emissions and 47% of industry's CO2 emissions. Will new energy sectors, such as hydrogen and biofuels and the expansion of low-emissions technologies, create opportunities to help these sectors reduce carbon emissions?

15:30 – 16:05

Location: Conference Room B

### Circular Economy

#### Lowering emissions through circular economy strategies

Circular economy strategies are a key pillar of the energy transition. To build a successful circular economy, robust frameworks need to be put in place through government-led regulations, industry-led initiatives and public-private partnerships. A successful circular economy strategy can also improve energy efficiency, promote job creation and foster innovation. In addition, these strategies can contribute to a just transition, shifting to a low-carbon economy that is equitable, profitable and environmentally friendly.

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2 - 5 October 2023

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Athens, Greece



4 - 7 December 2023

Yenagoa Bayelsa, Nigeria



9 - 12 January 2024

Cairo, Egypt



16 - 19 January 2024

New Orleans, USA



6 - 9 February 2024

Goa, India



12 - 14 February 2024

Cairo, Egypt



Canadian Hydrogen Convention

23 - 25 April 2024

Edmonton, Canada



23 - 25 April 2024

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23 - 25 April 2024

Singapore



April 2024

Calgary, Canada



7 - 9 May 2024

Vancouver, Canada



15 - 17 May 2024

Bangkok, Thailand



15 - 17 May 2024

Bangkok, Thailand



27 - 29 May 2024

Lisbon, Portugal



19 - 21 May 2024

Riyadh, Saudi Arabia



19 - 21 May 2024

Riyadh, Saudi Arabia



3 - 5 June 2024

Tokyo, Japan



11 - 13 June 2024

Calgary, Canada



30 June - 4 July 2024

Abuja, Nigeria



1 - 3 July 2024

Milan, Italy



16 - 17 July 2024

Cairo, Egypt



9 - 11 September 2024

Abu Dhabi, UAE



24 - 26 September 2024

Calgary, Canada



17 - 20 September 2024

Houston



17 - 20 September 2024

Houston



17 - 20 September 2024

Houston



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# DECARBONISATION STRATEGIC CONFERENCE OVERVIEW

**R**eaching net-zero emissions by 2050 is a global commitment, placing the energy transition as a top priority for all industries and economies today. Decarbonising the energy system requires a transformation in the way industries consume, transport and provide energy. Key strategies to move the needle forward include the push for large-scale investments in technology, expansion of low-carbon energy, the phase-out of unabated fossil fuels, and widespread electrification. Decarbonisation is seen by many as an opportunity to foster green economic growth, enhance energy security, and safeguard the well-being of future generations. However, overcoming challenges such as today's economic conditions, the transition to clean energy, and policy barriers, requires proactive measures. Through the expansion of renewable energy, enhancements in energy efficiency, implementation of carbon pricing mechanisms, promotion of technological innovations, and

joint efforts and global cooperation, industries can navigate the path to decarbonisation and create a healthier, more resilient planet for all. The ADIPEC 2023 Decarbonisation Conference will feature strategic sessions with a focus on addressing the need for innovative policies, new investment, technology advancement, new energy sources, and decarbonisation of heavy-industry sectors. As industries commit to delivering their decarbonisation strategies, the conference will gather energy industry leaders, policymakers, governments, financial institutions and cross-sector industries to discuss the opportunities in a decarbonised future, the importance of new partnerships to unlock new value pools and a comprehensive array of key topics around emissions abatement, clean energy technology, carbon tax, carbon capture, renewables, nuclear energy, battery storage, low-carbon solutions, circularity, energy efficiency, and electrification.



It's a pleasure to be back at ADIPEC, which is one of the most important events on the global energy industry's calendar. It is a great place to share perspectives on the gap between the realities of the energy market, to share aspirations for the future and to act on ensuring we meet the challenges we face.



**Bob Dudley**  
Chair  
Oil and Gas Climate Initiative (OGCI)

## Conference themes

### Reinforcing regulatory systems to guide and accelerate emissions reduction

Setting clear-cut standards and policies is vital to allow businesses to make long-term plans for emission reduction efforts to succeed. Ambitious targets, robust measuring, reporting and verification systems, innovation and commercialisation incentives, enforcement and market-making mechanisms, public participation, and international cooperation are all key elements in establishing a regulatory framework for a new industrial base that can effectively support businesses in reducing their emissions.

### Driving investment in new technology to scale down the cost of clean energy

Transforming the world's energy systems through the deployment of carbon reduction technologies and solutions involves substantial investment in clean energy infrastructure. Driving technological advances will be crucial to delivering accessible and affordable green energy.

### Enhancing grid infrastructure to unlock the potential of renewables and low-carbon solutions as energy sources

Renewable energy and low-carbon solutions have the potential to significantly reduce energy dependence on fossil fuels and help mitigate the impacts of climate change. Establishing diversity in energy sources is a key factor to meet the challenges of energy supply and demand, and improving grid infrastructure will play a vital role in unlocking this capability.

### Decarbonising end-use and heavy-industry sectors

The decarbonisation of heavy-industry sectors presents unique challenges of its own. Recognising the capabilities of energy efficiency, electrification, and new energy carriers as key enablers in the energy system opens opportunities for effective, tailored solutions to decarbonise operations across heavy-industry sectors.

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# DECARBONISATION STRATEGIC CONFERENCE PROGRAMME

Global collaboration, funding and government-led actions from across the energy value chain and the broader industrial ecosystem will be crucial to a clean energy transition.

**DAY 1**

**Monday 2 October 2023**

**OPENING KEYNOTE ADDRESS**

13:00 – 13:15

Location: Decarbonisation Theatre

**Decarbonisation outlook: the pathway to net-zero**

The United Arab Emirates is taking centre stage with decarbonisation at the forefront of its efforts to address clean energy security and deliver a just energy and equitable transition and long-term sustainability. Its commitment to decarbonise the energy sector is propelled by a national drive to achieve net-zero emissions by 2050. In what ways can government and industries work together in collaboration with civil society to achieve decarbonisation objectives?

**STRATEGIC PANEL**

13:15 – 14:15

Location: Decarbonisation Theatre

**Addressing the invisible: driving down value chain emissions in the energy sector**

Tackling value chain emissions can help organisations progress in their decarbonisation and sustainability journey, but collecting and tracking these emissions is inherently difficult without reliable data. Energy companies prioritising value chain emissions reduction are facing challenges such as obtaining an accurate measure of current emissions, lack of reporting standards and policies, and transparency between supply chain partners. An alignment amongst companies, suppliers and end-users must be set in place to effectively advance each of their individual and shared mitigation targets.

**LEADERSHIP PERSPECTIVES**

14:15 – 15:00

Location: Decarbonisation Theatre

**Methane**

**Curbing methane emissions: a global imperative**

One of the most effective ways to rapidly limit greenhouse gases is through methane abatement. This year, at least 40% of total methane in the atmosphere has been attributed to the energy sector. Mitigating emissions requires the enactment of regulatory policies such as those that will oblige operators to provide the highest standard of measurement, report and verification of emissions, carry out comprehensive surveys to detect and repair methane leaks, and cease all non-emergency flaring and venting practices. With the help of existing technologies and the collective compliance of major oil and gas producers, these regulations will enable the energy industry to effectively abate and create a new supply, and a stabilised market for captured methane.



**DAY 2**

**Tuesday 3 October 2023**

**STRATEGIC PANEL**

10:00 – 11:00

Location: Decarbonisation Theatre

**DAC and CCUS as enablers of carbon neutrality**

Direct air capture (DAC) and carbon capture, utilisation and storage (CCUS) are prominent and important technological options to reduce carbon emissions and achieve net-zero ambitions. The source of carbon and technical functionality may differ between DAC and CCUS, but both technologies face the obstacle of being capital and energy intensive. To accelerate the deployment of these carbon capture technologies, governments must increase research and development funding, expand carbon offset procurement, and implement progressive regulations and subsidies that support the commercialisation and incentivisation of carbon capture.

**LEADERSHIP PERSPECTIVES**

11:00 – 11:30

Location: Decarbonisation Theatre

**Greening the barrel: accelerating decarbonisation through NOC and IOC collaboration**

While IOCs are at the forefront of investing in low-carbon initiatives, there is growing pressure for NOCs to advance at pace with their own decarbonisation journeys. NOCs represent a key opportunity for accelerating decarbonisation with their capacity to diversify energy portfolios, reduce emissions, promote low-carbon fuel, and advocate for climate policies. Can greater collaboration with IOCs help catalyse sustainable funds and immediate solutions to manage the transition to a new age of energy?

This Preview is accurate as of August 2023. Sessions and topics will continue to evolve and are subject to change.

STRATEGIC PANEL

11:30 – 12:30

Location: Decarbonisation Theatre

**Carbon tax vs. subsidies: what is the best regulatory method to accelerate emissions reduction?**

Carbon taxes and subsidies are two policy measures that can be used to accelerate emissions reduction. Some experts believe that subsidy policies are more effective than carbon tax policies since they incentivise the development of low-carbon technologies and industries. Others disagree since carbon tax is a market-based mechanism encouraging organisations to eliminate added operating costs, which leads to avoidance of emissions. As a drawback, carbon taxes can be regressive while subsidies can be expensive and may not be sustainable in the long term. In enacting these measures, policymakers must consider factors like policy design, level of tax or subsidy, the sectors covered, duration and the impact of the policy on different stakeholders, including consumers, producers, and the government.

LEADERSHIP PERSPECTIVES

12:30 – 13:15

Location: Decarbonisation Theatre

Hydrogen Fuel Cells

**Decarbonising road transportation: can hydrogen fuel cell technology meet clean energy expectations?**

Achieving decarbonisation in the road transportation sector through the application of hydrogen fuel cell technology shows great promise for its capacity to generate electricity while only producing heat and clean water as byproducts. Over the next few years, it is foreseen that there will be a surge in the number of hydrogen-powered vehicles, including fuel cell trucks, taking to the roads. However, some challenges like lower energy density relative to liquid fuels, high cost, and limited infrastructure for hydrogen refuelling must be addressed to increase the competitiveness of fuel cell vehicles.

STRATEGIC PANEL

14:00 - 15:00

Location: Decarbonisation Theatre

**Decarbonising steel production: is there a future for green steel?**

Green steel production is a relatively new concept expected to play an important role in the transition to a low-carbon economy. Traditional steel fabrication typically involves burning fossil fuels resulting in significant carbon emissions. With the help of renewable energy sources and recycled materials, the production of green steel is seen as a promising solution to reduce the carbon footprint of the steel industry. However, an underdeveloped infrastructure along with the lack of affordable green energy supply and the high cost of technologies make for the biggest challenges in implementing measures to decarbonise steel production. Overcoming this will need broader strategies that include the adoption of low-carbon solutions, a shift to a circular economy, and established policies on green premiums and green financing that will open opportunities for public-private investment in clean technology.

DAY 3

Wednesday 4 October 2023

STRATEGIC PANEL

10:00 – 11:00

Location: Decarbonisation Theatre

**Renewable energy: scaling solar and wind power**

Renewable energy has seen its largest increase in global capacity, largely due to the growth of solar and wind power and the further decommissioning of fossil fuel power plants in several large economies. Despite this, barriers remain to fully integrating renewables into the energy mix including intermittency, storage, and grid integration issues. Scaling renewable energy requires significant investment in infrastructure, including transmission lines, energy storage facilities, and new grid technologies. Addressing these challenges will require a coordinated effort among policymakers, industry leaders, and other stakeholders in order to develop and implement innovative solutions to support renewable energy growth.

LEADERSHIP PERSPECTIVES

11:00 - 11:45

Location: Decarbonisation Theatre

Electrification

**Strategic electrification: supporting decarbonisation across sectors**

According to the International Energy Agency, electrification holds great potential for reducing final energy demand due to the higher efficiency of electric technologies compared with fossil fuel-based alternatives. The demand for electrification technologies is mainly driven by transport, building heating, and industrial sectors where markets for electric vehicles and heat pumps are on the rise. To carry this momentum forward, significant funding for innovation and more policies supporting electricity networks are required to decrease the cost of alternative technologies and encourage key sectors to adopt electrification as part of their value chain.

STRATEGIC PANEL

11:45 – 12:45

Location: Decarbonisation Theatre

**Powering nuclear energy to support a low-carbon energy system**

Nuclear energy has shown steady growth over the years as some countries continue to pursue it as a viable option for their energy needs, despite its risks. Part of this growth can be attributed to its high-capacity factor, the capability to generate reliable and carbon-free power, and the recent developments in reactor technologies such as small modular reactors, advanced reactors, and high-temperature gas-cooled reactors. But a variety of barriers and risks exist, such as the management of radioactive nuclear waste, high costs, and public perception of nuclear energy. The successful deployment of nuclear energy relies on both the public and private sectors collaborating to develop the nuclear industry in a manner that mitigates risks, facilitates swift implementation, and fosters the growth of nuclear energy.

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LEADERSHIP PERSPECTIVES

11:00 – 11:45

Location: Decarbonisation Theatre

Circular Economy

**Circular economy: boosting decarbonisation through circular solutions**

Adopting a circular economy in the energy sector presents opportunities to develop a sustainable and low-carbon energy system by reducing dependence on fossil fuels and mining, supporting carbon recycling, and promoting the long-term use of renewable energy sources and the preservation of critical minerals. While the circular economy enables a promising vision for a more sustainable future, it also faces several challenges that must be addressed in order to realise its potential. Some of these barriers include the need to build circular economy principles into the design of the energy transition, a significant shift away from traditional linear approaches to economic activity, a lack of suitable technologies for recycling and repurposing materials and energy resources, the high cost of implementation and the lack of supportive policies and regulations that incentivise circular economy practices.

LEADERSHIP INTERVIEW

11:45 – 12:15

Location: Decarbonisation Theatre

**Decarbonising cement production: can producers reach carbon neutrality by 2050?**

According to the Global Cement and Concrete Association, cement production accounts for approximately 7% of global direct carbon emissions. Major producers are actively taking measures to reduce emissions by 2030. but decarbonising the cement industry, by 2050, will necessitate technological innovation, operational enhancements, the adoption of carbon capture technologies, reducing clinker content in cement, and promoting the use of alternative fuels. Additionally, challenges such as high emissions from the calcination process of cement production, along with the limited alternatives to cement substitution, will also have to be addressed to make progress in the decarbonisation efforts.

LEADERSHIP PERSPECTIVES

12:15 – 13:00

Location: Decarbonisation Theatre

Energy Efficiency

**Harnessing the potential of energy efficiency to lower emissions**

Improving energy efficiency is a significant step towards decarbonising our energy systems. In addition to its potential in mitigating climate change by reducing emissions, it can also contribute to lowering energy expenses for consumers and enhancing competitiveness for businesses. Energy efficiency delivers several environmental benefits essential to decarbonisation strategies, but challenges such as volatile energy prices, limited access to financing and technical expertise, lack of awareness and education, and energy security concerns can hinder its progress for businesses and end-users alike.

LEADERSHIP INTERVIEW

12:45 - 13:15

Location: Decarbonisation Theatre

**Unlocking battery storage technology as a catalyst of clean energy**

Renewable energy production is crucial for global decarbonisation, but the development of energy storage systems is equally important to address the intermittent nature of solar and wind power. Today's leading technology of choice for battery energy storage systems is lithium-ion due to its cost-effectiveness and high efficiency, but long-duration energy storage is slowly gaining traction as an alternative to enable storage of large quantities of low-cost energy over long timescales. This is particularly important as the electricity sector moves towards 100% clean energy. As utility-scale battery costs and renewable energy prices decline, the utilisation of battery-based energy storage systems will increase, playing a larger role in the transition towards a decarbonised global economy.

DAY 4

Thursday 5 October 2023

STRATEGIC PANEL

10:00 – 11:00

Location: Decarbonisation Theatre

**Decarbonising aviation: is net-zero air travel achievable?**

Decarbonising commercial aviation needs large-scale investments in the development of new technology and aircraft, including hybrid-electric aircraft, fuel-burn efficiency applications, contrail mitigation solutions and sustainable aviation fuel. But disadvantages such as the expensive and inadequate supply of biofuels, as well as the limited infrastructure to develop hybrid-electric aircraft could slow its progress. Governments, airlines, and the wider aviation industry must work together to accelerate the transition to a more sustainable aviation sector.

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# HYDROGEN STRATEGIC CONFERENCE PROGRAMME OVERVIEW



**H**ydrogen has the potential to be a pivotal tool in achieving global net-zero emissions by 2050. Complementing renewable power, biofuels, and other emerging and existing technologies, hydrogen can play an important role in decarbonising heavy industries including steel, petrochemicals, fertilisers, heavy-duty mobility, maritime shipping, aviation, and flexible power generation. By 2050, hydrogen could account for up to 18% of annual worldwide emissions reductions.

A versatile energy carrier, the market momentum for low-carbon hydrogen is building fast with an expanding pipeline of projects. In addition, the development of hydrogen demand centers in key sectors,

including industrial applications, transportation, energy storage, and power generation, is imperative for the growth and adoption of hydrogen as an accelerant of the transition to a low-carbon energy system. The ADIPEC Hydrogen Strategic Conference will gather the most influential leaders in the energy ecosystem to discuss the role of hydrogen in global economies, the latest technological breakthroughs, near-term and long-term strategies, and the actions required to scale the hydrogen economies of the future. Delivering on strategic, technical, and operational insights, the conference will provide the insights necessary to shape and accelerate continued growth of the hydrogen value chain.



Over the last two years, the number of hydrogen projects has grown massively, and the next five years will be no different. To keep this growth up however, the industry will need to keep engaging policymakers and partners up and down the value chain, both through public partnerships and on a more ad-hoc basis at major industry conferences like this year's ADIPEC.

**Daryl Wilson**  
Executive Director  
Hydrogen Council

## Conference themes

**Fostering hydrogen trade corridors**

As global demand for renewable hydrogen increases, in line with efforts to meet decarbonisation targets, regions with limited production capacity will consider importing renewable hydrogen. Facilitating global hydrogen trade will enable the export of clean hydrogen to meet these demands, accelerating hydrogen uptake and reducing costs. To support international trade corridors, it will also be essential to establish global standards for hydrogen, implement robust tradable certification systems and develop cross-border infrastructure. The recently announced International Hydrogen Trade Forum will play a pivotal role in facilitating constructive discussions and accelerating collective action between governments on the international hydrogen market.

**Innovation and deployment of hydrogen technologies**

Hydrogen's significance in the clean energy transition relies on innovation, driving cost reductions and enhanced performance in both new and existing technologies. Innovation is also crucial to strengthen energy security and narrow the global decarbonisation divide. While technology development is progressing throughout the hydrogen value chain, some key technologies, especially in end-uses, are not yet commercial. Moreover, innovation and deployment of hydrogen technologies will be essential in facilitating hydrogen trade.

**Shaping effective hydrogen policy**

The urgency of addressing climate change has brought hydrogen into the policy spotlight. Scaling up low-carbon hydrogen production and deployment necessitates immediate and substantial policy interventions including stronger mandates, demand-side measures and higher carbon prices. Governments are already working with diverse stakeholders to identify effective policies to underpin hydrogen's role in the clean energy transition. Policy frameworks like the UAE's National Hydrogen Strategy, will play a vital role in achieving the country's net-zero emissions goal by 2050 while accelerating the global hydrogen economy.

**Shaping tomorrow: the emergence of a hydrogen-based economy**

Creating a hydrogen economy aligned with climate goals requires cross-sector collaboration and policy backing. Reducing costs and risks for investors, incentivising low-carbon hydrogen production and advancing technology and infrastructure are vital. Policymakers can de-risk investments by implementing long-term carbon pricing, contracts for difference and setting clear goals in hydrogen roadmaps, including quantitative supply and demand targets.

**Fostering sustainable supply chains**

Ensuring sustainable hydrogen supply chains is vital for integrating hydrogen into future energy systems. This requires assessing infrastructure, innovative manufacturing and distribution network connectivity to manage risks. Early capital investment is necessary to gain manufacturing experience and optimise processes. Employing a lifecycle assessment approach and stringent sustainability criteria is essential to ensure long-term resilience, circularity and sustainability of hydrogen supply chains, particularly in large-scale production and support the transition to a hydrogen economy.

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# HYDROGEN STRATEGIC CONFERENCE PROGRAMME

The ADIPEC 2023 Hydrogen Strategic Conference programme will provide critical insights on the following themes:

**DAY 2**

**Tuesday 3 October 2023**

## MINISTERIAL PANEL

**10:15 – 11:00**

**Location: ICC Hall**

### Building bridges for accelerated hydrogen deployment: strengthening policies, partnerships and collaboration

To limit global warming to 1.5°C, the Hydrogen Council predicts an estimated 660 million metric tons of renewable and low-carbon hydrogen and its derivatives will be required in 2050. This will necessitate significant multi-lateral cooperation to advance policies, programmes and the projects that can accelerate, at scale, the deployment of hydrogen fuels and technologies across all aspects of the energy value chain. A growing number of governments are adopting hydrogen strategies and targets for technology deployment while policy development to stimulate demand has been progressing intermittently. Governments, policymakers, and regulators will need to build their support, through direct subsidies and progressive policies, for applications where hydrogen offers the greatest potential for abating GHG emissions.



## STRATEGIC PANEL

**11:00 – 12:00**

**Location: ICC Hall**

### From concept to commercialisation: perspectives from the hydrogen production value chain

The International Energy Agency (IEA) predicts hydrogen could meet up to 18 percent of the world's energy demand by 2050, generating a market worth up to US \$200 billion annually. Hydrogen's growing contribution to the global energy mix could help expedite delivery of new levels of demand, while reducing reliance on fossil fuels. To do that, hydrogen must be competitively priced to compete with traditional fuels and penetrate the market. In addition to forging partnerships along the hydrogen value chain, developing cross-sector, international partnerships will be essential to bring in the technology, investment, and expertise required to pursue hydrogen strategies and develop infrastructure. The potential of hydrogen as an energy source is vast, but its implementation requires addressing issues related to affordable input energy costs, hydrogen production, transit, and storage costs, as well as expanding current infrastructure.

## STRATEGIC PANEL

**12:00 – 13:00**

**Location: ICC Hall**

### Scaling up green hydrogen

Green hydrogen, produced from renewable electricity through electrolysis, is crucial for a low-carbon future. Accelerating its production and deployment requires supportive policies, global cooperation, continued investments in infrastructure, as well as scaling up electrolysis, all while reducing costs. Green ammonia and hydrogen derivatives will play a significant role in delivering cost-effective green hydrogen. Moreover, connecting low-cost regions with demand centers will be pivotal for scaling production and deployment of green hydrogen.

## STRATEGIC PANEL

**14:00 – 15:00**

**Location: ICC Hall**

### Financing the hydrogen revolution

Hydrogen needs investment and policy support to establish demand, reduce costs and increase the scale of deployment. Over 30 countries have now established hydrogen strategies, with an estimated allocation of US\$76 billion in government funding. However, revenue certainty will be critical for attracting and managing the risks faced by first mover investors. Practical options for additional financial support will need to be developed as a key part of the roadmap towards a hydrogen revolution.

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**STRATEGIC PANEL**

16:00 – 17:00

Location: ICC Hall

**The role of ammonia in moving energy and hydrogen**

As the global energy transition progresses, there is a growing need for low and zero-carbon solutions. Ammonia, already an essential raw material for various industries, is gaining popularity as a potential energy generation fuel, with applications for electric power, maritime transport and as a hydrogen carrier and carbon-free energy commodity. Determining the optimal use of ammonia as a carrier is critical. Overcoming the cost and energy intensity issues in its synthesis and cracking is essential. Additionally, developing the necessary infrastructure for large-scale ammonia production, transportation and storage poses significant challenges. Investment in research and development, optimising production processes, and creating supportive policies will be imperative to enable ammonia to play a pivotal role in the global energy transition.

**STRATEGIC PANEL**

15:00 – 16:00

Location: ICC Hall

**Blue hydrogen: unblocking progress with CCUS on the journey to net-zero**

As hydrogen strategies draw increasing interest from governments and energy companies, the development of blue hydrogen production, utilising natural gas, and carbon capture and storage (CCUS) technology, is viewed as a bridge in the transition to a green hydrogen economy. The expectation is carbon capture and storage technologies and projects will enable faster and cost-effective production of blue hydrogen, and be an attractive option for decarbonising hard-to-abate sectors. In addition, blue hydrogen could also enable reductions in supply chain bottlenecks in the green hydrogen sector. Projections show that global production capacity for blue hydrogen is expected to increase considerably over the next ten years. Is blue hydrogen a long term solution or only a medium-term bridge to green hydrogen?



**LEADERSHIP PERSPECTIVES**

16:45 – 17:30

Location: ICC Hall

**Fuelling the future: how hydrogen will power the next generation of mobility**

The European Commission has launched a European Green Hydrogen Alliance to encourage the use of hydrogen for heavy vehicles and international shipping, with the goal of producing up to 10 million tonnes of hydrogen by 2030. However, the infrastructure for hydrogen fueling stations is not yet available, which limits the adoption of hydrogen-powered vehicles. The cost of hydrogen fuel cells is also higher than that of traditional combustion engines. Despite these challenges, hydrogen is still considered a promising solution for future mobility, particularly for heavy-duty vehicles and long-distance transportation.

**DAY 3**

**Wednesday 4 October 2023**

**STRATEGIC PANEL**

10:00 – 11:00

Location: ICC Hall

**Unlocking hydrogen trade corridors to meet decarbonisation targets**

The International Renewable Energy Agency (IRENA) anticipates 25% of global hydrogen demand will be met through international trade by 2050. Hydrogen exports can offer an opportunity for economies to diversify. It will also provide a means for importing countries to diversify suppliers and decrease the costs of transitioning to lower emissions. To unlock hydrogen trade flows, cross-border infrastructure will need to be developed. Policies will be essential to establish global standards for hydrogen and drive investments into the sector. International government and industry partnerships, like the recently launched International Hydrogen Trade Forum, are crucial to boost trade, reduce barriers, and create favourable market conditions

**STRATEGIC PANEL**

11:00 – 12:00

Location: ICC Hall

**Building resilient supply chains for the hydrogen economy**

Hydrogen's success in the global energy mix will depend on the ability to develop a sustainable and robust supply chain. Pipelines, as well as road, rail and shipping solutions will be essential to transport hydrogen to locations with large-scale storage facilities. Access to renewable energy sources will be crucial in meeting the demand for hydrogen, increasing procurement demands on manufacturers of hydrogen and renewables equipment. However, the scarcity of rare-earth materials could be a constraint on some technologies. Companies looking to take advantage of the opportunities presented by hydrogen will need to make strategic bets, build an ecosystem, and proactively engage with policy makers, investors and stakeholders at all levels of the supply chain.

**HEAR FROM INDUSTRY LEADERS AT THE HYDROGEN STRATEGIC CONFERENCE**

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**STRATEGIC PANEL**

12:00 – 13:00

Location: ICC Hall

**The future of hydrogen storage and transportation**

According to Bloomberg NEF, the shift to hydrogen from natural gas will require US\$600 billion investments in storage facilities by 2050. Creating a low-carbon hydrogen ecosystem will necessitate both centralised and decentralised production, distribution, and storage, depending on numerous factors such as renewable energy availability, existing infrastructure, and hydrogen usage efficiency. This presents an array of potential opportunities for machinery manufacturers and suppliers who can adapt their products to incorporate hydrogen. However, the slow pace of infrastructure development is a major challenge that is negatively impacting the economics of hydrogen. Other hurdles include preserving hydrogen purity during transportation, reducing the risk of leaks, and improving energy efficiency. To fully realise the potential of the hydrogen market, these significant obstacles in distribution and storage will need to be addressed.

**LEADERSHIP INTERVIEW**

14:00 – 14:30

Location: ICC Hall

**Hydrogen certification: challenges and considerations**

Clean hydrogen will play an important role in realising a global net-zero emission energy system. Countries with abundant low-cost renewable resources, water access, and favourable capital have a strategic advantage to emerge as significant producers and exporters of green hydrogen and its derivatives. To foster market creation, growth and facilitate international trade, it is essential to establish globally recognised hydrogen standards, regulations and certification mechanisms. Collaborative efforts between governments, the private sector and international organizations will be pivotal in developing hydrogen certification and advancing the transition to a sustainable hydrogen economy.

**LEADERSHIP INTERVIEW**

14:30 – 15:00

Location: ICC Hall

**Circular economy business models for a sustainable hydrogen value chain**

Transitioning from a linear to a circular hydrogen economy is crucial for the energy industry to achieve its net-zero goals, and necessitates addressing challenges across the value chain, such as waste management, infrastructure scalability, cost, safety, and environmental concerns. For a sustainable hydrogen circular economy, business models need to be developed by forging partnerships, with policy support playing an essential role in widescale deployment. In addition, coordinating circular value chains through data exchange, and utilising trucks and pipelines for storage and transmission can accelerate wider adoption of the circular economy model.

**STRATEGIC PANEL**

15:00 – 16:00

Location: ICC Hall

**Accelerating innovation in next-generation hydrogen technologies**

The International Energy Agency (IEA) emphasises the need to scale up hydrogen technologies and reduce costs to achieve widescale deployment. Research and development is critical to advancing technology and in recent years, hydrogen energy systems have made significant advances, including improved production, storage, re-electrification, and safety. Electrolysis and thermochemical processes to produce hydrogen, from biomass or fossil fuels with carbon capture and storage, are among the technologies critical to the green hydrogen revolution. As these technologies improve and costs decrease, hydrogen has the potential to play a significant role in clean energy transitions across multiple sectors, including transport, buildings, and power generation.

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# MANUFACTURING AND INDUSTRIALISATION STRATEGIC CONFERENCE

**T**he dawn of the technological era has redefined manufacturing, bringing with it a new meaning to how we design, produce and distribute goods and materials. As the geopolitical narrative changes and climate concerns reshape industrial policies, manufacturers are challenged to remain resilient and deliver greater transparency across their value chains.

High volatility in global supply chains is driving manufacturers to find new ways to adapt – from reshoring production sites, to 3D printing parts to ensure sustainable production and security of available materials. A key enabler to support these shifts is the rapid digital transformation of technologies, allowing manufacturing to scale up across all industries.

At the same time, the dynamic between supply chains and a new era of technological innovation unlocks the potential for emerging economies to become regional manufacturing hubs. As governments rethink their industrial strategies in pursuit of greater sustainability and resilience, global industry leaders will need to swiftly adopt advanced manufacturing techniques and seek new ways to diversify economies.

The Manufacturing and Industrialisation



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The Manufacturing & Industrialisation Strategic Conference at ADIPEC 2023 will highlight the role of manufacturing in building economies of scale and scope, and the digital enablers accelerating growth for industrial readiness. Focusing on three key themes, the programme will provide key insights into the future of manufacturing and the vital importance of building resilient and responsive supply chains, amidst global market uncertainty and the next phase of transformative industrialisation.

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Strategic Conference at ADIPEC 2023 will highlight the role of manufacturing in building economies of scale and scope, and the digital enablers accelerating growth for industrial readiness. Focusing on three key themes, the programme will provide key insights into the future of manufacturing and the vital importance of building resilient and responsive supply chains, amidst global market uncertainty and the next phase of transformative industrialisation:

### Mitigating the effects of inflation on manufacturing

The sharp rise in commodity prices, including energy, metals, and agricultural products has led to increased costs for manufacturers. Governments' efforts to raise interest rates, implement monetary policies and introduce subsidies, grants and tax incentives are curbing inflationary effects to a degree; however, manufacturers must take action to address the effects of inflation within their

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own value chains. What role will additive manufacturing, domestic production and regionalising supply play in enabling future industries to remain resilient and strengthen manufacturing operations?

**Sustainable manufacturing and the adoption of smart, clean energy technology**

The biggest challenge to manufacturers reducing energy consumption and diversifying energy sources will be finding a balance between cost-effectiveness, sustainability goals, and reliability of energy sources. Implementing energy-efficient technologies such as smart sensors and energy management systems can optimise energy usage and reduce waste, but the adoption of Industry 4.0 technologies will require considerable research and development, backed by investment and strategic planning to scale up climate technology manufacturing that enables a more sustainable and circular industrial landscape.

**Public sector initiatives and enablers that strengthen national economies**

Building sustainable resilience in core industries and gaining global economic competitiveness will require governments to adopt innovative and unique approaches that support the private sector's contribution to the local economy. Introducing attractive financing solutions, reducing costs of launching and scaling manufacturing operations and strengthening regional industrial ties to prompt business opportunities for the market will be essential in boosting national economies, unlocking remarkable economic growth and raising in-country value.

**DAY 1**

**Monday 2 October 2023**

**MINISTERIAL KEYNOTE**

12:30 – 12:45

Location: Conference Room A

**Building tomorrow's industries with advanced technology**

The unprecedented scale at which technology is evolving will empower nations and industries around the world to strengthen their national self-reliance and fortify industrial supply chains. Decentralising manufacturing and embracing intelligent technology adoption at scale will accelerate research and development into future-focused sectors such as hydrogen, defence and space technology, building knowledge-based economies around the world. As a result, newly emerging manufacturing hubs will have capacity to secure a resilient and sustainable future for the global industry landscape. The opening ministerial keynote will focus on the pathways to creating industries of the future, and the significance of wide-scale IR4.0 technology adoption to build safe, sustainable, and prosperous societies around the world.

**STRATEGIC PANEL**

12:45 – 13:45

Location: Conference Room A

**Make it in the Emirates: a local blueprint for empowering global economies**

In times of economic uncertainty and shifting trade agreements, manufacturers are seeking to establish business operations in nations with a supportive government that offers attractive incentives to stimulate the development in advanced industries. The UAE's 'Make it in the Emirates' campaign is an unparalleled example of a modern industrial incubator, demonstrating how capitalising on local resources is enhancing job creation, safeguarding supply chains and shaping a competitive, knowledge-based national economy. With access to international free trade agreements, a strategic geographic position, a highly skilled workforce and an advanced communication and logistics infrastructure, the UAE provides a unique value proposition for manufacturers to gain global competitiveness across all sectors.

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**LEADERSHIP PERSPECTIVES ON INDUSTRIAL POLICY**

13:45 – 14:30

Location: Conference Room A

**Building advanced industries: the synergy between public and private sector fostering innovation in manufacturing**

Industry 4.0 has further emphasised the role governments hold in diversifying national economies and developing knowledge-based industrial ecosystems. Advanced manufacturing - the key driver of today's industrial transformation - will require governments to develop an enabling environment for businesses to thrive, easing the deployment of intelligent technologies that support a digital infrastructure. The future of industrial success will belong to governments that prioritise the development of a digital ecosystem, removing barriers for the private sector to adopt innovative solutions and key technologies.

**STRATEGIC PANEL**

14:45 – 15:30

Location: Conference Room A

**Enhancing transparency and collaboration to build resilience in manufacturing supply chains**

Industrial supply chains are the cornerstones of economies, enabling manufacturers to meet demand with supply and keep global trade moving. Geopolitical uncertainty and climate concerns have revealed the fragility of modern supply chains, expanding the spectrum of possible disruptions and forcing manufacturers to constantly adapt strategies to remain resilient. How can enabling greater transparency through data-driven business models, increasing areas of collaboration across the industrial value chain and leveraging smart technologies to redefine manufacturing, lay the groundwork for building agile, resilient and sustainable supply chains?

**EXPERT DIALOGUE**

15:30 – 16:00

Location: Conference Room A

**Unlocking the full potential of AI for industrial transformation**

Artificial intelligence has prompted a quantum leap in manufacturing innovation, blurring the boundaries of what is possible for future industries. From supply chain optimisation and predictive maintenance to increased automation and customisation at scale, AI equips business leaders with endless opportunities to redefine the capabilities of the manufacturing and industrial sectors. How will the industry reconfigure its operations and business models in an era of artificial intelligence and which areas of industry will see the biggest changes?

**LEADERSHIP INTERVIEW**

16:00 – 16:30

Location: Conference Room A

**Gearing up the next-generation manufacturing workforce**

The future of work will be vastly impacted by advanced digital technologies and the shifting trends of today's workforce. On the one hand, the manufacturing sector will face unique challenges, requiring people with more advanced technical skills as they integrate the Industrial Internet of Things, Machine Learning and Artificial Intelligence - skills which may not be readily available in the labour market. Conversely, advanced technologies will significantly augment the manufacturing sector, replacing repetitive and menial tasks with more problem-solving while reducing human error, enhancing safety and enabling increased productivity. Manufacturers need to take stock of the challenges appearing on the horizon and anticipate the requirement to invest in training and reskilling programs, to ensure their future workforces can fulfil their potential.



**DAY 2** **Tuesday, 3 October 2023**

**KEYNOTE ADDRESS**

**10:30 – 10:45** Location: Conference Room A

**Securing industrial resilience and sustainable growth**

The global manufacturing sector will play a key role in developing resilient economies that rely on sustainable industrial activity. The UAE has taken significant strides in redefining manufacturing, establishing an industrial ecosystem designed to attract foreign investment and support growth for local manufacturers. Looking ahead to the next decade of industrial transformation, ensuring material availability, technology readiness and access to a tech-savvy workforce will be the key challenges to building industrial resilience. The opening keynote will highlight the global trends shaping the manufacturing sector, and the importance of creating an enabling environment for sustainable industrial development.

**MINISTERIAL PANEL**

**10:45 – 11:45** Location: Conference Room A

**Achieving industrial integration through regional partnerships and international collaboration**

As governments and industry leaders re-evaluate their trade agreements, in pursuit of smarter and more efficient industrial operations, newly formed partnerships to bilaterally leverage competitive capabilities will be key drivers of future national, regional and global economic activity. The supportive industrial ecosystem and strategic geographic positioning of the Arab states offer a unique value proposition for global entities to decentralise their manufacturing operations, whilst developing progressive partnerships that foster growth in national GDPs and create new job opportunities. Aligning industrial strategies between regional partners will be fundamental in strengthening supply chains and advancing socio-economic development, requiring strong backing from visionary government leaders.

**LEADERSHIP PERSPECTIVES ON SUSTAINABILITY**

**11:45 – 12:30** Location: Conference Room A

**Accelerating sustainable industrialisation: the critical role of energy efficiency in manufacturing**

Mitigating the impacts of climate change and reaching net-zero targets requires a substantial reduction in emissions from industrial sectors. The challenge for industry leaders lies in lowering existing energy demand while accurately tracking emissions across the manufacturing cycle and adopting cleaner fuel systems. Considering the high temperatures essential for heavy industry operations, this is no easy task – gradually replacing fossil fuels with alternative technologies will require industry leaders to come together and seek out innovative, actionable and climate-conscious solutions.

**STRATEGIC PANEL**

**13:30 – 14:30** Location: Conference Room A

**Financing industries of the future: the role of SMEs in driving economic progress**

For businesses to survive and thrive in today’s industrial ecosystem, adopting a cost-conscious mindset while also implementing intelligent technologies is no longer an option, but an essential requirement for success. Investing in advanced digital technologies to capture the promised benefits is a challenge for SMEs, requiring significant upfront costs for the latest equipment. The role of financiers in supporting local businesses cannot be understated, as banks and investors are the ultimate enabler to revolutionise manufacturing amidst a digital transformation. The path to unlocking Industry 4.0 benefits starts with capital; is now the opportune time to invest in tomorrow’s industries?

**LEADERSHIP PERSPECTIVES ON DIGITAL TRANSFORMATION**

**14:30 – 15:15** Location: Conference Room A

**Lighthouse factories championing innovation in manufacturing**

The future of manufacturing will rely on a range of cutting-edge industrial technologies such as AI, Machine Learning, Digital Twin Engineering and Additive Manufacturing - the benefits of which can already be seen in smart factories. Beyond immediate gains in efficiency and productivity, adopting Industry 4.0 technologies lay the foundation for sustainable industrial growth while lowering harmful emissions. Mechanisms to measure a successful digital transformation, such as the recently launched Industrial Technology Transformation Index (ITTI), are vital tools for factories to achieve sustainable manufacturing operations. By establishing a quantifiable standard for manufacturers to aspire to while providing actionable guidelines to accelerate their technological transformation, the index can support in developing sustainable, intelligent factories of the future and revamping a national industrial ecosystem.

**EXPERT DIALOGUE**

**15:15 – 16:00** Location: Conference Room A

**Circular transformation of industries: a systemic approach**

The traditional perspective on sustainable manufacturing is commonly associated with waste management and recycling. However, addressing only the last part of the manufacturing cycle ignores an integrated approach to sustainability. For true circular transformation to take effect, systemic changes will need to be put in place that consider the entire manufacturing spectrum: from demand optimisation, sourcing raw materials, to sustainable production and repurposing. What can manufacturers do better, and what are the supporting pillars needed from the public and private sectors to ensure a sustainable, circular transformation of the global manufacturing sector?

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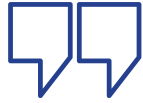
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# MARITIME & LOGISTICS CONFERENCE PROGRAMME OVERVIEW

**T**he maritime industry is a fundamental enabler of global trade and efficient supply chains - it supports 90% of goods transportation and is an invaluable operational pillar for the energy sector.

Heavily reliant on traditional fuels, advances in shipping decarbonisation point the way to diversifying the energy mix in heavy industries worldwide. However, curbing carbon emissions in the maritime sector requires decisive action from all stakeholders across the value chain, supported by progressive policy frameworks to scale up zero emission technology and infrastructure, define future marine fuel pathways and level the playing field for the industry. As a new generation of maritime professionals enter the workforce and more sustainable shipping business models are developed, new opportunities for collaboration are emerging, enabled by digital advances that strengthen logistics and supply chains through increased automation and technologies



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The global shipping industry holds a pivotal role in decarbonising logistics & supply chains for economies worldwide, and the discussions taking place at ADIPEC echo the IMO's ambitions with a clear sense of urgency required in finding actionable solutions on the quest to net-zero shipping.  
.....

**Guy Platten**  
Secretary General  
International Chamber of Shipping (ICS)



## Conference themes

### Policy frameworks shaping maritime decarbonisation

Shipping accounts for 3% of global greenhouse gas emissions, putting pressure on the maritime industry to decarbonise and adopt cleaner fuels. Regulatory policies that incentivise low-carbon technology and deliver emissions accountability will be an essential driver of sustainable operations. To decarbonise shipping, progressive support from regional and national authorities is required to attract the right investment, stimulate demand, and develop the necessary infrastructure to adopt sustainable fuel solutions.

### Developing new cross-sector partnerships for sustainable shipping

As the global energy industry transitions towards cleaner fuels and sustainable business models, opportunities for new multi-sector partnerships will be increasingly viable. Collaboration among governments, energy producers, shipowners, fleet operators, fuel bunker producers and ports will be key in creating a cleaner, more sustainable industry. In addition, infrastructure development for alternative energy carriers, such as hydrogen, will help create a platform for multi-stakeholder partnerships across heavy industries.

### Digital innovation in offshore, maritime and logistics

Technology has a vital role in transforming the maritime industry and digital transformation will be key to resiliency amidst disruptions. Digitally advanced and data-driven operating models, that incorporate technologies such as artificial intelligence (AI), data analytics and blockchain, are increasing efficiency while lowering emissions and improving end-to-end visibility of maritime value chain metrics. Leveraging intelligent technologies in shipping and logistics will result in more resilient and responsive global supply chains, ultimately strengthening trade flows worldwide.



# MARITIME & LOGISTICS CONFERENCE PROGRAMME

DAY 3

Wednesday 4 October

## STRATEGIC PANEL

10:00 – 11:00

Location: Conference Hall A

### Defining the regulatory landscape for a sustainable maritime future

Efforts to reduce maritime emissions are making progress, with the EU Emissions Trading Scheme set to include shipping from 2024 onwards, and the FuelEU Maritime Regulation accelerating alternative fuel deployment from 2025. Meanwhile, the International Maritime Organisation (IMO), has mandated ships to report on their energy efficiency and carbon intensity. With significant limitations and variables affecting reporting, regulatory frameworks will need to be globally aligned to avoid a fragmented, multi-tiered policy landscape if the maritime sector is to achieve net-zero carbon by 2050.



## STRATEGIC PANEL

14:00 – 15:00

Location: Conference Hall A

### Pursuing certainty in scalable zero-emission marine fuels

The future of zero-carbon shipping is challenging, with commercially viable low carbon fuels unavailable at scale. LNG will play a key role in transitioning the sector, while increased electrification and onboard carbon capture may also contribute to zero-carbon shipping advances. Regulatory policies and cross-stakeholder collaboration are pivotal in de-risking investments in the production, transportation and use of low carbon fuels such as methanol and ammonia, putting pressure on the industry to demonstrate tangible action toward clean marine fuel technology.

## LEADERSHIP INTERVIEW

11:00 – 11:30

Location: Conference Hall A

### Navigating the future of offshore logistics

As governments and businesses seek to diversify their energy portfolios, global demand for offshore logistics and construction - previously driven in large by the oil and gas industry - is increasingly shifting towards renewable energy infrastructure. The development of the global offshore wind, solar and hydrogen sectors will bring challenges and opportunities to redefine value chains. Shared logistics and new business models to facilitate this transition will need to rely on digitally advanced technologies and collaborative ecosystems, enabling transparent data sharing and new cross-sector partnerships.

## LEADERSHIP INTERVIEW

15:00 – 15:30

Location: Conference Hall A

### Delivering net-zero: securing shipping finance

Transitioning the maritime industry to net-zero operations requires reliable, long-term investment. While efficiency gains and operational upgrades will secure short-term emissions reduction, net-zero in shipping can only happen through diversification of marine fuels. Regulatory frameworks around alternative fuels remain unclear, presenting financiers and investors with challenges when considering zero-carbon maritime solutions as viable investment opportunities. Public and private sectors will need to collaborate if ambitions for 2050 climate targets are to be met.

## LEADERSHIP PERSPECTIVES

12:00 – 12:45

Location: Conference Hall A

Sustainable Trade

### A new wave for zero-carbon shipping: developing green corridors

Zero-emission trade routes offer opportunities to establish partnerships between ship operators, fuel suppliers, ports and the entire maritime value chain to jointly achieve carbon neutrality goals. As a catalyst for decarbonisation in shipping, green corridors are paving the way towards increased collaboration in a sustainable, multi-stakeholder environment. However, most green corridors are still in the early stages of developments. For sustainable trade routes to become mainstream, proactive input and decisive planning from all stakeholders will be critical.

## LEADERSHIP PERSPECTIVES

15:30 – 16:15

Location: Conference Hall A

Future Workforce

### Championing the next generation of maritime professionals

The shipping sector has historically attracted talent through its diverse range of career opportunities. Attracting today's talent, however, is increasingly challenging in the face of global labour shortages, the introduction of new fuel technologies and digital advances that demand new skills. These challenges are in addition to industry requirements around extended time at sea as well as demanding work conditions.

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# ADIPEC Technical Conference Programme

The Technical Conference, organised by Society of Petroleum Engineers, brings together some of the world's leading engineers and experts from across the energy value chain. Connecting the industry's changemakers, the Technical Conference fosters the critical and disruptive thinking needed to develop the game-changing innovations and solutions that will accelerate decarbonisation and the transformational energy progress that the world needs. With 143 technical conference sessions across 12 categories, the technical programme is the right platform to source the knowledge, technology, innovation and partnerships required to ensure future operational and technical resilience.

Technical Conference Organised By:



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## FIELD DEVELOPMENT

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
Oil Development Strategies

**10:30 AM - 12:00 PM**  
Monitoring Reservoir Performance Techniques

**01:00 PM - 02:30 PM**  
Surveillance for Reservoir Management

**03:00 PM - 04:30 PM**  
Gas and Water Flood Excellence

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
Complex Reservoirs and Mature Fields

**08:30 AM - 10:00 AM**  
Gas Development Plans and Strategies

**10:30 AM - 12:00 PM**  
Unlocking Field Potential

**03:00 PM - 04:30 PM**  
Digital Reservoirs and Data-Driven Applications

**03:00 PM - 04:30 PM**  
Reservoir Modelling and Simulation

**03:00 PM - 04:30 PM**  
Complex Reservoir Development Solutions

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Polymer EOR Applications

**08:30 AM - 10:00 AM**  
EOR Game Changer Technologies

**10:30 AM - 12:00 PM**  
EOR Advance Applications

**01:00 PM - 02:30 PM**  
Fluid Characterisation, PVT, and SCAL

**01:00 PM - 02:30 PM**  
Novel EOR Technologies

**03:00 PM - 04:30 PM**  
CO<sub>2</sub> and Gas EOR Applications

### THURSDAY 5 OCTOBER

**10:30 AM - 12:00 PM**  
Well Completion and Artificial Lift Solutions

**01:00 PM - 02:30 PM**  
Asset Modelling Applications

**03:00 PM - 04:30 PM**  
Carbonate Stimulation and Rigless Interventions

## PROJECT MANAGEMENT

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
Project Execution Strategies

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
Engineering and Procurement

**10:30 AM - 12:00 PM**  
Smart Field Technologies

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Hydrogen Projects

**10:30 AM - 12:00 PM**  
Mega Projects

## DRILLING

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
Step Changes in Drilling Technologies

**01:00 PM - 02:30 PM**  
Drill Bit Technologies

**03:00 PM - 04:30 PM**  
Drilling Operations

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
Directional Drilling Technologies

**10:30 AM - 12:00 PM**  
Drilling Automation

**01:00 PM - 02:30 PM**  
Best Practices in Drilling Operations

**03:00 PM - 04:30 PM**  
Real-Time Monitoring

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Innovative Drilling Fluid Solutions

**10:30 AM - 12:00 PM**  
Drilling Fluid Technologies

**01:00 PM - 02:30 PM**  
Wellbore Stability Challenges

**03:00 PM - 04:30 PM**  
Well Intervention

### THURSDAY 5 OCTOBER

**10:30 AM - 12:00 PM**  
Enhancements in Well Integrity

**01:00 PM - 02:30 PM**  
Well Control Prevention

**03:00 PM - 04:30 PM**  
Overcome Drilling Challenges

## ENERGY TRANSITION AND DECARBONISATION

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
CO<sub>2</sub> Emission Reduction in Well Operations

**01:00 PM - 02:30 PM**  
Energy Efficiency Drives our Sustainability Goals

**03:00 PM - 04:30 PM**  
Methane Measurement, Monitoring and Reduction

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
The Road to Net Zero

**10:30 AM - 12:00 PM**  
Investing in Energy Efficiency

**01:00 PM - 02:30 PM**  
Energy Efficiency Solutions

**03:00 PM - 04:30 PM**  
Decarbonisation Opportunities

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
GHG Emissions Assessment and Reduction

**10:30 AM - 12:00 PM**  
Carbon Footprint Traceability

**01:00 PM - 02:30 PM**  
Hydrogen Transportation and Utilisation

**03:00 PM - 04:30 PM**  
CO<sub>2</sub> Transportation and Sequestration

### THURSDAY 5 OCTOBER

**10:30 AM - 12:00 PM**  
Geothermal Systems

**01:00 PM - 02:30 PM**  
Renewable and Energy Storage Systems

**03:00 PM - 04:30 PM**  
Hydrogen Production and Storage

## PEOPLE DEVELOPMENT AND DIVERSITY

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
Talent Management and Nationalisation

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
Diversity and Empowerment

**01:00 PM - 02:30 PM**  
Capability Culture

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Future-Skiing

**01:00 PM - 02:30 PM**  
Future-Proofing

## COMPLETIONS

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
New Completion Technologies

**01:00 PM - 02:30 PM**  
Well Performance Development

**03:00 PM - 04:30 PM**  
Well Completion and Associated Performance

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
Qualifications and Techniques

**10:30 AM - 12:00 PM**  
Integrated Completion Systems

**01:00 PM - 02:30 PM**  
Rig and Rigless Artificial Lift Solutions

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Flow Control

**10:30 AM - 12:00 PM**  
Breakthroughs in Hydraulic Fracturing

**01:00 PM - 02:30 PM**  
Life Cycle Well Integrity

### THURSDAY 5 OCTOBER

**10:30 AM - 12:00 PM**  
Matrix Stimulation

**01:00 PM - 02:30 PM**  
Stimulation Techniques in Hydraulic Fracturing

## UNCONVENTIONAL RESOURCES DEVELOPMENT

### MONDAY 2 OCTOBER

**10:30 AM - 12:00 PM**  
Drilling and Completion Challenges

**01:00 PM - 02:30 PM**  
Petrophysics Characterisation

### TUESDAY 3 OCTOBER

**08:30 AM - 10:00 AM**  
EOR Advancements

**10:30 AM - 12:00 PM**  
Assessment and Development

### WEDNESDAY 4 OCTOBER

**08:30 AM - 10:00 AM**  
Production Enhancement

**10:30 AM - 12:00 PM**  
Subsurface Characterisation and Integration

### THURSDAY 5 OCTOBER

**10:30 AM - 12:00 PM**  
AI in Unconventional Resources



Technical Conference Organised By:



# ADIPEC Technical Conference Programme

## AI AND DIGITAL TRANSFORMATION

### MONDAY 2 OCTOBER

10:30 AM - 12:00 PM

AI for Sustainability

01:00 PM - 02:30 PM

AI for Subsurface

03:00 PM - 04:30 PM

Analytical Modelling and Optimisation Techniques

### TUESDAY 3 OCTOBER

08:30 AM - 10:00 AM

AI Innovations in HSE

10:30 AM - 12:00 PM

Computer Vision Technologies

01:00 PM - 02:30 PM

NLP and Large Language Models

03:00 PM - 04:30 PM

Edge Computing Operational Efficiency

### WEDNESDAY 4 OCTOBER

08:30 AM - 10:00 AM

Predictive Analytics

10:30 AM - 12:00 PM

Data Science in Decision Making

10:30 AM - 12:00 PM

Digital Twin Applications

01:00 PM - 02:30 PM

Digital Twin Analytics

03:00 PM - 04:30 PM

Success Stories of Applying AI

03:00 PM - 04:30 PM

AI for Autonomous Operations

### THURSDAY 5 OCTOBER

10:30 AM - 12:00 PM

Data Quality Best Practices

01:00 PM - 02:30 PM

Compute Analytics

01:00 PM - 02:30 PM

Field Mobility and AR/VR

03:00 PM - 04:30 PM

AI in Strategic Planning and Execution

## HEALTH AND SAFETY

### MONDAY 2 OCTOBER

01:00 PM - 02:30 PM

Innovations in Environmental Protection

### TUESDAY 3 OCTOBER

10:30 AM - 12:00 PM

Human Factors and Process Safety

## GEOSCIENCE

### MONDAY 2 OCTOBER

10:30 AM - 12:00 PM

Regional Geology

01:00 PM - 02:30 PM

New Exploration Plays

01:00 PM - 02:30 PM

Role of Geoscience in Uncertain Assessment

03:00 PM - 04:30 PM

State of Art in Reservoir Characterisation

### TUESDAY 3 OCTOBER

08:30 AM - 10:00 AM

Defining Reservoir Performance

08:30 AM - 10:00 AM

Rock Physics and Geomechanics

10:30 AM - 12:00 PM

AI in Geoscience Application

10:30 AM - 12:00 PM

Seismic Reservoir Characterisation

01:00 PM - 02:30 PM

Automation in Geoscience Application

03:00 PM - 04:30 PM

Seismic Acquisition and Processing

### WEDNESDAY 4 OCTOBER

08:30 AM - 10:00 AM

Open and Cased Logging

10:30 AM - 12:00 PM

Logging Technologies and Interpretation

01:00 PM - 02:30 PM

Energy Transition

03:00 PM - 04:30 PM

Data Acquisition

### THURSDAY 5 OCTOBER

10:30 AM - 12:00 PM

Breakthrough Technologies

01:00 PM - 02:30 PM

Development of Geostatic and Geological Modelling

03:00 PM - 04:30 PM

Geostatic and Geological Modelling

## MARINE OPERATIONS AND LOGISTICS

### MONDAY 2 OCTOBER

10:30 AM - 12:00 PM

Subsea Engineering and Installation

01:00 PM - 02:30 PM

Underwater Technologies

### TUESDAY 3 OCTOBER

08:30 AM - 10:00 AM

Environmental Mitigations

10:30 AM - 12:00 PM

Offshore Engineering

01:00 PM - 02:30 PM

Offshore Engineering - Lesson Learned

### WEDNESDAY 4 OCTOBER

08:30 AM - 10:00 AM

Marine Engineering Technologies

10:30 AM - 12:00 PM

Digitalisation in Marine Logistics

01:00 PM - 02:30 PM

Integrated Logistics

### THURSDAY 5 OCTOBER

10:30 AM - 12:00 PM

Energy Transition in the Logistics

## TECHNICAL PANEL SESSIONS

### MONDAY 2 OCTOBER

02:00 PM - 03:30 PM

Gas Focused Technologies: Outlook and Field Implementations Opportunities

### TUESDAY 3 OCTOBER

11:30 AM - 01:00 PM

Fast Tracking Unconventional Assets

02:00 PM - 03:30 PM

Attracting and Maintaining the Right Skills for the Energy Transition

### WEDNESDAY 4 OCTOBER

09:30 AM - 11:00 AM

Unlocking the Potential of Emerging Digital & AI Technologies in Energy: Embracing Performance, Profitability and Sustainability

11:30 AM - 01:00 PM

The Energy Future Toward Sustainability and Net Zero

02:00 PM - 03:30 PM

Operational Excellences Promises Vs. Challenges for Future Operating Philosophy

## OPERATIONAL EXCELLENCE

### MONDAY 2 OCTOBER

10:30 AM - 12:00 PM

HSE, Security, and Sustainability

10:30 AM - 12:00 PM

GHG Emission Reduction

01:00 PM - 02:30 PM

Lean Operations

01:00 PM - 02:30 PM

Process Safety

03:00 PM - 04:30 PM

CO2 Management

### TUESDAY 3 OCTOBER

08:30 AM - 10:00 AM

Automation and Remote Operations

10:30 AM - 12:00 PM

Asphaltenes Management

10:30 AM - 12:00 PM

Maintenance and Reliability

01:00 PM - 02:30 PM

Advanced Processes

01:00 PM - 02:30 PM

Water Management

03:00 PM - 04:30 PM

Solutions in Flow Assurance

03:00 PM - 04:30 PM

Efficiency in Circular Economy

### WEDNESDAY 4 OCTOBER

08:30 AM - 10:00 AM

Well Integrity Challenges

08:30 AM - 10:00 AM

Solutions for Industry

10:30 AM - 12:00 PM

Production Constraints Management

01:00 PM - 02:30 PM

Asset Integrity Technologies

01:00 PM - 02:30 PM

Asset Integrity Challenges

03:00 PM - 04:30 PM

Process Controls

### THURSDAY 5 OCTOBER

10:30 AM - 12:00 PM

Asset Integrity Management

10:30 AM - 12:00 PM

Production Optimisation Technologies

01:00 PM - 02:30 PM

Production Optimisation Processes

03:00 PM - 04:30 PM

Asset Performance

This Preview is accurate as of August 2023. Sessions and topics will continue to evolve and are subject to change.

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# DOWNSTREAM TECHNICAL CONFERENCE AGENDA

Downstream operators are navigating a changing market due to the shift from traditional refined products created by the emergence of electric vehicles and the transition of demand centres for refined products and chemicals from west to east. The mandate is clear for operators to both ensure supply security for the immediate future and transition to a cleaner slate of refined products for the longer term. This industry outlook presentation will share insights that will help define the path forward for the downstream industry.

**DAY 1**
**Monday 2 October 2023**
**13:30 – 14:10**
**Location: Capital Suite 15**
**2023 Downstream industry outlook**

Downstream operators are navigating a changing market due to the shift from traditional refined products created by the emergence of electric vehicles and the transition of demand centres for refined products and chemicals from west to east. The mandate is clear for operators to both ensure supply security for the immediate future and transition to a cleaner slate of refined products for the longer term. This industry outlook presentation will share insights that will help define the path forward for the downstream industry.

**13:45 – 14:30**
**Location: Capital Suite 20**
**Downstream trends: decarbonising downstream operations**

Crude oil and natural gas processing is an emissions-intensive segment of the energy value chain. This presents opportunities for innovative solutions to both reduce emissions and improve energy efficiency in operations. Refiners and chemical companies will continuously need to adapt to changing regulations whilst maintaining competitiveness, developing cutting-edge technology and attracting the talent needed to enhance operations and business efficiency. This session will set the scene for the downstream sector and explore the current trends shaping it.

**DAY 1 MONDAY 2 OCTOBER 2023**
**SESSION 1**
**Reinforcing the downstream workforce to future-proof operations**
**14:10 – 14:30**

Factors underpinning the effectiveness of UAE national development in the oil and gas sector

**Dr. Kamran Yaqub**

 Senior Analyst - Youth Development  
 Borouge

**14:30 – 14:50**

Leveraging digital transformation technology for the development of effective knowledge transfer model amongst future leaders: collect-convey-demonstrate library cases

**Pranav Dubey**

 Consultant (D&C Sales & Services)  
 Halliburton

**14:50 – 15:10**

Advancing the competency framework to lead the net-zero emissions pathway

**Saqib Sajjad**

 Team Leader Energy Management  
 ADNOC Gas Processing

**15:30 – 15:50**

Shaping the future of business leadership with technology

**Basheer Cassim**

 CEO  
 Magellan X Pte. Ltd.

**15:50 – 16:00**

Panel Q&amp;A

**DAY 1 MONDAY 2 OCTOBER 2023**
**SESSION 2**
**Delivering optimised solutions in refining and petrochemicals technology**
**14:40 – 15:00**

Simultaneous production of benzene and gasoline from C-6 heart cut of FCC gasoline

**Dr. Madhukar Garg**

 President - R&D Petrochemicals  
 Reliance Industries Limited

**15:00 – 15:20**

A multiperiod optimisation study for an integrated oil refinery and petrochemical plant

**Dr. Khalid Qaied Al Anazi**

 Sr. Manager Reliability Engineering  
 SABIC

**15:20 – 15:40**

Electrification of steam cracker furnaces: technology demonstration and the route to commercialisation

**Martin Hofstaetter**

 Senior Process Design Engineer - Linde GmbH  
 Linde Engineering

**15:40 – 16:00**

RotoDynamic Technology: decarbonising heavy industry on a gigaton scale

**Joonas Rauramo**

 CEO  
 Coolbrook

**16:00 – 16:20**

Eni-CLG alliance for the future of residue processing

**Raffaele Fronteddu**

 Commercial Licensing Manager  
 Eni

**16:20 – 16:30**

Panel Q&amp;A

**DAY 2 TUESDAY, 3 OCTOBER 2023**
**SESSION 3**
**Exploring alternative fuels and the capabilities of environment protection and energy efficiency**
**11:30 – 11:50**

Minimise operational costs and optimise fleet operation with compressor standardisation and in-country value implementation

**Michele Moretti**

 Centrifugal Compressor Principal Engineer  
 Baker Hughes

**09:30 – 09:50**

Nickel hydrogen batteries: a sustainable solution for energy storage

**Akshay Kalia**

 Strategy & Partnerships Manager  
 SLB

**09:50 – 10:10**

Sustainable aviation fuel from the middle east: a co-processing roadmap

**Eiman Ahmed Mohamed Khalaf Al Hammadi**

 Manager - Business Development  
 ADNOC Refining

**10:10 – 10:30**

Toward design and analysis of biodiesel production processes: molecular representation and modelling of canola oil and animal fat

**Harry Z. Ha**

 Process Director - Technical Fellow  
 Fluor Canada Ltd

**10:30 – 10:50**

Co-processing presents an opportunity for FCC to enable the refinery transition to low-carbon operation

**Hernando Salgado**

 Technical Service Manager  
 BASF

**10:50 – 11:10**

Sustainable aviation fuel as the transition energy towards a clearer sky

**Ashraf Zin**

 Staff Researcher  
 PETRONAS

**11:10 – 11:20**

Panel Q&amp;A

**DAY 2 TUESDAY, 3 OCTOBER 2023**
**SESSION 4**
**Driving project success through efficient management and engineering execution**
**11:50 – 12:10**

Approaches to defining and target setting for green hydrogen projects: the good, the risky, and the best practical

**Emily Nott**

 Advanced Associate Analyst  
 Independent Project Analysis Private Ltd

**12:10 – 12:30**

Advanced work packaging – boosting field productivity in Bourouge 4

**Obaid AlMheiri**

 Senior Project Manager Polyolefins - Bourouge 4  
 Bourouge

**12:30 – 12:50**

New micro-nano water controlling agents and the integrated technology of water controlling and fracturing

**Dr. Jianghui Ding**

 Fracturing Engineer  
 CNPC Engineering Technology R&D Company Limited

**12:50 – 13:10**

Mastering project outcomes: project management office role in amplifying success with innovative digital systems and tools

**Michael Deighton**

 Vice President Operations  
 Kent

**13:10 – 13:20**

Panel Q&amp;A

**DAY 2 TUESDAY, 3 OCTOBER 2023**
**SESSION 5**
**Leading digital transformation in downstream operations**
**14:00 – 14:20**

Leveraging AI to predict distillation column flooding up to 8 hours in advance

**Juergen Weichenberger**

 VP AI - New Value Streams  
 Schneider Electric

**14:20 – 14:40**

OQ refinery schedule optimisation with aspen petroleum scheduler for enhanced operations insights, improved stock management and reduced working capital

**Hussam Al Hooti**

 Senior Specialist Scheduling Model Owner - Business Excellence  
 OQ



**14:40 - 15:00**

LNG analytics: engineering-led digital solution unlocking values via process optimisation

**Noradnin Hafeeza binti Haji Nawawi**  
Principal Engineer (Liquefaction)  
PETRONAS

**15:00 - 15:20**

Hydrocarbons custody transfer blockchain technology salience

**Manojkumar Dhanrajbhai Mantry**  
Measurement Engineer  
Saudi Aramco

**15:20 - 15:40**

Machine learning to ensure jet fuel specifications

**Raji A Arauof**  
Senior Analyst, Business Development  
ADNOC Refining

**15:40 - 15:50**

Panel Q&A

**DAY 2 TUESDAY 3 OCTOBER 2023**

**SESSION 6**

**Developing efficiencies in gas processing technology**

**09:30 - 09:50**

Monitoring the corrosion rate of the internal pipeline of tri ethylene glycol with a novel iron content procedure

**Dr. Mohamed Mahmoud**  
Lab Scientist  
Saudi Aramco

**09:50 - 10:10**

Small-scale design one, build many LNG plants

**Srikanth Nagarajan**  
Construction Support Engineer  
Fluor

**10:10 - 10:30**

Maximising environmental sustainability in WASCO: strategies for emissions reduction and energy efficiency enhancement

**Muhammad Khaleel Bakr**  
Senior Gas Processing Engineer - Energy Specialist  
WASCO

**10:30 - 10:50**

Addressing high vibration in cryogenic submersible vertical pump for LNG applications

**Ahmad Fadzli Bin Ismail**  
Principal Engineer - Mechanical Rotating  
PETRONAS

**10:50 - 11:10**

Bioremediation of produced water from gas wells through surface-constructed wetland treatment technology

**Ghulam Khaliq**  
Process Engineer  
MPCL

**11:10 - 11:20**

Panel Q&A

**DAY 2 TUESDAY 3 OCTOBER 2023**

**SESSION 7**

**Performing best practices to maintain operational excellence and improve maintenance and HSE performance**

**11:30 - 11:50**

Monitoring tools for catalytic reactors using digital twins in Borealis

**Noel Gómez**  
Senior Engineer - Applied Digitalisation Joint Ventures and Growth Projects  
Borealis Polyolefine GmbH

**11:50 - 12:10**

Advanced classification methods to detect missing parts and anomalies on flanges

**Hassane Trigui**  
Senior Research Engineer  
Saudi Aramco

**12:10 - 12:30**

Optimisation and prevention of major fire events with wastewater unit

**Udayakumar Selvam**  
Staff Engineer - Process Safety  
Saudi Chevron Phillips Chemical Company

**12:30 - 12:50**

Improve the production efficiency of ethylene di chlorine (RDC) by reducing operational cost, energy and CO2 emission by HCL stripper

**Kiran Kumar Potireddi**  
Staff Process Engineer  
Sipchem

**13:10 - 13:20**

Panel Q&A

**DAY 2 TUESDAY 3 OCTOBER 2023**

**SESSION 8**

**Developing CCUS technology and new energy sources to decarbonise the downstream industry**

**14:00 - 14:20**

Track and reduce carbon emissions using a planning model to make operations more sustainable for refineries and olefins

**Piyush Jain**  
Senior Principal Solution Consultant  
AspenTech

**14:20 - 14:40**

Techno-economic comparison of post and precombustion scenarios to decarbonise Borealis steam crackers

**Dr. V. R. Reddy Marthala**  
Senior Scientist  
Borealis Polyolefine GmbH



**14:40 - 15:00**

Turning carbon dioxide into cash: exploring pathways for valuable commodities from captured emissions

**Michael Czarnecki**  
Concept Study Lead  
Kent

**15:00 - 15:20**

Capturing the right carbon, the right way: a refiner's perspective

**Mohamed Rasul Alhashmi**  
Team Leader - Energy Management  
ADNOC Refining

**15:20 - 15:40**

Monoethanolamine-based solutions are industrially proven solvents to capture carbon dioxide efficiently in the power generation and industry sectors

**Ahmed Aboudheir**  
President  
Aboudheir Consulting Ltd.

**15:40 - 15:50**

Session Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**

**SESSION 9**

**Achieving sustainability through circularity and resource efficiency**

**09:30 - 09:50**

Chemical recycling of plastics: how to make it work

**Fred Baars**  
Sr. Process Director  
Fluor

**09:50 - 10:10**

How OMV's patented chemical recycling technology ReOil supports the shift to a circular economy: environmental benefits based on a life-cycle assessment

**Beate Edl**  
Senior Project Manager Regulatory & Business Enablement  
OMV Downstream GmbH

**10:10 - 10:30**

Addressing the challenges of plastic waste: circularity and leakage

**Ruchin Jain**  
Partner  
McKinsey & Company

**10:30 - 10:50**

Accelerating plastic recycling and eco-design to build a truly circular economy

**Delphine Largeteau**  
Sustainability Consulting Director - Energies & Chemicals  
Schneider Electric

**10:50 - 11:10**

Assessment and reduction in the water footprint of Indian petroleum refineries for realising sustainable operations

**Antara Das**  
Senior Manager  
Engineers India Limited

**11:10 - 11:20**

Panel Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**

**SESSION 10**

**Leading digital transformation in downstream operations**

**11:30 - 11:50**

Data-to-value: digitalisation streamlines the FCC catalyst optimisation

**Corbett Senter**  
Regional Marketing Manager - Europe, Middle East, & Africa  
BASF

**11:50 - 12:10**

Achieving the lowest levelised cost of green ammonia (LCOA) by using digital solutions (digital twin and advanced process control)

**Paolo Brunengo**  
Director - Clean Ammonia & Hydrogen  
KBR

**12:10 - 12:30**

How to improve safety and profitability through remote operations

**Wassim Ghadban**  
Vice President - Global Innovation & Digital Engineering  
Kent

**12:30 - 12:50**

Impact case study of AI in refining

**Pawan Mundhra**  
Partner  
McKinsey & Company

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**12:50 – 13:10**

Increasing efficiency of gas phase fluidised bed polymerisation reactor by improving feed composition measurement through AI machine learning

**Ashok Kumar**

Lead Engineer - Process Automation  
GAIL (India) Ltd

**13:10 – 13:20**

Panel Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**  
**SESSION 11**

**Exploring alternative fuels and the capabilities of environment protection and energy efficiency**

**14:00 – 14:20**

Biofuels in the Middle East: a successful collaboration between industry leaders

**Oana Toropoc, FCCA, EMBA**

Senior Advisor Economics  
OMV

**14:20 – 14:40**

Rethinking carbon emissions management and decision support

**Dr. Vikas Dhole**

Vice President - Joint Solution Development  
AspenTech

**14:40 – 15:00**

Feedstock resource options for decarbonisation and energy transition journey ahead

**Mukul Dixit**

Head - Downstream Research & Product Development  
JOil Singapore Pte Ltd

**15:00 – 15:20**

McKinsey's perspective on sustainable aviation fuels

**Lazar Krstic**

Senior Partner  
McKinsey & Company

**15:20 – 15:40**

Cracking and partial deoxygenation of renewable feedstocks for the production of biofuel intermediates

**Daniel Maxa**

Researcher  
Aikona DNS a.s.

**15:40 – 15:50**

Panel Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**  
**SESSION 12**

**Unlocking the potential of hydrogen to support the acceleration of decarbonisation**

**09:30 – 09:50**

Green pipelines: tackle the turbo-compressor station's challenges for the methane-tohydrogen transition

**Francesco Bini**

Hydrogen Solution Architect - Compressors & Systems Nuovo Pignone  
Baker Hughes Company

**09:50 – 10:10**

Comparative assessment of new emerging chemical looping technology for pure hydrogen production

**Luigi Crolla**

Head of Energy Transition Technologies  
Kent

**10:10 – 10:30**

Low carbon hydrogen technology optimisation: moving projects forward to achieve net zero targets

**Yalda Daghi**

Regional Business Development Director - Sustainable Technology Solutions  
Honeywell UOP

**10:30 - 10:50**

Green hydrogen from theory to deployment

**Eng. Maha Zahran**

Risks' Management and Strategic Planning Manager  
Petrojet

**10:50 – 11:10**

Hydrogen transportation by sea

**Capt. Vivek Yadav**

Superintendent - Fleet Operations (Marine Gas)  
ADNOC Logistics and Services

**11:10 – 11:20**

Panel Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**  
**SESSION 13**

**Performing best practices to maintain operational excellence and improve maintenance and HSE performance**

**11:30 – 11:50**

Best practice inline bio co-blending at OMV Schwechat refinery

**Gerhard Warecka**

Senior Advisor Technical Development  
OMV Downstream GmbH

**11:50 – 12:10**

Implementation of new technologies contributing to the HSE performance, as 23 technologies reduced manhour, human interference, traffic movement

**Dr. Adnan Mohamed Almenhali**

Manager Drilling Operations  
ADNOC Onshore  
Petrojet

**12:10 – 12:30**

Enhancing safety and operational excellence in tank operations with API 2350 compliance

**Nick J Palozzi**

President  
Blendtech

**12:30 – 12:50**

Prevention of storage tank fires and explosions through fire-proof GRP floating roofs made in Germany

**Joanna Hajnaj-Kraume**

CEO  
Environmental Protection Technologies for Storage Tank

**12:50 – 13:10**

The new super-austenitic Alloy 35Mo (UNS N08935) for seawater cooling applications

**Johan Salwén**

Technical Marketing Specialist  
Alleima

**13:10 – 13:20**

Panel Q&A

**DAY 3 WEDNESDAY 4 OCTOBER 2023**  
**SESSION 14**

**Developing CCUS technology and new energy sources to decarbonise the downstream industry**

**14:00 – 14:20**

Selecting blue hydrogen firing or flue gas carbon capture: tailored options for steam cracker CO2 elimination

**Tobias Sinn**

Senior Process Design Engineer - Linde GmbH  
Linde Engineering

**14:20 – 14:40**

Capturing post-combustion carbon dioxide from brownfield facilities: challenges and prioritisation of CO2 sources

**Ir. Saiful Anuar Bin Mohd Mokhtar**

Custodian (Process Design)  
PETRONAS

**14:40 – 15:00**

Carbon capture: Maaden's approach in optimising amine units with rigorous process models

**Faisal Baksh**

Principal Solution Consultant  
AspenTech

**15:00 – 15:20**

The blue-green prism

**Roger Humphreville**

Vice President Stakeholder Management  
OGCI Climate Investments

**15:20 – 15:40**

CO2 post-combustion capture in steam cracking

**Karl Krister Fagerstolt**

Process Manager - Borouge 4 Cracker  
Borealis

**15:40 – 15:50**

Panel Q&A

**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 15**

**Driving project success through efficient management and engineering execution**

**09:30 – 09:50**

Megaproject success factors

**Noorussaadah Yahya**

Principal Engineer  
PETRONAS

**09:50 – 10:10**

Company cost accuracy benchmark toward industry practice and international guidelines at the project phases gate

**Erwin Indrawan**

Project Manager  
MedcoEnergi

**10:10 – 10:30**

Modularisation in brownfield engineering

**Balaji Vijayakumar**

Design Engineer IV,  
Fluor

**10:30 – 10:50**

Construction claims: root causes and avoidance

**Khalid Memon**

Business Administrator  
Saudi Aramco

**10:50 – 11:10**

Investigating the blended fuels for heavy oil: flow assurance, sustainability, and safety in transportation and storage

**Altamish Ahmed Pakeer**

MSc Student  
United Arab Emirates University

**11:10 – 11:20**

Panel Q&A

**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 16**

**Achieving sustainability through circularity and resource efficiency**

**11:30 – 11:50**

Advancing circular solutions with chemical recycling

**Maikel van Iersel**

Head of Process Technology Hydrocarbons & Borcycle C  
Borealis

**11:50 – 12:10**

Coprocessing plastic waste in existing delayed coker

**Luis Gordo**

Chief Process Engineer  
Wood Plc

**12:10 – 12:30**

Using additives to improve the quality of mechanically recycled plastics to achieve a circular economy and support environmental sustainability

**Amira Elsobki**

Head of Production Planning  
ETHYDCO

**12:30 – 12:50**

A vision towards decarbonisation and circular economy and its challenges

**Debashis Thakur**

Senior Manager (Technical Service)  
Numaligarh Refinery Limited

**12:50 – 13:10**

Zero-waste oil spill cleanup with biodegradable absorbents

**Dr. Sudhir Sharma**

Co-founder and CEO  
Green Boom

**13:10 – 13:20**

Panel Q&A





**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 17**

**Leading digital transformation in downstream operations**

**14:00 – 14:20**

AI-enabled digital plant: integrated asset modelling

**Dr. Mike Roshchin**  
CTO - O&G  
EPAM Systems

**14:20 – 14:40**

Advanced solutions for efficient crude blending

**Gregory Shahnovsky**  
President  
Modcon Systems Ltd.

**14:40 – 15:00**

Reaction furnace digital twin at sulfur recovery units

**Makky H. Al Hassan**  
Lead Process Engineer  
Saudi Aramco

**15:00 – 15:20**

The important bridge between functional safety and OT security: how two friends “IEC 61511 and 62443” meet

**Matthias Kaiser-Pölleritzer**  
Senior Expert Functional Safety Management  
OMV Downstream GmbH

**15:20 – 15:40**

Digital offering package of an online analyser, software-based simulation model and automation of chemical and operational adjustment improving asset reliability

**Arindam Roy**  
Industrial Technical Consultant, Downstream - India, Middle East & Africa,  
Nalco Water - Ecolab Company

**15:40 – 15:50**

Panel Q&A

**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 18**

**Performing best practices to maintain operational excellence and improve maintenance and HSE performance**

**09:30 – 09:50**

Gas turbine performance enhancement and carbon footprint reduction through nozzle re-design

**Anil Kumar Chippa**  
Senior Engineering Manager  
Baker Hughes

**09:50 – 10:10**

Multi-framework energy reduction measures to accelerate net zero target

**Dr. Ashwani Malhotra**  
Chief General Manager (Process)  
Engineers India Limited

**10:10 – 10:30**

IoT-based smart automatic fuel station

**Santanu Purohit**  
Team Lead Digital Business - Marketing  
Bharat Petroleum Corporation Limited

**10:30 – 10:50**

Mind the Gap! Asset integrity and process safety KPIs and perceived risk

**Shamsuddin Ahmad**  
Senior Specialist Reliability  
ADNOC Gas

**10:50 – 11:10**

Implementation of process optimisation initiatives at PARCO mid-country refinery to achieve operational excellence and profit maximisation

**Jawad Ahmad Aleem**  
Deputy General Manager (Operations) Refinery  
Parco

**11:10 – 11:20**

Panel Q&A

**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 19**

**Developing CCUS technology and new energy sources to decarbonise the downstream industry**

**11:30 – 11:50**

Post-combustion carbon capture solvent technology selection using process simulation

**Ganank Srivastava**  
ProMax® Engineering Consultant - Middle East & South Asia  
Bryan Research and Engineering LLC

**11:50 – 12:10**

Helping meet global demand for e-Fuels with UOP methanol to jet

**Mohammed Rustom**  
Business Development Director - Sustainable Technology Solutions Honeywell UOP

**12:10 – 12:30**

Carbon footprint traceability and management

**Engr. Emmanuel Osagie Ekhator**  
Engineer  
Exxonmobil - Nigeria

**12:30 – 12:50**

Metal-organic frameworks derived tunable supported nickel catalysts for methane dry reforming

**Dr. Eswara Vara Prasadarao Komarala**  
Post-Doctoral Researcher  
Khalifa University

**12:50 – 13:10**

How Svante's novel metal-organic framework (MOF) can capture 95% of CO<sub>2</sub> from post-combustion industrial flue gas streams

**Claude Letourneau**  
President & CEO  
Svante

**13:10 – 13:20**

Panel Q&A

**DAY 4 THURSDAY 5 OCTOBER 2023**  
**SESSION 20**

**Unlocking the potential of hydrogen to support the acceleration of decarbonisation**

**14:00 – 14:20**

The hydrogen grail

**Armen Abazajian**  
Technology Principal  
OGCI Climate Investments

**14:20 – 14:40**

Investigation of the repurposing of gas pipelines for the transportation of hydrogen gas and hydrogen blends

**Prof. Kamireddi Venkateswara Rao**  
Academic Advisor - Petroleum Courses  
Jawaharlal Nehru Technological University Kakinada

**14:40 – 15:00**

ZoneFlow™ structured catalyst for steam reforming: pilot plant test results confirm unmatched value creation

**Sanjiv Ratan**  
Director Marketing & Technology  
ZoneFlow Reactor Technologies LLC

**15:00 – 15:20**

The implication of various factors that can drive down the price of hydrogen

**Avanthika Sathesh**  
Director - Emerging Technologies MENA  
Customized Energy Solution

**15:20 – 15:40**

Accelerating scale-up of the hydrogen economy with systems-level strategic evaluation

**Ron Beck**  
Senior Director - Solutions and Industry Marketing  
AspenTech

**15:40 – 15:50**

Panel Q&A

This Preview is accurate as of August 2023. Sessions and topics will continue to evolve and are subject to change.

**HEAR FROM INDUSTRY EXPERTS AT THE DOWNSTREAM TECHNICAL CONFERENCE**

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# ADIPEC FORUM FOR DIVERSITY EQUITY & INCLUSION

Focusing on three strategic themes, the conference will identify emerging trends and solutions that will ensure that the industry is ready to embrace opportunities and influence change in this rapidly evolving market.

**A fundamental shift in the relationship between employers and employees is taking place in response to the rapidly changing energy landscape.** Organisations across the energy value chain are seeking to create a new, diverse and engaged workforce in step with social and demographic transformations, equipped to harness the emerging digital technology revolution and motivated to deliver the industry's ambitious green transition objectives. The ADIPEC 2023 Forum for Diversity, Equity and Inclusion will bring together energy leaders and influential industry advocates to inspire open dialogue on diversity, equity, and inclusion and their

integral role in creating a more balanced and inclusive future. The programme will seek to foster conversations between the brightest minds in the public and private sectors - including scientists, women and the youth - inviting cooperation, collaboration and idea-sharing to accelerate progress on the critical issues impacting the industry. Conversations around bias and inequalities, equal opportunities and representation as well as inclusive and transparent leadership, will inform discussions, as policymakers, business leaders, organisations and the workforce navigate the changing dynamics of the energy industry workplace.



ADIPEC is a world-class event that embraces one of the most prominent topics in the industry: Diversity, Equity and Inclusion. ADIPEC has provided a great platform along with a highly relevant audience to tackle some of the most important topics around gender balance in the industry.



**Widad Haddad**  
Vice President & General Manager UAE, Oman, Yemen & Lebanon Hydrogen Council  
Emerson Automation Solutions

## Conference Agenda

### DAY 1

Wednesday 4 October 2023

#### LEADERSHIP PERSPECTIVES

10:25 - 11:10

Conference Room B

#### Upskilling and reskilling talent: the keys to unlocking equal opportunities

Technology, digitisation and digitalisation are critical enablers of the new energy system. The energy industry requires people with digital knowledge and skills to enable technological advances across hydrocarbons as well as emerging green technology solutions. Meanwhile, investments in upskilling and reskilling to retain existing capability, who bring deep industry experience and knowledge to their organisations, are needed. If not managed cautiously, upskilling efforts can indirectly exacerbate the gap for minority groups who suffer from a lack of access to training opportunities, discrimination, and unconscious bias. Ensuring these groups have equal opportunities to acquire new skills and advance in their careers in a new energy system is fundamental to creating a diverse, equitable and inclusive workforce.

#### STRATEGIC PANEL

12:00 - 13:00

Location: ICC Hall

#### Just energy transition: an engine to drive social equity and inclusivity

Ensuring a just energy transition is important for all countries at all levels of development, but circumstances and expectations differ across regions and industries. The shift to a green economy can also be a catalyst for social inequity, job loss and less competitive markets. To counteract this, policymakers must establish and manage policies and regulatory frameworks to incentivise businesses and investors in the development of environmentally and socially sustainable energy economies based on diversity, equity and inclusion in the workplace.

### DAY 2

Thursday 5 October 2023

08:30 - 09:00

Location: Conference Room B

#### Networking breakfast

A networking breakfast to welcome attendees with an opportunity to meet peers, fellow diversity, equity and inclusion advocates and the committee members.

09:00 - 10:30

#### INTERACTIVE ROUNDTABLE DISCUSSIONS

Diversity, equity and inclusion industry leaders will host four exclusive roundtable discussions enabling participants to share their perspectives, insights and ideas on key diversity, equity and inclusion topics.

#### ROUNDTABLE 1

#### Generational diversity: securing energy business longevity through knowledge sharing

The energy industry continues to navigate changes and challenges created by rapidly evolving new technologies, climate-centric goals and changing talent agendas. The five generations of employees represented in today's workforce (Silent Generation, Baby Boomers, Gen X, Millennials and Gen Z) have differing expectations, skills and life experiences. By fostering generational diversity in their workforces, companies can bring together talent with complementary abilities, skills and information. Managed effectively, they collectively offer better decision-making, more productive collaboration and improved overall results.



**ROUNDTABLE 2**

**Strengthening a diversity, equity and inclusion culture to address quiet quitting**

Quiet quitting, a form of employee disengagement, is a post pandemic challenge for the energy industry. Some of the causes of quiet quitting are factors affecting an employee's well-being, work-life balance, boundaries, and workplace culture. Energy organisations have opportunities to counter this trend through supportive measures in the form of benefits, targeted programming for traditionally under-supported employees, and flexibility in working and career progression.

**ROUNDTABLE 3**

**Managing a diverse and inclusive workforce through artificial intelligence**

Unconscious bias and social stereotypes influence even the most well-intentioned decision-makers. Across the energy industry, organisations are turning to artificial intelligence (AI) as one means of navigating unconscious bias in their people management processes and practices, recruitment, and skills development to produce a more diverse and inclusive culture. With the help of AI algorithms, companies have the potential to manage people based on objective facts rather than subjective, unintended biases.

**ROUNDTABLE 4**

**People of determination: ensuring equal opportunity in the energy industry**

People of determination, those who need assistance due to a disability that limits their intellectual and/or physical abilities, are more likely to experience discrimination and social isolation, as well as a lack of access to education and employment. For those reliant on assistive technology and healthcare, access to affordable and reliable energy is critical to their quality of life and improved opportunities. Purposeful representation of people of determination across the energy value chain fosters more inclusive, supportive and accessible energy services and solutions for all.

**STRATEGIC PANEL**

10:45 – 11:45

Location: Conference Room B

**Millennials and Gen Z workforce: what motivates them and why it matters**

The future of work is changing, influenced largely by the shifting priorities of the workforce. Younger people are more inclined to reject job opportunities with a company that does not align with their values on, for instance, climate change or diversity, equity and inclusion expectations. Energy organisations that fail to recognise this will face an uphill battle when it comes to attracting and retaining employees. To navigate an increasingly competitive employment market successfully, businesses must consider what motivates different employee segments and how to best engage them.



**LEADERSHIP PERSPECTIVES**

11:45 – 12:30

Location: Conference Room B

**Accelerating gender parity to facilitate the energy transition and climate ambitions**

Only one in five leadership roles in the energy sector is held by a woman, according to the World Economic Forum's Global Gender Gap Report 2022. Increasing diversity improves business and innovation opportunities, but the lack of female role models means attracting and retaining women is more challenging. Creating an equitable environment for women is seen as key to a successful energy transition and achieving climate goals.

**DEI TALK WITH A GUEST SPEAKER**

12:30 – 13:00

Location: Conference Room B

**From work-life balance to work-life integration: cultivating a supportive workplace culture**

Work-life balance has traditionally focused on keeping work and personal responsibilities separate—but equal. A new concept is emerging referred to as work-life integration where work and personal responsibilities are viewed as two parts of a person's life that must coexist together in an integrated way. The concept encompasses an organisational culture that allows for open dialogue between employees and employers to address personal lives in the context of jobs and careers. Through this lens, workers see work-life integration as the capacity to organise work ambitions and responsibilities around their individualised and personal list of priorities. For women - who often assume multiple roles outside of their jobs - this broader flexibility can be particularly important in allowing them to manage what used to be considered conflicting responsibilities. For energy organisations in particular, it is important to embrace the supportive mechanisms that allow employees to achieve their ambitions in their professional and personal lives.

**DEI WORKSHOP**

14:30 – 15:30

Location: Conference Room B

**Inclusive leadership: driving diversity, equity and inclusion from intention to action**

When people feel included, they speak up more, are more productive and collaborate better. These are all key contributors to raising organisational performance as well as attracting and retaining talent. Inclusive leadership is emerging as a unique and critical capability to enable senior and middle management to help organisations adapt to diverse customers, markets, innovation and talent. From tangible diversity, equity and inclusion commitments to an open mindset to cultural intelligence, there are key traits that leaders can hone to build a positive workplace culture, enhance their employees' experience and improve organisational performance.

**JOIN THE CONVERSATION AT THE FORUM FOR DIVERSITY, EQUITY & INCLUSION**

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This Preview is accurate as of August 2023. Sessions and topics will continue to evolve and are subject to change.



2-5 October 2023

Abu Dhabi, UAE

# YOUNG ADIPEC INSPIRES NEXTGEN ENERGY LEADERS

Held under the patronage of His Excellency Sheikh Nahayan Mubarak Al Nahayan, Minister of Tolerance and Coexistence, Young ADIPEC is supported by Abu Dhabi Department of Education and Knowledge (ADEK)



Young ADIPEC, the annual youth outreach and engagement programme by ADIPEC continues its successful legacy this year to promote the energy sector as a source of fulfilling careers for young Emiratis.



Young ADIPEC programme has consistently expanded. Now organised in partnership with Abu Dhabi University and 42 Abu Dhabi, Young ADIPEC 2023 Experiential and Edutainment programme includes:

- *Engineering Zone*
- *Electric Zone* New
- *Energy Transition Zone* New
- *Innovations Zone*
- *ADNOC Zone*
- *Technology for a Sustainable Future*
- *Hydrogen Zone* New
- *2030 Careers* New
- *Coding Zone*
- *My Future Career*



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## 20 INDUSTRIAL FIELD TRIPS

Young ADIPEC 2023 will host 900 students from 30 schools. Students will go on a field trip to a training centre, innovation centre, workshop facility and will have the opportunity to manufacture products. Young ADIPEC recognises the benefits of learning through doing; these field trips are invaluable in providing hands-on experience for students to further understand what it means to choose a career in the energy sector.

## YOUNG ADIPEC TALKS

Young ADIPEC Talks deliver a platform for the next generation of future energy professionals to connect with the industry at one of the world's largest energy events, offering today's industry leaders an opportunity to engage, inspire and empower the youth of today



- THE FUTURE OF RENEWABLE ENERGY
- WHAT IT TAKES TO BE A LEADER?
- 2030 CAREERS
- IS CREATIVITY BENEFICIAL FOR ENGINEERS?
- YOUTH EMPOWERMENT FOR A PROSPEROUS NATION
- WHAT DOES OUR ENERGY MIX LOOK LIKE TODAY?
- UNLOCK YOUR FULL POTENTIAL WITH HAITHAM
- WHAT IS GREEN HYDROGEN AND WHY IS IT IMPORTANT?
- LEADERSHIP SKILLS
- PLAN YOUR CAREER PATH

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EXHIBITOR: HALLIBURTON STAND: 5250 HALL: 5

# HALLIBURTON LEADS THE FUTURE OF ENERGY

**A**s one of the world's leading providers of products and services to the energy industry, Halliburton comes to ADIPEC 2023 ready to showcase our successes in enabling energy security, hiring and training local talent, and accelerating decarbonisation.

For more than 100 years, Halliburton's innovative technologies and sustainable solutions have helped oil and gas customers around the world achieve tremendous success. We have been working in the Middle East for 60 years, and today we help our customers here maximise value throughout the lifecycle of an asset, from locating hydrocarbons and managing geological data, to drilling and formation evaluation, well construction and completion, optimising production, and intervention solutions

for successful abandonment. With our integrated drilling solutions, we use the latest technologies that help reduce a customer's total cost of ownership by drilling longer wells that maximise reservoir contact. Development and deployment of lower carbon-intensive solutions allows Halliburton and our customers to achieve emissions reduction targets while providing critical energy resources.

For example, we recently achieved two major milestones in the Middle East. First, we successfully drilled one of the longest wells ever – with a measured depth of more than 51,000 feet – using our iCruise Intelligent Rotary Steerable System, iStar Intelligent Drilling and Logging Platform, and LOGIX Autonomous Drilling Platform technologies. Next, we successfully



Halliburton Chairman, President, and CEO, **Jeff Miller** will speak on the first day in the ADIPEC panel, "Transforming Upstream Portfolios to Secure Lower Carbon Solutions." He will highlight Middle East successes and share his insights on how energy companies can meet global targets while addressing emission offsets and accelerating energy progress. Join Halliburton at ADIPEC from October 2 – 5 in Hall 5, booth #5250 to learn more about how we are leading the future of energy.

installed the industry's first 12-zone completion for a Middle East offshore customer using our SmartWell Intelligent Completion System technology on our e-Completions platform.



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To learn more, visit [weatherford.com](http://weatherford.com)





EXHIBITOR: MITSUI STAND: 7234 HALL: 7

# STRONG RELATIONSHIPS FOR A SUSTAINABLE FUTURE

**S**howcasing its business over in Hall 7 is Mitsui, a prominent Japanese global trading and investment company with 128 offices in 63 countries. Mitsui uses its global operating locations, networks, and information resources to pursue business opportunities ranging from product sales, worldwide logistics, and financing through to the development of major international infrastructure across a variety of sectors, including energy and chemicals.

Mitsui's Chief Operating Officer of Energy Business Unit II (Global LNG), Motoyasu Nozaki, explains how the company first started its regional operations: "Mitsui has been operating in Abu Dhabi since the mid-1960s, and our major investments began in 1973 when we became the largest foreign shareholder of Abu Dhabi Gas Liquefaction Co. Limited. Since then, our

business in the country has expanded into steel products, sulphur, oil, LNG trading, and recently, next-gen energy such as hydrogen and low-carbon ammonia. Our strong relationship with Abu Dhabi has evolved around ADNOC LNG, with its history of providing a reliable and stable supply to the LNG market spanning 50 years."

Motoyasu adds: "We are also expanding our business portfolio and strategic collaborations with Abu Dhabi through close cooperation with our long-standing partner, ADNOC, in the area of decarbonization in light of the global climate action, ahead of COP28, which will take place in the UAE this year. This transformative process will be a long journey, and it is Mitsui's corporate strategy to pursue a 'pragmatic approach to global energy transition'. As a company which is widely and deeply involved in the value chain of



**Motoyasu Nozaki**, Chief Operating Officer of Energy Business Unit II (Global LNG), Mitsui

energy resources, we would like to take the initiative in a practical way with ADNOC and partners for the next 50 years to come."

Speaking of ADIPEC, Motoyasu shared his excitement: "We consider ADIPEC to be a precious window of opportunity for presenting ourselves to the industry and seeking out areas where we can provide our unique functions to create new value. We strongly hope to strengthen our relationships with partners, and ultimately contribute to the sustainable future of Abu Dhabi and neighbouring regions. We look forward to meeting with leading energy professionals during the event."

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**2-5** HALL 01  
OCT 2023 STAND 1130

EXHIBITOR: YOKOGAWA STAND: 14135 HALL: 14

# HELPING ENERGY CLIENTS ACHIEVE SUSTAINABLE CHANGE THROUGH DECARBONISATION

In an exclusive interview with ADIPEC News, Muhammad Nadeem - Vice President, Sales, Marketing & Service Division, Energy & Sustainability Business Unit at Yokogawa Middle East & Africa, talks about how digitalisation helps its clients boost value, adopting a balanced approach to decarbonisation, new ways of measuring carbon intensities of feedstock, and what the company plans to highlight during its participation in the Digitalisation In Energy Zone at ADIPEC 2023.

## What are the opportunities brought about by digitalisation in the energy sector and the transition from industrial automation to industrial autonomy?

Digitalisation helps our customers improve and increase value, which also makes processes automated. Digital disruptors like AI/ML, IoT, blockchain and cloud are offering our customers a way to transform their business operations and deliver products with minimum resources, modernise operations with agility and effectiveness, and drive profitability and competitive advantage. The energy industry is going through a drastic change towards industrial autonomy which will be the key to unlocking future business value. This will lead to new business models delivering cost reductions and the introduction of new products, a digital business and culture of autonomous process operations, with minimum human interventions, and the use of data and analytics, AI/ML, and other technologies to drive continuous improvement and real-time insights and decision making, driving higher reliability and predictability with modern technology to help scale operations and support IT/OT integration.

Digitalisation provides a significant value add within the energy sector with reference to energy and carbon monitoring programs being actively adopted by the OPECs. Such monitoring programs, in addition to providing real-time insight into the current operating energy/carbon KPIs, also provide insights into the potential for real-time optimisations based on energy usage or CO2 emissions.

## How is Yokogawa helping the industry speed up its decarbonisation efforts?

One of the distinctive capabilities of Yokogawa along with our subsidiary KBC is the ability to help clients achieve deep sustainable change. KBC's strategic energy review focuses on providing a detailed assessment of the client's business models along the strategic, organisational design and business performance axes. Along with benchmarking energy usage, KBC's models also measure and report carbon intensities of each feedstock and product using detailed carbon allocation models. Yokogawa is also expanding its capability towards IT/IIoT by which we are aiming to achieve our customers' decarbonisation journey through comprehensive decarbonisation visualisation and reporting technology.

## What are the technologies that Yokogawa is looking forward to showcasing at ADIPEC 2023?

Some of the technologies that will be on display at ADIPEC 2023 include process digital twins that encompass surveillance plus automated model maintenance using calibration with AI for real-time optimisation of upstream production, gas oil separation units, refining, and petrochemicals, including state-of-the-art energy optimisation, emissions management, bio-fuels



**Muhammad Nadeem** - Vice President, Sales, Marketing & Service Division, Energy & Sustainability Business Unit at Yokogawa Middle East & Africa

processes, and the integration of electrolysers and hydrogen technology for a balanced approach to decarbonisation and the energy transition.

This is the basis for the integrated energy-emissions-economics production model for decarbonisation. In addition, we will also showcase the world's first "control AI" to control a chemical plant autonomously for 365 days which improved process stability and energy efficiency.

## What is your outlook on the global energy market in 2023-24?

With the volatility of energy prices over the last two years, it is evident the energy landscape is going through an unprecedented change. On one side, major energy importers have stepped up investments in greener technologies such as renewables including green hydrogen. On the other hand, we see much of the effort being focused on adapting their supply chains to lower carbon-intensive fuels by implementing carbon capture and electrification of operations.

In our view, global refining will remain profitable in historic terms in 2023 and 2024, but petrochemicals will likely continue to face challenges at least to the end of this year due to overcapacity. Significant new refining capacity will come online in the second half of 2023, and unless demand remains stable, margins will continue to erode – but that will be down from historically high levels.

Global oil demand is forecast to increase 2 mbpd in 2023 to a record 101.9 mbpd, with non-OECD countries, led by China, accounting for 90% of that growth.



EXHIBITOR: MAZRUI ENERGY SERVICES STAND: 1130 HALL: 1

# MAZRUI ENERGY'S PATH OF STRATEGIC GROWTH

For more than 50 years, Mazrui Energy Services (MES) has been a prominent leader in the region's energy sector, delivering cutting-edge solutions to a diverse range of clients. At MES, our operating businesses and joint ventures include representation/strategic partnerships, manufacturing and engineering, oilfield services, digitalisation, and innovative clean energy technology. Our unwavering commitment to excellence is reflected in our robust energy portfolio, prioritising health and safety, sustainability practices, and delivering exceptional customer service. The future of the regional energy market is very bright, and Mazrui Energy is prepared to accelerate its growth with a well-mapped strategic plan for the coming years. This ADIPEC, we aim to

expand the conversation on how we continuously evolve to stay competitive and thrive. Our company has crafted a visionary strategic plan to guide our journey toward a prosperous future.

- 1. Building and Strengthening Core Operations:** Optimising existing operations and fostering organic growth to refine processes, enhance efficiency, and drive innovation.
- 2. Embracing New Horizons:** Propelling new territories across the GCC, to build sustainable partnerships and unlock potential in the region.
- 3. Broadening our Product Service Portfolio:** Seeking new opportunities through joint ventures, alliances, or acquisitions to broaden our existing customer offerings.
- 4. Pioneering the Digital Frontier:** In today's rapidly evolving landscape, digital innovation is the key to staying



**Martin Pearson**, Group COO of Mazrui International and Director of Mazrui Energy

ahead. Our dedicated digitalisation arm is on the lookout for cutting-edge solutions like signing a joint venture agreement with an AI expert provider and predictive learning. By integrating these technologies into our operations, we aim to elevate efficiency and deliver unparalleled value to our customers.

**5. Leading the Clean Energy Supply:** Advancing into clean energy spaces like nuclear energy, water desalination, and recycling, reflects our commitment to sustainability. With these bold initiatives in place, Mazrui is ready to embark on an exciting journey of diversified growth.

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# NETWORKING ON ABU DHABI'S SPECTACULAR GOLFING GREENS

**H**eld at Abu Dhabi Golf Club, one of the most luxurious golf resort experiences in the Middle East, the ADIPEC Golf Day offers an exclusive opportunity to engage with 125+ key industry players and build important relationships in a relaxed social atmosphere prior to the official opening day of ADIPEC. Designed by Peter Harradine, the par-72 course is set against a stunning desert landscape, with immaculately maintained fairways and greens that offer a truly unique playing experience. The course features an undulating terrain meandering through pockets of palms, ornamental trees and shrubs with seven spectacular saltwater lakes. The Golf Day begins with a warm-up before teams of four play the 18-hole championship course and culminates with lunch and the prize distribution ceremony.

**Date:**

Sunday 1 October 2023

**Time:**

07:00 – 15:00

**Venue:**

Abu Dhabi Golf Club

**Format:**

Texas Scramble, Shotgun Start



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REGISTER FOR ADIPEC GOLF DAY 2023: [golfday@adipec.com](mailto:golfday@adipec.com)



# PLAN YOUR VISIT FOR ADIPEC 2023

## VENUE



The Abu Dhabi National Exhibition Centre is located in the capital city's Diplomatic District of Mussafah Road and Khaleej Al Arabi Street and is easily accessed by a well-developed network of roads.

**For more information, visit [www.adipec.com/venue](http://www.adipec.com/venue)**

## OFFICIAL HOTEL PARTNER



ADIPEC has partnered with Emirates Palace Abu Dhabi, a 5-star luxury hotel, only 40 minutes from the airport and 20 minutes from ADNEC.

For more information on hotel reservations and special rate during ADIPEC, please contact the reservations team on:

**T:** +971 2 690 8888

**E:** [epauh-reservations@mohg.com](mailto:epauh-reservations@mohg.com)

**W:** [mandarinoriental.com](http://mandarinoriental.com)

## SPORT & RECREATION PARTNER



### Park and Ride

To make the most of your visit during ADIPEC, take advantage of the complimentary Park and Ride service available to all ADIPEC participants at the Zayed Sports City, Abu Dhabi. Benefit from 5000 available parking slots and shuttle buses to and from the venue are all free of charge from 2-5 October 2023.

**For more information, visit [www.adipec.com/park-and-ride](http://www.adipec.com/park-and-ride)**

## OFFICIAL TRAVEL PARTNER



Working with our Official Travel Partner, ADIPEC will offer participants a full complement of travel services encompassing business travel management and hotel accommodation, ensuring the best price to help reduce participants' costs and support groups and individual participants based on their unique requirements.

**For more information on travel and accommodation, please contact Randa Darwich**

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# SHUTTLE BUS SCHEDULE



**Shuttle Buses from Hotels to ADNEC Hall**  
8:00 – 12:00 (20 minute service)

**Shuttle Buses from ADNEC Hall to Hotels**  
16:00 – 19:00 (20 minute service)

ROUTE	HOTELS
<b>A</b>	<ul style="list-style-type: none"> <li>• Park Inn Hotel Yas Island</li> <li>• Radisson Blu Hotel Yas Island</li> <li>• Crowne Plaza Yas Island</li> <li>• Staybridge Yas Island</li> <li>• Centro Rotana Yas Island</li> <li>• Yas Island Rotana</li> <li>• Al Raha Beach Hotel</li> </ul> <p><i>*One Collection Point - Yas Plaza</i></p>
<b>B</b>	<ul style="list-style-type: none"> <li>• Fairmont Bab Al Bahr</li> <li>• Traders</li> <li>• Shangri-La</li> <li>• Novotel Gate &amp; Ibis Gate</li> </ul> <p><i>*One Collection Point - Novotel Gate</i></p>
<b>C</b>	<ul style="list-style-type: none"> <li>• Armed Forces Officers Club</li> <li>• Park Rotana &amp; Park Arjaan</li> </ul> <p><i>*One Collection Point - Park Rotana</i></p> <ul style="list-style-type: none"> <li>• Holiday Inn</li> <li>• Novotel Al Bustan</li> <li>• Millennium Al Rawdah Abu Dhabi</li> </ul>
<b>D</b>	<ul style="list-style-type: none"> <li>• Le Royal Meridien</li> <li>• Sofitel Corniche</li> <li>• Sheraton Corniche</li> <li>• Le Meridien</li> <li>• Beach Rotana</li> <li>• Anantara Eastern Mangroves</li> </ul>
<b>E</b>	<ul style="list-style-type: none"> <li>• Crystal Hotel</li> <li>• Holiday Inn Downtown</li> <li>• Royal Rose Hotel</li> <li>• Ramada Corniche</li> <li>• Southern Sun</li> </ul>
<b>F</b>	<ul style="list-style-type: none"> <li>• Marriott Hotel Downtown Abu Dhabi</li> <li>• Centro Al Manhal</li> <li>• Grand Millenium Al Wahda</li> <li>• Dusit Thani</li> </ul>
<b>G</b>	<ul style="list-style-type: none"> <li>• Khalidiya Palace Rayhaan &amp; Bab Al Qasr</li> </ul> <p><i>*One Collection Point - Khalidiya Palace</i></p> <ul style="list-style-type: none"> <li>• Grand Hyatt Abu Dhabi</li> <li>• Conrad Abu Dhabi</li> <li>• St Regis Corniche &amp; Radisson Blu Hotel Resort</li> </ul> <p><i>*One Collection Point - St Regis</i></p> <ul style="list-style-type: none"> <li>• Intercontinental Hotel</li> <li>• The Abu Dhabi Edition</li> </ul>

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Enhance your in-person experience at ADIPEC 2023 by downloading the ADIPEC Mobile App and have the latest information at your fingertips.

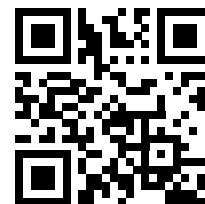
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