

# Whitepaper



## How to Power Sustainable Economic Diversification in Oman?



# الجمعية العمانية للطاقة Oman Energy Association



## A NEW NAME FOR A STRONGER VOICE OF THE INDUSTRY

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شركة تنمية نفط عمان  
Petroleum Development Oman



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# EXECUTIVE SUMMARY

There is no doubt that Environmental, Social, and Governance (ESG) will be increasingly embedded in nearly all business conversations in Oman going forward. What used to be a ‘nice to have’ is now certainly a ‘must have’ – and the clock to gain competitive footing in this fast-growing market is ticking.

The value of this global \$35trn market is projected to climb by 43% in just three years. It will weave into discussions across boardrooms, supply chains, corporate-community engagements, government policies, international alliances, and many more. The change that ESG brings is so vast, it is impossible to currently quantify. But therein also lies endless opportunities for Oman.

Effectively applying ESG means positively rethinking the DNA of your business in support of Oman’s National

**\$33.9trn**

of ESG-related assets under management are expected by 2026, from \$18.4trn in 2021 – a compound annual growth rate (CAGR) of 12.9%.<sup>1</sup>

**72%**

of investors in the Middle East believe they can generate improved returns through ESG investments.<sup>2</sup>

**The sooner you embrace ESG, the sooner you benefit – commercially, environmentally, reputationally, politically...**

Vision and boosting companies’ competitiveness on the global stage. Proposed steps to instil momentum and frameworks for ESG growth include four points: baseline the existing business and operating model, and stakeholders’ expectations; define a target for ESG aspirations; quantify the ESG impact; adopt policies and integrate sustainability into the overall strategy.

It is vital that every aspect of ESG is fully understood and supported by policies, regulations, and cohesive roadmaps. This is where the power of knowledge-sharing – a skillset Oman has demonstrated many times in different sectors – must be leveraged. No company nor market can craft ESG roadmaps entirely alone.

**X3**

Diversity and equality, climate change, and safety and standards are the three top priorities for businesses in the Middle East over the next twelve months.<sup>3</sup>

**33%**

of investment portfolios in the Middle East are sustainable investments, which is expected to rise to 52% by 2027.<sup>4</sup>

**80%**

The one-year growth rate of ESG fund launches in the US is more than twice that of funds without – 80% versus 34% – which is an extremely positive proposition for other nations building their ESG future, like Oman.<sup>5</sup>

Sources: <sup>1</sup> PwC; <sup>2</sup> PwC; <sup>3</sup> PwC; <sup>4</sup> The National; <sup>5</sup> Deloitte.





شركة تنمية نفط عُمان  
Petroleum Development Oman

## WORKING TOWARDS SUSTAINABLE DEVELOPMENT

# ESG Equals Smart Business



**Steve Phimister**  
Managing Director, Petroleum Development Oman (PDO)

If the last two years have taught us anything, it is about how critical smoothly navigating volatility has become. As the most intense impact of COVID-19 eases, we see energy demand and geopolitical tensions rise. This, mixed with the increasingly urgent climate agenda, has brought a trilemma to the fore: security, affordability, and sustainability.

This culmination of circumstances means ESG has rapidly moved from being optional to being a pivotal tool in long-term commercial success. This increases the need to have clearer metrics and key performance indicators (KPIs), as we transition to a new global energy system. Therein lies the message of Oman's Net Zero 2050 Strategy: a sectoral response which requires collaboration, policies, investment, and proactivity.

All energy companies agree that sustainability is here to stay, that climate change is real, and that our ability to mitigate the worst impacts is critical. In this vein, PDO's direction will be guided by the following three strategic priorities: ensuring the cost and carbon competitiveness of PDO's core business – today and in the future; growing PDO's oil and gas business sustainably; and ensuring long-term portfolio resilience and organically diversifying PDO's revenue generation options for Oman's future.

## 2050

is when PDO aims to reach Net Zero.

## \$1bn

cost savings were achieved in 2020-21 through PDO's Near-Term Sustainability Program (NTSP).

**“PDO is a big part of the economic revenue stream for the country, and it needs to be a key part of the future, as the sultanate strives to realise the Oman Vision 2040 and attain Net Zero emissions by 2050.”**

### HARNESSING LOW HANGING FRUIT

Cost-competitiveness is one of the biggest low hanging fruits, as demonstrated with our Near-Term Sustainability Program (NTSP), which saved \$1bn in 2020-21, and our plans to go even further with a number of forward-looking cost-control initiatives.

PDO is a big part of the economic revenue stream for the country and it needs to be a key part of the future, as the sultanate strives to realize the Oman Vision 2040 and attain Net Zero emissions by 2050. Carbon competitiveness is also vital. Accordingly, we have developed a mature Decarbonization Roadmap to provide a clear line of sight on how we will achieve our target while we continue to meet the needs of the nation, our shareholders, and customers. Put simply: the energy industry cannot continue producing oil and gas without abating the emissions associated with our production. Plus, we must grow our asset base by continuing to invest in low carbon technologies.

### FIXING FRAGMENTATION

In-Country Value (ICV) in Oman would benefit from greater regulation, visible demand aggregation, and standardized and simplified processes to enable efficient contracting arrangements with Omani companies. On the other side of the coin, contractors must ensure they meet the specifications and requirements for health, safety, and environment (HSE), delivery, and quality.

### REALITY CHECK

It is imperative that we are all realistic. This means having an understanding – through industry, government, academia, and society – that the energy transition will not happen overnight. We need an orderly transition and credible targets as a sector, which must be supported by investment. Most of the investments that the industry currently make do add value. For example, we can reduce CO<sub>2</sub> emissions by 50% without destroying value. But getting to Net Zero is different. The technology is not yet available to support value-added investments and subsequent abatement. We certainly all have work to do.

## 1<sup>st</sup>

NTSP addressed a step change in PDO's structural cost reductions and productivity improvements – on the greatest scale achieved in the company's history.

## 25%

of Oman's emissions are caused by the energy sector, which means it must be a leading player in helping find solutions.

## 5%

is the annual predicted rise in global investment in low carbon and decarbonization technologies, reaching more than \$10trn per year by 2050.





COP27:

# Key Takeaways for 2023

Several much-needed actions emerged from COP27, the world’s largest annual climate gathering. The voices of 45,000 attendees during the two-week event in the Egyptian city of Sharm el-Sheikh have now settled, leaving stakeholders in the energy-climate-finance nexus to pin down their next best steps.

Amid many in-depth discussions, it was clear that innovative, quick, and scalable solutions are urgently needed to relieve the mounting pressure of the energy trilemma: an extraordinarily tall order to simultaneously meet rising energy demand and support the climate agenda, all while sustaining profitability.

LET’S TALK

Banks are becoming far more active participants in the energy trilemma, increasingly listening to stakeholders’ diverse and sometimes complex needs. The banking community wants to understand exactly what its stakeholders’ priorities will be for the next five to ten years so that key, supporting points can be integrated

into their operational and strategic policymaking, especially when it comes to new products. Banks are showing growing appetite for evolving climate finance solutions, such as green bonds and loans, to help stakeholders “plug the gap” in their energy trilemma. Equally, customers need to clearly share what they need, so the two sides of the financing seesaw are aligned, achieving all-important fluidity.

UNDERSTAND YOUR NEEDS

Stakeholders need more guidance on how to tap the right pools of liquidity. For example, the stage a concept or project is at has a huge influence on finance availability, as does the scalability and deal structure of a proposal. The financial community

must work more closely with stakeholders to ensure all parties can benefit as much as possible, especially as many new players enter the emerging energy-climate ecosystem. Education will be an ongoing process; the sooner processes are established, the sooner knowledge-sharing strengthens.

ESG IS HERE TO STAY

Despite economic headwinds worldwide, appetite and commitments for ESG continue to gain significant momentum. ESG is being pursued in different intensity levels amongst investors in different regions, but all acknowledge its importance. However, one key issue that must quickly be addressed is the establishment of baselines around tracking, measuring



“The UAE is certainly moving in the right direction, which will be highlighted during COP28 in Dubai this November. We must also remember that this journey does not end in 2050; it is a total overhaul of how we live and do business, for it means changing a \$100trn global economy.”

and accountability standards for ESG. The same principle applies to carbon pricing: the sooner baseline standards are adopted, the sooner a climate finance ecosystem can thrive, the sooner critical progress is achieved.

PINNING DOWN DETAILS

The number of deals announced at COP27 reflected the positive momentum that continues to propel the energy transition, such as the \$230mn mobilized for the Adaption Fund, helping vulnerable countries adapt to climate change. However, much more work on policy frameworks must be done to ensure timely implementation of existing agreements is achieved – “we must walk the walk, not just talk the talk,” a delegate said – as well as spurring new policies and projects. Juggling these dual tracks can be challenging, but the time pressure surrounding Net Zero goals by mid-century, or sooner, means it is non-negotiable.

MASTERING YOUR OWN PATH

Each stakeholder’s challenge is unique to them and as such, tailored solutions are needed. For one, expecting the financial needs and support systems of developed nations to match those of developing nations is not viable. A developing nation that has earmarked finance to support climate goals is sometimes forced to reallocate those

funds towards disaster management, a situation caused largely by climate change, for instance. That country cannot be penalized for being forced to reprioritize its finances amid a national crisis. Instead, the financial community must rally around to find new measures to plug the unexpected gap. The need for such

1<sup>st</sup>

time that a COP will held in two consecutive years in MENA: COP27 in Egypt in November 2022 and COP28 in Dubai in November 2023. Therein lies a unique opportunity to highlight developing nations’ needs.

90

world leaders were amongst the 45,000 people that attended COP27 in the Egyptian city of Sharm el-Sheikh.

\$16bn

is what Mashreq has committed to sustainable finance in the last two years.

Sources for highlighted data points only: <sup>1</sup> Refinitiv; <sup>2</sup> Refinitiv; <sup>3</sup> OECD.

financial empathy will rise alongside the frequency of climate-related disasters. For one, a disaster related to a weather, climate, or a water hazard occurred every day on average over the past 50 years, flagged the World Meteorological Organization (WMO) – killing 115 people and causing \$202mn in losses every single day.

2x

Mashreq, the UAE’s oldest bank, aims to nearly double this commitment to sustainable finance by 2030, to \$30bn.

\$1trn

mark for the global sustainable finance market was passed in 2021, a record high.<sup>1</sup>

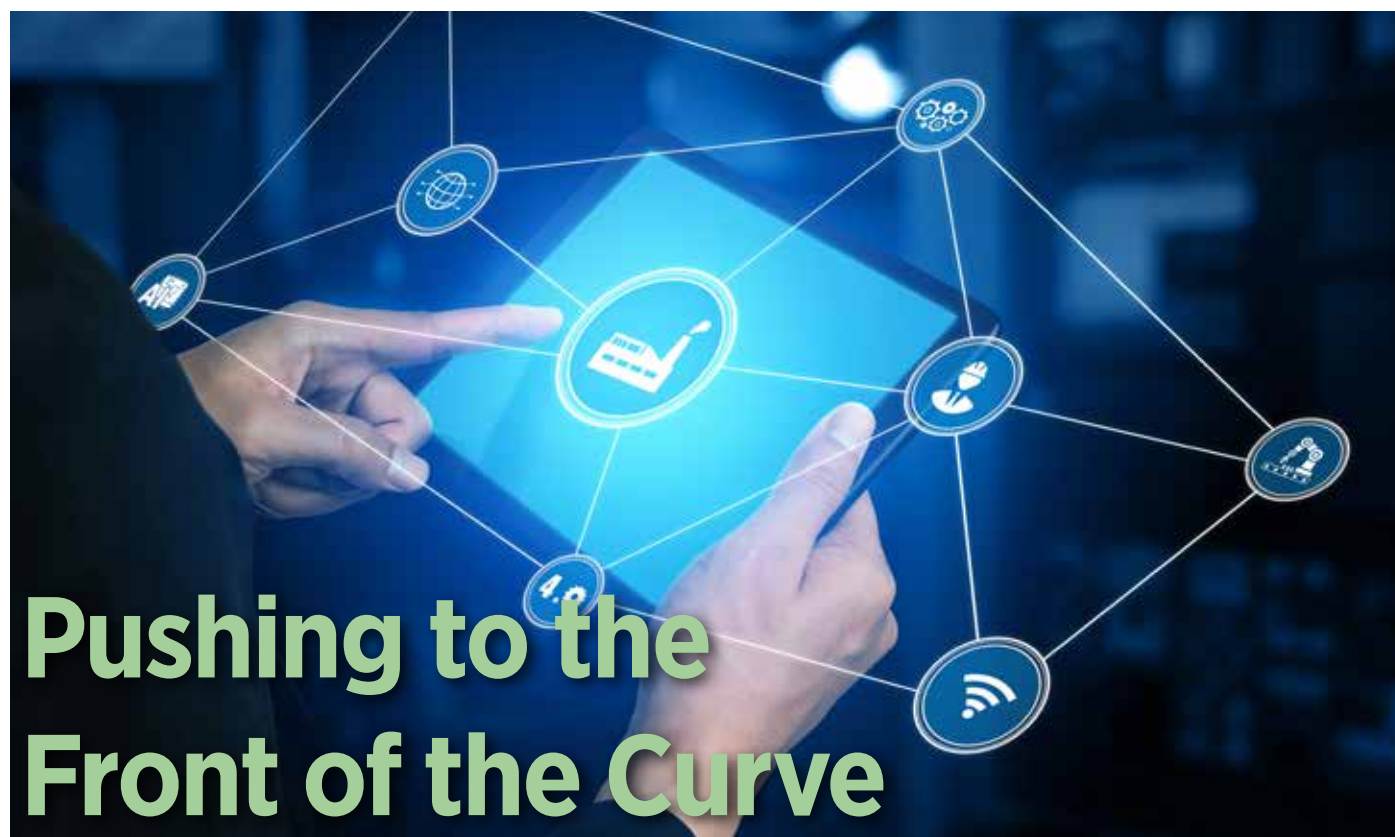
20x

growth in sustainable bond issuances was reached in 2021 worldwide, compared to 2015.<sup>2</sup>

2023

is when the climate finance provided and mobilized by developed countries for climate action in developing countries looks likely to reach \$100bn.<sup>3</sup>





## Pushing to the Front of the Curve



**AbdulRahman Al Yahyaei**  
CEO, Oman Energy Association (OPAL)

Oman is farther along its ESG journey than many other countries. Already, at a country level, Vision 2040 and has articulated all the issues of ESG and mandated to attract foreign investment. At OPAL – the umbrella organization of energy companies and service providers in the Sultanate of Oman – we see that many in the energy sector are already implementing ESG, or indeed aspects of it, such as the operators. The same applies to many international companies, all of whom fully understand

**18.6%**  
increase in Oman's oil production is anticipated between 2022-2025, reaching 1.135mn b/d in two years.<sup>1</sup>

**650MW**  
is Oman's daily production of electricity from renewable energy, which is expected to climb to 3,350MW by 2027.<sup>2</sup>

the importance and the requirements of this new chapter.

Today, investors look beyond balance sheets. They look at CO<sub>2</sub> emissions, how socially responsible a company is, how its workforce thrives, how it is governed, and so on. All our institutions are required to implement ESG.

### LEADING THE WAY

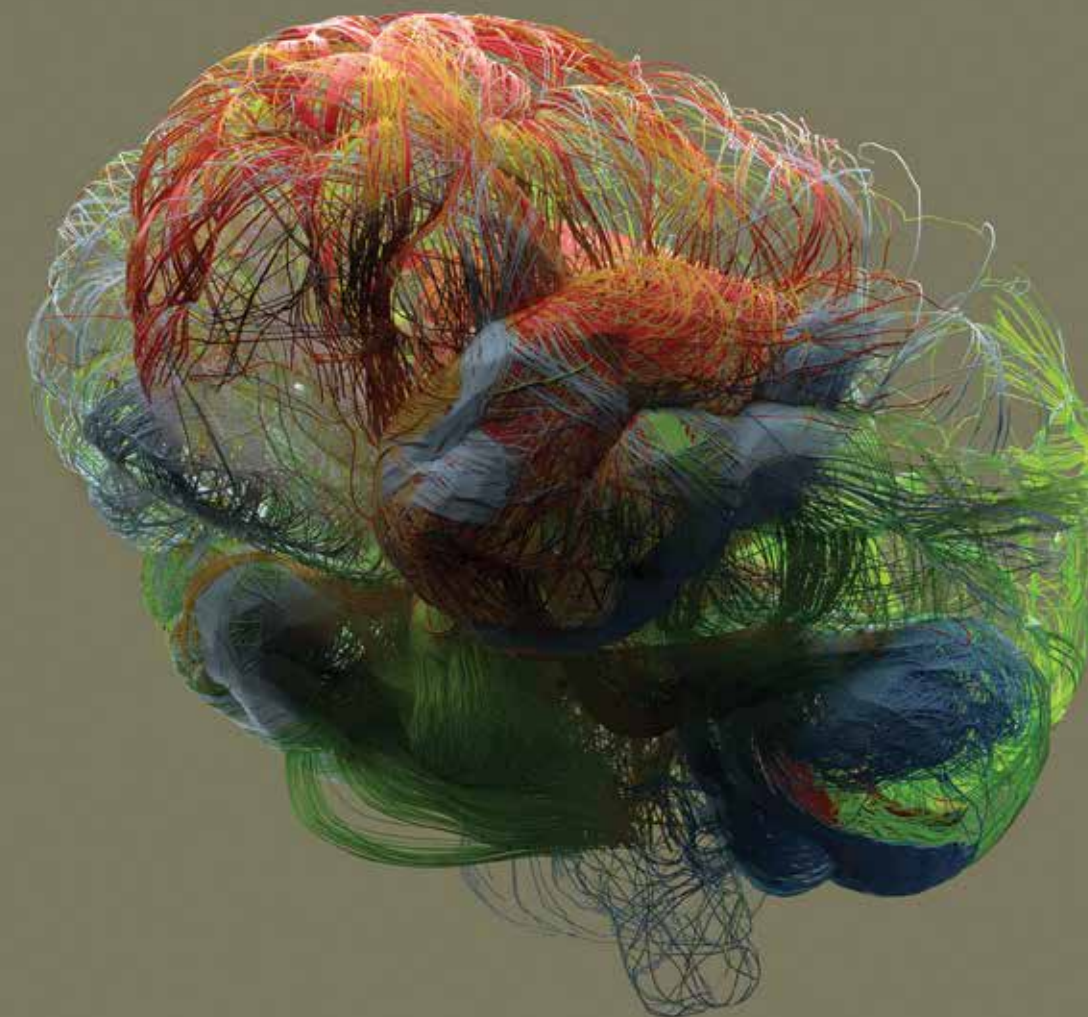
The energy sector has led the way in respect to the development of the workforce and job opportunities. We are also playing – and will continue to play – a major role in renewables, all in support of Oman's bid to reach Net Zero by 2050. OPAL has been licensed to host the first Sector Skills Unit for the energy and minerals sector in Oman, which will see the unit develop national occupational standards (NOS) through training programs. Currently, we have around 14 national oil companies (NOCs) and hundreds of training programs, including knowledge in electrics, mechanics, maintenance fabrication, and health and safety.

A key focus is working with many international organizations to expand our programs, which includes looking at required skillsets for greener energy routes, such as wind, solar, and green hydrogen. Green hydrogen holds vast potential, for one, offering a clean, sustainable, and flexible option for various sectors across Oman.

**#1**  
OPAL has been licensed to host the country's first Sector Skills Unit for the energy and minerals sector.<sup>3</sup>

**70%**  
is what the skills deficit in the Middle East and North Africa (MENA) stands at, showing how nations like Oman taking the lead can help establish a positive template for broader progress.<sup>4</sup>

Sources: <sup>1</sup> S&P Global Ratings; <sup>2</sup> Oman Daily Observer; <sup>3</sup> Opal; <sup>4</sup> International Monetary Fund (IMF), World Economic Forum (WEF).



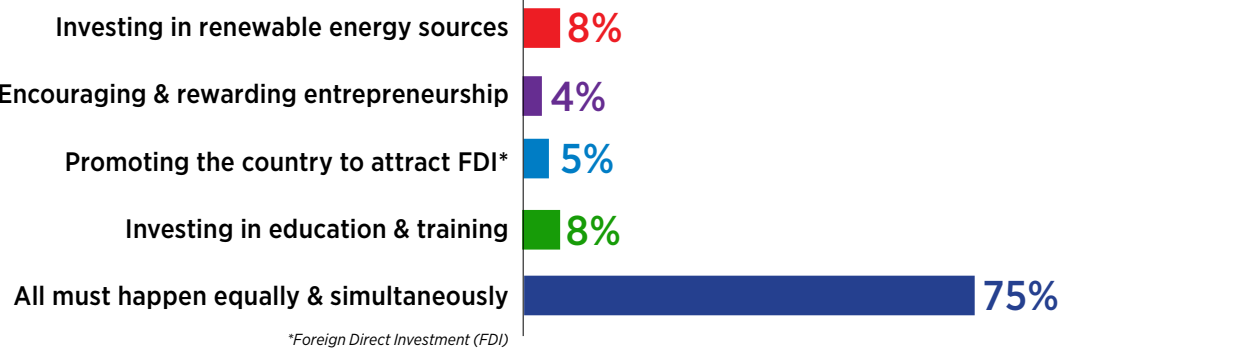
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Emerson's Plantweb digital ecosystem is the brain for smarter, safer and more sustainable performance.



# The Future of ESG in Oman?

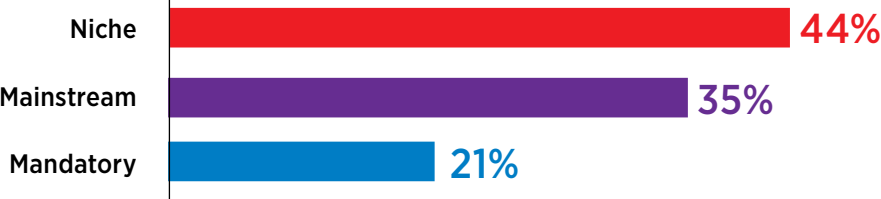
Which will have the biggest impact on powering sustainable economic diversification in Oman?



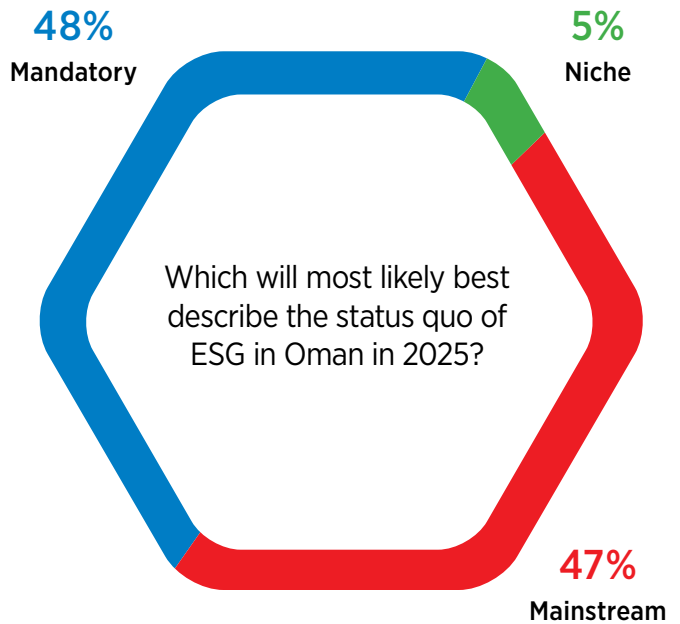
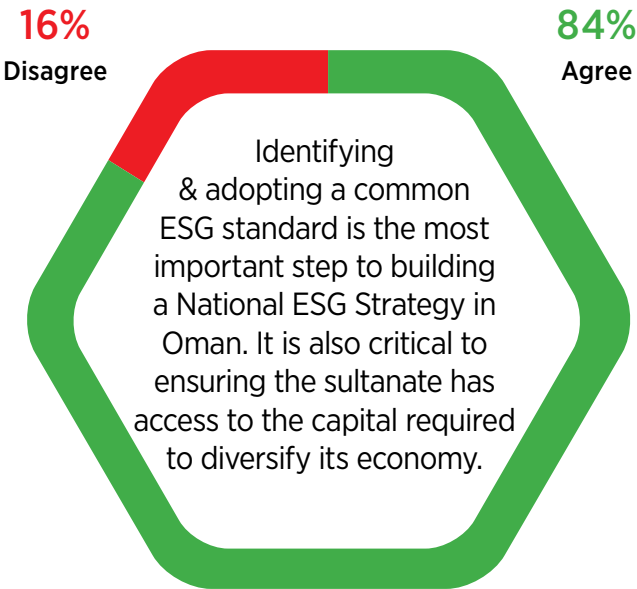
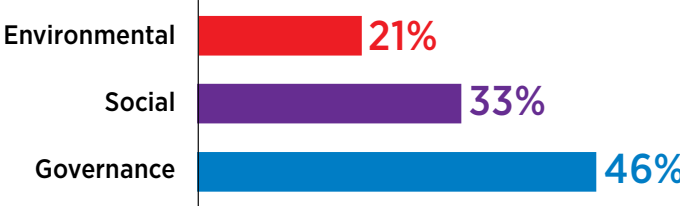
The risk with hydrogen projects is there is no material global market yet, no established pricing reference, and very few willing offtakers. So, Oman’s strategy should be:



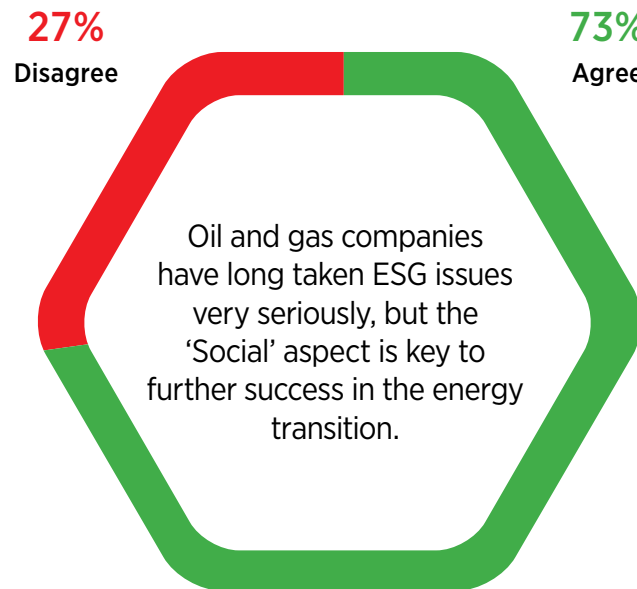
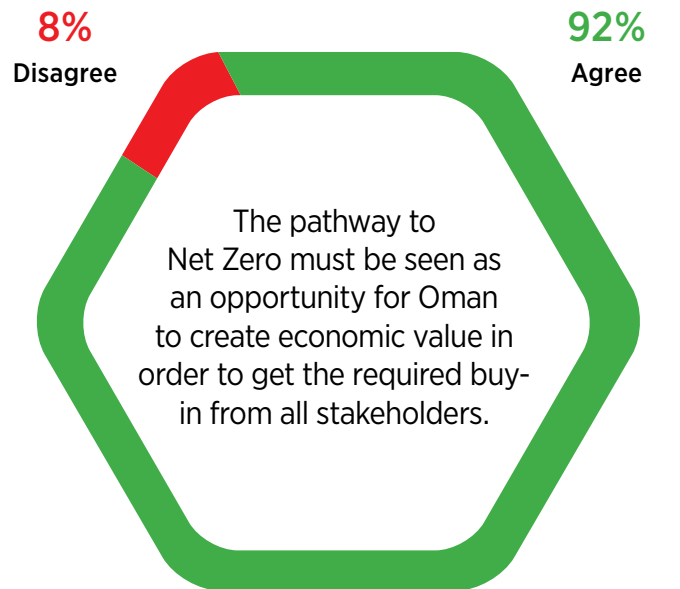
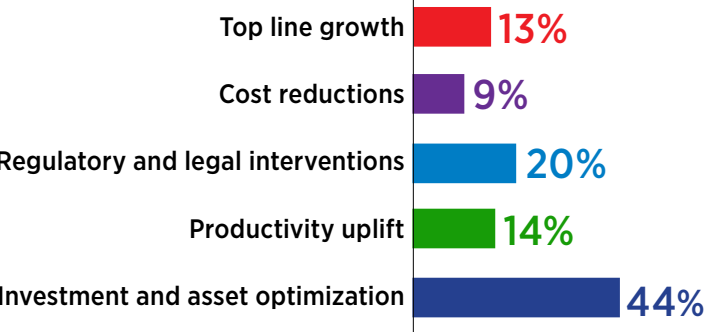
The COVID-19 pandemic and the global race to Net Zero have accelerated the need for ESG. Today, the status quo of ESG in Oman is:



ESG is a framework that helps stakeholders understand how an organization is managing risks and opportunities related to ESG criteria. Which of the three is currently the most important?



A strong ESG proposition links to value creation in five essential ways, according to McKinsey. Which offers the most value in Oman?





# Transport Key for Green Hydrogen Ecosystem

## OMAN HYDROGEN CENTRE

The transport and distribution of green hydrogen takes up a significant share of the overall cost along the value chain due to its low volumetric density, which is very different to incumbent hydrocarbon fuels. Distribution and the conditioning for final use will also be of utmost importance. For different applications and locations, various hydrogen transport options might be the best choice. Relevant parameters include the distribution distance, the required hydrogen pressure, as well as hydrogen quality. Accordingly, hydrogen offtakers and their requirements must be part of a successful project design and transport and distribution vectors must be carefully chosen in order to sustain competitiveness. Plus, Oman can elevate its excellent starting position in this growing market by more intrinsically including the impact of transport and distribution on national value along the supply chain. Stakeholders must also consider that certification requirements that reduce greenhouse gas (GHG) emissions need to be properly incorporated in the design phase, supporting the economics and ethics of the overall project.



# Different Language, Same Message



**H.E. Eng. Naif Ali Hamed Al-Abri**  
**President, Civil Aviation Authority (CAA) Oman**

Strategies must consider how ESG affects and protects an organization’s sustainability, its access to financing, investors’ appetite, customers’ perception, and so on. All ESG principles must be understood, but each sector does not have to use the same document per se. Once these principles are established, the positive benefit must cascade across the entire value chain. ESG does not work in isolation; building a National ESG Strategy means looking at every sector. The good news is that cross-sector collaboration in ESG across Oman has transformed over the last year, with significant improvements. Sectors of all types are working together with a single goal – Net Zero by 2050.

**2 weeks of intensive diplomacy by more than 2,500 delegates from 184 States and 57 organizations at the 41<sup>st</sup> ICAO Assembly culminated in member states adopting a global goal of Net Zero by 2050.<sup>1</sup>**

**4.5bn passengers were carried by airlines across the globe in 2019 – equivalent to just over 50% of the world’s population – highlighting the need to protect both this vital industry and the environment simultaneously.<sup>2</sup>**

**1960s Jet aircraft in service today are over 80% more fuel efficient per seat per kilometer than the first jets sixty years ago. Progress has been made, but far more is needed to reach Net Zero.<sup>3</sup>**



The energy sector is always at the forefront of progress, at least from a local perspective. The fossil fuel industry in the Middle East, especially, has established a world-leading approach to innovation and growth. Spearheading positive disruption is in the industry’s DNA and the road to ESG should be no different. Of course, there are different levels and categories of maturity in terms of policy setting.

### SOARING AHEAD

From a global perspective, we are increasingly seeing the momentum in the national and global aviation market make positive changes. The global aviation sector’s commitment to Net Zero by 2050, for one, is enabling an ambitious mindset to trickle down to the nitty gritty of procedures and governance in all organizations under that umbrella. The aviation industry benefits from some practice too, as it is already so heavily regulated to ensure upmost safety standards. Currently, many

policies in aviation stem from a global framework as we are all linked to as part of the International Civil Aviation Organization (ICAO). This includes a lot of policies already focused on the social aspect, governance, and climate, all of which are ESG-relevant and feed down to stakeholders working in airports and airlines.

**187%**  
**increase in the total number of passengers travelling through Oman’s airports from January-July 2022, versus the same months in 2021.<sup>4</sup>**

**32,608**  
**flights were recorded at airports in Muscat, Salalah, and Sohar from January-July last year – a 142% climb on the same period in 2021.<sup>5</sup>**

Sources: <sup>1</sup> ICAO; <sup>2</sup> Oman News Agency; <sup>3</sup> Air Transport Action Group; <sup>4</sup> Air Transport Action Group; <sup>5</sup> National Centre for Statistics and Information (NCSI).





# On the Road to Net Zero



**Areej Mohsin Haider Darwish**  
**Chairperson, ACERE, Mohsin Haider Darwish LLC**

Oman believes in the importance of having a comprehensive ESG framework as part of its drive to diversify its economy, sustain energy security, and meet Net Zero by 2050. Government strategies that support economic diversification have so far played a key role in creating a more sustainable future. The strategic pillars outlined in Oman’s Vision 2040 include

**“Oman is committed to decarbonizing and helping the world decarbonize. Opportunity lies in the hands of those who seek answers.”**

**1st**  
ESG framework for Oman is currently being developed.

**3rd**  
is Oman’s ranking in MENA in regard to advancing renewable energy in the global transition.

**“ESG will be one of the driving factors of the 21st Century.”**

decreasing reliance on hydrocarbon exports, investing in developing strong human capital, creating equal opportunities for all Omanis, and reaching Net Zero. As work on a national ESG framework continues, there will be a concerted effort by both the public and private sectors in Oman to support and adhere to changes.

**HARNESSING OPPORTUNITIES**  
The pathway to Net Zero must be viewed as one full of potential; a new chapter to create economic value, increase industrial competitiveness, and attract investors. Modern Oman already embodies a culture of sustainability and modernism, which must now be built upon by creating more platforms of dialogue. All conversations and plans must remember Oman’s core values: integrity, culture, and respect. The visionary leadership of His Majesty Sultan Haitham Bin Tarik will ensure the sultanate’s future is a prosperous one – both economically and environmentally.

**FUTURE KEYWORD?**  
Ambition will underpin our strategy for years to come, as illustrated by Oman’s Net Zero goal in just 27 years. Our preparations are already underway with the establishment of the Oman Sustainability Center, which will supervise and follow up on Net Zero carbon plans and programs. Investing in green hydrogen is another example of how the sultanate is pursuing its decarbonization, economic, and energy security objectives.

**340,000**  
tons of CO<sub>2</sub> emissions will be offset per year when Oman’s Ibri II Solar Power Project – the country’s largest renewable energy project – reaches peak generation capacity, enough to supply 33,000 homes with electricity.<sup>1</sup>

**#1**  
Oman is pressing ahead with the Dhofar Wind Power Plant, the country’s first wind-based power project.

Sources: <sup>1</sup> Acwa Power; Roundtable delegates



# Best Route to Crafting a Roadmap

## BUREAU VERITAS

The oil and gas industry is at the core of the drive towards a solution, mainly through emissions reduction towards Net Zero. Accordingly, we are all witnessing major stakeholders like governments, NOCs, and international energy companies (IECs), and others adopt ambitious Net Zero targets as part of their role in the global energy transition. One of the important routes to supporting Net Zero is being able to detect, repair, monitor, and reduce fugitive emissions. Leveraging such efforts and working with existing multiple expertise – ranging from traditional carbon services and certification, to technical capabilities and field experience – are very valuable progress points.

**STEP-BY-STEP**  
A staged approach to kickstarting the Net Zero journey, which includes ESG, is key. For us, this starts with a high-level audit to identify all the potential emission sources, coupled mainly with a four pillar quantitative program (see below: *Four Pillars*). Subsequently, to improve the quality and reliability of the emissions data, the industry is looking at a portfolio of specialized and innovative services to measure emissions. This integrates bottom-up (source level) and top-down (site level) approaches. Once the emissions data is considered robust and properly organized, clients then focus on emission hotspots. This includes mobilizing a dedicated group of engineers and experts to quantify the carbon footprint, perform Life Cycle Analysis (LCA), assess the evolution of regulations and standards, and seek technical advisory in order to decarbonize.

### Listening and Adapting

*Our interactions with clients have revealed these key needs and objectives:*

- Measure emissions at granular level and identify hotspots
- Implement roadmap to align investment with strategy
- Monitor reduction projects to consolidate improvement
- Offset hard-to-eliminate emissions to mitigate impact
- Progress based on reliable and independent data
- Communicate transparently

### Four Pillars

- Perform on-the-ground assessments by independent auditors and experts, leveraging structured and well-developed checklists
- Provide observations and aggregated scores, i.e., emission data reliability, to enable continuous improvement
- Allow managing organized data at different levels of the organization and per category of emissions to be displayed into a dashboard
- To prioritize action, accelerate progress, and reach objectives fostering accountability at asset level



# Propelling Oman’s Green Hydrogen Ambitions



**Q&A with Dr. Firas Al-Abduwani**  
**Acting Managing Director, HYDROM (Hydrogen Oman)**

*Given green hydrogen is a new market, should Oman wait till a regional or global market is more established?*

The logical answer is to take a step-by-step approach, but waiting for the global market is also risky. Hydrogen projects have development and construction cycles of around seven years and there are already more than 90 projects, with four under final investment decisions (FID) and construction. Two years ago, my answer would have been to wait for the global market to develop. But we have reached a point where there is more traction. Energy security has become more of an issue and demand is firming up, and so waiting to develop green hydrogen will have a negative impact. Oman’s complementary profile of land, available ports, wind and solar, adjacency to water...all give it a unique position. There is a window of opportunity for Oman to present itself as a hub for green hydrogen. In time, the “locked market”

**2yrs**  
from 2020-2022 have seen a dramatic shift in the outlook for green hydrogen in Oman, turning it from a niche market to one heralded as a “must have” in the energy basket of the 21st Century.<sup>1</sup>

**1mn**  
metric tons of green hydrogen production in Oman by 2030 is a major goal, highlighting the sultanate’s intention to become a global player.<sup>2</sup>

**8mn**  
metric tons of green hydrogen is Oman’s annual production target by 2050, one of the highest announced worldwide.<sup>3</sup>

**“We have 1.8mn metric tons of green hydrogen projects coming to market by 2030. Realistically, with some of these perhaps failing to achieve financial close, we have enough volume to reach the 1mn tons target in seven years.”**

of 20 or so competing nations will expand to a circle of 60.

*This sounds like Oman needs to capture a first mover advantage, as happened with liquified natural gas (LNG) years ago?*

Yes. Hydrogen is a very localized industry, which means that trying to transform it into something that is regionally transportable is a challenge. Therefore, you have an advantage if you can present yourself as a regional hub or ecosystem, with the right logistics, political stability, and the right geographic location.

*How critical are offtakers in this equation?*

Most of the announcements and policies on green hydrogen so far have been supply driven, but there are some nations now focusing on the demand side. Oman’s play in green hydrogen for local use is for the medium to long-term. But in other nations, where energy security has become more prominent, such as western Europe or Japan, green hydrogen is becoming a

tangible and required solution. Oman already has a project for which a term sheet was signed off by an offtaker a few months ago. That is what I mean when I say progress is firming up. At HYDROM, we are mandated to be the focal entity to orchestrate Oman’s green hydrogen story, with an auction process and evaluation criteria. Having a firm offtaker is one of the key criteria we will use in evaluating bidders. We have also structured things so that offtakers can come in with small equity, similar to LNG in the early days, so there is flexibility in our approach. But there are very few players today who are vertically integrated and able to go it alone. Consortia are the way to go, at least for the nascent market. As they become more specialized, they can focus on certain areas.

*Where does HYDROM fit into the regulatory oversight of hydrogen in Oman?*

We are the single entity that orchestrates national and international parties. We have an equivalent of a five-year statement, with short and

## Sharpening Oman’s edge

The Sultanate has a clear competitive advantage. From the coastline at Duqm to the south in Salalah, Oman has more than 50,000 square kilometers of land – all endowed with remarkable wind and solar profiles, adjacent to the sea. The availability of land, ports, and industrial estates are opportunities that we must galvanize and capitalize. We see interest from the market, which started pre-2019, with visits from different developers. Then activity significantly increased in 2021, followed by the directives from His Majesty in 2022. Now, the market needs to be regulated.

**“Offtakers can come in with small equity, similar to LNG in the early days, so there is flexibility in our approach.”**

long-term horizons, drawing from the utilities markets. We structure the auction processes, delineate the land, run the process to auction plots, build key elements of ICV in, and so on. We are the repository for the data generated and we use it to enhance our future bidding rounds. We follow up on the auctions after the process, but we are not monetarily involved in these projects. Another key element is common infrastructure. One of the main drivers is system cost. So, we need to interact with different players to find ways to integrate within Oman, as well as build interconnections across the Gulf Cooperation Council (GCC), and perhaps across the sea. We must maximize value through collaboration.

*What is next to enable Oman to hit 1mn metric ton of green hydrogen production capacity by 2030?*

We have started delineating the land required, with awards to be made this year and in 2024. We also have legacy



## Pricing ambiguity

Do we have a fixed price? Is there an index? Absolutely not, but there are references. Green hydrogen is not really a transportable product yet. The main formats of transporting it are either ammonia, methanol, synthetic fuels, or liquid organic hydrogen carriers. Ammonia is currently the dominant transportation mechanism, so the reference price is grey ammonia. It is linked to hydrocarbons, in particular gas, at least in our part of the world. So, you have a price and then you add the green element premium on top of it.

initiatives on separate tracks. In total, we have 1.8mn metric tons of green hydrogen projects coming to market by 2030. Realistically, with some of these perhaps failing to achieve financial close, we have enough volume to reach the 1mn metric ton target in seven years.

**“Very few players can go it alone right now. Consortia are the way to go. As they become more specialized, they can focus on certain areas.”**



## Different financing prisms

There are multiple risks. Financial capability, development capability, asset ownership, operations and maintenance, and geopolitics, for example. The US’ launch of the Inflation Reduction Act (IRA) has also changed the global dynamic significantly. Some financial and technology providers have shifted part of their focus from where the supply was going to be most attractive, such as Oman, to the US and its subsidies. The US, with its economic clout as the world’s biggest economy, can do this. They are going in for the long play, putting the cash up front and expecting the intellectual property (IP) to be harnessed later on. They make their money through exporting the IP and recuperating corporate taxes, or other mechanisms. As a nation, Oman is different, including the size of our economy and manpower.

**\$140bn**  
of investment may be needed to achieve Oman’s recently launched Green Hydrogen Strategy.<sup>4</sup>

**3mn**  
solar panels, 10,000 wind turbines, 5,200 electrolysis units, and approximately 180GW of renewable energy production capacity are expected investments in coming years in Oman, supporting the ecosystem for green hydrogen.<sup>5</sup>

**3x**  
The global market of countries keen and able to build green hydrogen ecosystems could triple in coming decades, from 20 to 60 locations worldwide.<sup>6</sup>

Sources: <sup>1</sup> Dr. Firas Al-Abduwani; <sup>2</sup> The National; <sup>3</sup> The National; <sup>4</sup> Oman Observer; <sup>5</sup> Oman Daily Observer; <sup>6</sup> Dr. Firas Al-Abduwani.



# Next Steps for the Energy Sector in 2023?

**ESG is the glue that must unite all energy companies across Oman as they collectively support the sultanate’s push to be Net Zero by 2050, only the second nation in MENA to declare this target. Corporate Social Responsibility (CSR) has long been embedded in the energy industry, but the increasingly urgent and comprehensive global climate agenda means the stakes are rising fast. Now, ESG is a must-have, offering a more holistic, tangible, and rewarding path. But it also carries many steep learning curves and challenges. And even more so than CSR, it is non-negotiable. Energy entities failing to embrace ESG will face commercial stalemate in the coming decades, as investors increasingly use it as abenchmark.**

**A** palpable appetite for positive disruption dominated the roundtable. “Now is the time to make a major change. No one can say “I’m the best at ESG”, for none of us have all the answers. So, we must start designing learning platforms that enable us to learn, transfer, and replicate best practices,” a delegate urged. This call to action was accompanied by delegates’ need for a common rulebook, an attempt to reduce the current legal and regulatory fragmentation, to establish “one ESG”.

**\$190bn+**  
of investments will be targeted by Oman up to 2050 to support the country’s energy transition and decarbonization projects.<sup>1</sup>

**84%**  
rise in ESG-focused institutional investments worldwide to \$33.9trn by 2026, making up 21.5% of assets under management.<sup>2</sup>

“We need to untangle all these emerging definitions and different types of best practice, such as understanding the quantifiable role of ESG amid Net Zero and the United Nations Sustainable Development Goals (SDGs),” another delegate said. Energy stakeholders need clear parameters in this fast-evolving world of ESG. Once identified, these parameters must be rolled out, guided, and monitored from the top-down across Oman.

ESG credentials are already directly impacting energy companies’ ability to access capital at more competitive rates. A delegate said that world-leading and non-governmental financial institutions shared in a recent meeting that they were embracing a very low threshold of tolerance for companies without an ESG strategy, or intentions to build one. Clearly, energy companies in Oman must be ready to answer the myriad of questions inevitably coming their way.

What does your roadmap look like? What have you achieved so far? How is your roadmap being managed?

What government support and guidance are you receiving? What partnerships, nationally and globally, are involved? How are you ensuring you have the talent to support this? What is the projected ICV?

“And so many more questions...these are all areas that the energy market needs to pursue quickly. Speed will become a strong determining factor going forward,” a delegate said.

**LEVERAGING A HEAD START**

Many Omani energy companies may be farther along on the ESG “train” than they anticipate. For example, the groundwork of becoming a Sharia compliant entity means said company has already ticked many boxes relevant to ESG, delegates said. Plus, companies already pursuing green energy, nationalization goals, and complying to international standards, to name just a few, have already built meaningful parts of the skeleton of their ESG roadmap. Creating a “home for all” for this knowledge is a pertinent next step. For example, establishing a nationwide endeavor that culminates

**“We all see how energy markets are being rewritten. We will see the emergence of ESG scorecards by 2030s, i.e., investors, partners, and customers asking if that company has achieved X, Y, and Z. Their rating relies on how many times they can say yes.”**

in an annual or bi-annual forum would ensure all energy stakeholders in Oman understand what activities are already underway, what can be shared to save time, where regional and / or international engagement would be most useful, and so on.

Plus, education on tiered financing options must be considered for entities along energy supply chains that lack “very deep pockets”, delegates said. For example, improving internal diversity and some governance factors carries lower costs, whereas investing heavily in renewable energy may carry higher costs (at first). This generalization must be tailored to suit each company’s journey, however all stakeholders must understand that they need to arrive collectively at the same destination: Net Zero by 2050.

A key point that must be standardized across the entire supply chain in the near-term is the quality of digital applications, especially data management. This applies to all

**132**  
founding members created the UN Principles for Responsible Investment (UNPRI) in 2019. There are now 290 signatories – equal to 45% of the global banking sector, holding assets worth \$84trn.<sup>3</sup>

**17**  
The UN SDGs are made up of 17 goals with 169 targets that all 191 UN Member States – including Oman – have agreed to try to achieve by 2030.

Sources: <sup>1</sup> Muscat Daily; <sup>2</sup> PwC; <sup>3</sup> Norton Rose Fulbright.



## Help banks help you

Banks are examining organizations’ long-term objectives, as well as their here-and-now strategic and operational changes in regard to ESG. Like energy, the world of finance is finding its feet in this uncharted territory, keen to make a positive and profitable impact. Plus, the majority of banks have their own ESG metrics to meet, which increasingly means they can only welcome ESG-aware and compliant clients. Therefore, it is incumbent on all stakeholders in the energy-finance-climate equation to incorporate ESG metrics into daily business activities. The greater the transparency, the faster the flow of funds to support companies’ ESG roadmap. As one delegate explained: “Essentially, a bank will always ask: Will I get my money back? The answer is almost always yes, but energy companies need to make it easier for the banking community to see that, especially with so much noise around the energy transition, the economy, and turbulent geopolitics.”

companies – from NOCs, to small and medium-sized enterprises (SMEs), to entrepreneurs, and so on. Data harvesting and predictive analysis are especially instrumental in “shining a light” on companies’ limited / no transparency on their Scope 1, 2, and 3 emissions. One delegate described how their company uses data tools as part of a bigger focus on responsible procurement. This starts by establishing environmental criteria with major suppliers, screening suppliers, follow-up site visits, and audits to ensure the ecosystem is compliant.

Above all, delegates’ comments fed into a common theme: a progressive mindset that results in quantifiable results is imperative. “The Net Zero deadline of 2050 means the ESG train has already left the station in Oman. So, the longer we delay achieving the milestones, the less chance we have of reaching our destination,” a delegate said. “We shouldn’t wait for Mom and Dad to tell us what to do, to give us the granular details. We must be responsible for making our own progress, too.”



# Staying the Course Pays Off



**Eng. Yousuf Mohammad Al Ojaili**  
President, bp Oman

**W**e have serious environmental issues to address and we need a very fast energy transition. The growing unity worldwide, including in the sphere of ESG, marks valuable steps forward. For one, we in Oman have reduced our CO<sub>2</sub> emissions by 27% on 2019 levels, despite increasing our production by 30%. We also have a very clear pathway to achieving a 56% reduction of GHG emissions by 2030.

All of this is already positively impacting the bottom line. Many moves have helped us achieve these targets, which gives us confidence that we can achieve others, such as green completions of wells and greater efficiency. Importantly, everyone – the company, partners, and the government – have benefitted.

**201,000**  
tons of CO<sub>2</sub> emissions have been saved by bp at the Ghazeer field in Oman since adopting a ‘green completions’ concept at oil wells – equivalent to removing 44,000 cars from the road for a year.

**85%**  
of bp’s employees in Oman are Omanis, including half of its leadership team, as of 2021. The company aims to reach 90% Omanization by 2025.

**HIGH SOCIAL EXPECTATIONS**  
There will be far more pressure on all of us to provide quality social development in Oman. I believe that social development must be considered as a requirement that is enforced by the government, not something that is optional. Increasingly, the government wants to see high quality employment and progressive development of human capital, as well as large scale ICV, especially initiatives in manufacturing. Such ambition is based on a very strong bedrock long cultivated by the sultanate: vast solar and wind power generation potential, coveted political stability, and extensive infrastructure, notably ports and industrial facilities. We can still provide energy solutions without that, but the government is being very specific on local capabilities, whether this be in research and development (R&D) or talent development.

**ONES TO WATCH?**  
One challenge for Oman to tackle is the outlook for green hydrogen, especially as competition across the GCC and MENA intensifies. For one, could we produce electrolyzers for hydrogen or wind turbines on a bigger scale in Oman? More work is needed as the sultanate sets its sights on increasing production to 1mn tons

of green hydrogen by 2030. Skilling, reskilling, and upskilling talent are also essential. Omanis must be familiar with the fundamental knowledge of renewables or hydrogen, for example. We have a data campaign agreement that we are implementing with the government, with 15 Omanis already supporting the project – all of whom are building their knowledge from zero just two years ago.

**94,000+**  
people have benefitted directly from 106 initiatives in bp’s social investment program from 2014-2021, thus supporting the development of Omani people, economic diversification, and job creation.

**16yrs**  
bp has had a presence in Oman since 2007 and is a major investor within the country.

**2022**  
March last year saw bp publish its latest socioeconomic review, highlighting a commitment to Oman in line with the company’s sustainability framework.



## WE’RE FOCUSED ON THE FUTURE OF ENERGY.

OQ is a global integrated energy company with roots in Oman. OQ has operations across 17 countries, that covers the entire value chain from exploration and production of oil and gas, refineries and petrochemicals to marketing and distribution of end-user products reaching more than 80 countries worldwide. OQ Alternative Energy focuses on investments in renewables and green hydrogen in Oman.



# OIL & GAS

## Accelerating Oman's Decarbonization Roadmap?

The overarching importance of continually considering both energy security and the climate agenda – both individually and in how they are intrinsically linked – is vital. The same applies to appreciating the push-and-pull of geopolitics on both global cornerstones, such as the ongoing impact of the Russia-Ukraine war. The more Oman and its energy entities can flex around geopolitical uncertainties, the faster they will be able to capture more market share – safeguarding fiscal stability and thus making the sultanate more attractive to much-coveted investors.



### LAUNCH PAD

That two COPs are being held in MENA for two consecutive years – COP27 in Egypt in November 2022 and COP28 in Dubai in November 2023 – for the first time gives the region's energy market a “huge helping hand”, delegates said, as big energy has historically not been a central part of proceedings.

Plus, Vision 2040 lays a strong foundation for the sultanate's decarbonization journey. “Although the Vision is not spelled out as a low carbon roadmap specifically, there is certainly a lot of content in the Vision that directly relates to this new chapter and there is little time to reinvent the wheel,” a delegate said.

Equally, this head start must not slow momentum now, for a far clearer and comprehensive ESG roadmap is needed within five years, delegates urged. Such clarity is essential for the energy industry as stakeholders plan their own routes, especially with more complex areas like circularity, carbon pricing, and Scope 3 emissions (described by delegates as the elephant in the room). This will also directly feed into the availability of infrastructure, giving investors more confidence to invest heavily in different energy products, such as lower carbon oil and a reliable grid for renewable energy.

### FULLY EMBRACE DIGITALIZATION

Digital tools have long been a part of the energy industry's operations, but now is the time to dramatically increase the maturity of what data we seek, how we manage it, and how we use it as a building block in our knowledge bank. Endless reams of numbers hold no value; we must gain real-time and strategic value. For one, delegates said energy companies can unite all / parts of their economic and sustainability strategies on common digital platforms – increasing transparency, fostering partnerships, and identifying commonly made mistakes.

“Everyone talks about energy security, finances, and sustainability, but who's actually implementing it? Who's really putting it together? That's where digital technology can be critical to accelerating progress,” a delegate said.

### BROADEN THE NET

Conversations around decarbonization tend to focus on mainstream areas,

27yrs

Oman plans to invest more than \$190bn in its energy transition up to 2050.<sup>1</sup>

2030

Oman plans to eliminate routine flaring in seven years.<sup>2</sup>

17

countries worldwide have integrated their Net Zero targets into law.

Oman's declaration for Net Zero by 2050 made it only the second country in MENA to do so.<sup>3</sup>

i.e., lower risk markets with proven economic and environmental value, like solar power. While valuable, expanding discussions to incorporate more existing and potential ideas is instrumental to effective decarbonization, which itself requires an “all hands at the pump” approach in order to achieve Net Zero goals by mid-century.

In this vein, a far greater focus on leveraging crossover technologies – how tools in different sectors can benefit each other – is needed. This saves time, money, and is a conduit to valuable partnerships. Stakeholders can explore the effectiveness of using mangrove swamps and seaweed farms as carbon sinks, delegates flagged. One example where this approach is progressing is green hydrogen.

“While certainly not a silver bullet, the appetite to work together to make green hydrogen a scalable market shows what can be achieved when we diversify the conversation,” a delegate said. “By no means does this guarantee success, for the market is still very new and offtake agreements are still emerging, but the lesson is unity pays.”

### TURNING THE TIDE ON CIRCULARITY

“Our grandparents and great grandparents were masters of circular living, for they did not continually waste products,” a delegate said. Delegates said the energy industry must adopt those type of principles far more seriously, for global demand is stretching to 1.5 earths – obviously an unsustainable equation. Oman alone generates 8,000 tons of municipal waste every day, a delegate warned – approximately 3mn tons a year.

Worldwide, waste volumes are expected to be 70% higher in 2050 versus 2016.<sup>1</sup> As a major polluter and waste generator, the energy industry has an opportunity to help redirect this damaging habit and turn it into one of regeneration, recycling, and renewal.

### A FRESH NARRATIVE

The energy sector must reframe job opportunities to all generations of talent to create a more inclusive industry (notably gender equality) and to better communicate how environmentally progressive the hydrocarbon industry can be.

“Today, students tend to study digital technology over science and energy management – a brain drain we must work harder at reversing,” a delegate said. Another delegate pointed to the lack of diverse and dynamic jobs roles in hydrocarbon, or the marketing thereof, that would entice talent from other popular sectors. The energy sector must inspire new potential into the market, especially in the energy security-climate agenda nexus. This long-running problem must now be tackled in full.

### ELEVATING AWARENESS

Investing resources into improving education around decarbonization propels employees' appetite for positive disruption, reassures investors that fundamental changes are underway, and appeals to customers seeking greener alternatives. “We need to speak the same language, all along the chain from oil majors to environmentalists to customers,” a delegate stressed. “All people need to understand why we are reaching for Net Zero, to buy-in into the future without simply digesting flashing news headlines.”

Source: <sup>1</sup>Goldman Sachs

\$4.5trn

of additional economic output could be generated by 2030 by creating / taking major steps towards generating a circular economy worldwide.<sup>4</sup>

17%

more is often spent by Generation Z (b.1997-) on sustainable products than millennials (b.1981-1996), yet the additional cost of sustainable products is 3%.<sup>5</sup>

Sources: <sup>1</sup>Oman Observer; <sup>2</sup>Oman Observer; <sup>3</sup>ECIU Net Zero Tracker; <sup>4</sup>Accenture; <sup>5</sup>Roundtable delegate.



# CARBON CAPTURE

## How to Drive Economic Viability in 2023?

Carbon capture and storage (CCS) is at a crossroads. Despite years of discussions throughout the energy-environment nexus on the vast potential of CCS, progress has long lagged worldwide. Now, amid Oman’s Net Zero goal by 2050, the time for debate in the sultanate is over and appetite to build a globally competitive CCS ecosystem with robust environmental credentials is surging.

**80%**  
of the \$100trn global economy in 2022 was based on hydrocarbons.<sup>1</sup> Clearly, supporting CCS can directly support economic and environmental stability.

**0**  
Globally, there are no markets yet able to absorb and utilize the multiple millions of tons worth of carbon that is needed to ensure Net Zero by 2050.<sup>2</sup> The journey must gain pace extremely quickly.

**6.9%**  
CAGR in the global CCS market is anticipated between 2022-2030, from a value of \$3.09bn in 2021.<sup>3</sup>

**T**he hydrocarbon industry needs CCS to work. If we can do it – and we have all the resources to be able to – then the hydrocarbon industry is no longer a villain, but an ally in the global transition to a greener and better world,” a delegate said. Stakeholders must increasingly feed this market growth into ICV, for the future of commercial success will be even more ingrained with nationalization, local job creation, youth development, and gender equality, to name a few.

The CCS market is a wide-ranging market, so pinning down how it can be used and adapted in Oman specifically is the first step. Unique rock formations in the sultanate must be better explored and leveraged as carbon sinks to maximize the country’s competitive and environmental advantage, for one. Plus, the deep water along the nation’s shoreline creates many upwellings,

bringing nutrients to the surface and making the upper regions of the sea suitable for sizeable seaweed farms. “Everything from biofuels to yogurt uses seaweed, so we really should be exploring that for carbon capture as well,” a delegate said.

**WHO’S PAYING?**

The sticking point of who should cover the cost of CCS needs clarifying this year. All stakeholders appreciate there are costs associated with scaling up the CCS market, yet many are confused about who is paying the bill. This financial stalemate is significantly slowing progress. Plus, turbulent supply-demand dynamics in commodity markets, concerns over a global economic slowdown, pockets of volatile geopolitics, and the increasing complexity of the energy transition mean some stakeholders are reluctant to embrace the bill for a less-explored market.

“Yes, there is a cost of doing CCS, but have you considered the cost of not doing it? That is extremely higher,” a delegate said, with agreement echoing around the table. Delegates said the answer lies in collective action, i.e., everyone must pay some degree of the cost for building a commercially viable CCS supply chain, which means more open forums to allocate responsibilities and obligations are needed. Importantly, timing to build a CCS ecosystem more vigorously is in Oman’s favor. For one, the sultanate’s overall GDP growth rebounded from -3.2% in 2020 to 3% in 2021, with 4.3% in 2022<sup>1</sup> – a bullish trajectory by any measure. For investors, it ultimately comes down to the question: “Will I get my money back?” Such forecasts, plus growing appetite in industry and government to

develop CCS, helps stakeholders answer positively.

**POWER OF A FINANCIAL CUSHION**

More incentives from government to support CCS efforts are needed in the short-term, especially following a period of intense focus on renewables and more recently, green hydrogen, delegates urged. A more holistic approach – one that includes supporting methods to reduce CO<sub>2</sub> emissions in the hydrocarbon market, like CCS – are much-needed.

A “cushion in the short to medium-term” would help spur investors’ appetite, both within Oman and internationally, delegates agreed. A delegate from the US said their CCS project was “kicked off” by government incentives, but emphasized that incentives do have an expiry date; stakeholders must have a long-term strategy that they can independently sustain. Importantly, incentives for market development should be underpinned by a holistic ethos, i.e., they must all tie together. This will create synergies between CCS and other facets of the energy basket, such as via tax benefits or carbon pricing, and help accelerate overall progress.

**THE BIGGER PICTURE**

CCS will only achieve the right environmental credentials – and thus become commercially viable in the energy transition – if the entire supply chain aspires towards the same goal. Delegates called on stakeholders to closely check the environmental footprint of manufacturing, transport, lifecycles of components, and so

**45Mt**  
of CO<sub>2</sub> is currently available via CCUS facilities worldwide.<sup>4</sup>

**35**  
commercial facilities worldwide currently apply CCUS to industrial processes, fuel transformation, and power generation.<sup>5</sup>

**~300**  
projects are in various stages of development across the world’s CCUS value chain.<sup>6</sup>



**“The time window to achieve the Paris Agreement is so tiny that we must do carbon avoidance, reduction, and removal – all at the same time.”**

on. All these factors feed into the ultimate environmental footprint of the technology, i.e., CO<sub>2</sub> emissions, water waste, and material waste. This broad overview will become even more crucial as the ESG market continues to post dramatic growth. Asset managers globally are expected to increase their ESG-related assets under management (AuM) to \$33.9trn by 2026, from \$18.4trn in 2021.<sup>2</sup>

Accordingly, Omani stakeholders able to answer ESG-relevant questions on their CCS supply chain will have a competitive edge in a global market which is affecting companies’ ability to harness investors’ interest and their ability to inspire and retain top talent. As a delegate summarized: “The next generation of workers wants to be part of an ESG-friendly company, especially when it comes to hydrocarbons. If we don’t make these moves to support the environment, including CCS, we lose talent – and that means losing productivity.”

**MAKE IT EASY**

The value of CCS can sometimes be a challenging sell to the public as it does not have the visual and tangible aspect of solar and wind power, for example. Therefore, one of the low hanging fruits – both in terms of bolstering public understanding and cost – is encouraging the public planting of trees, mangroves, and seaweed, delegates said. Members of the public can be

encouraged to buy and plant a tree in a dedicated park and communities can have planting days. “These may not be big roll-out efforts, but they are very effective in strengthening public buy-in as it gives people something to feel and touch,” a delegate explained. While highly valuable, protecting biodiversity must remain the priority. For instance, a public campaign to plant one million trees to fill an empty area could have disastrous consequences for an ecosystem that may have been without plants for 20,000 years.

Sources: <sup>1</sup> International Monetary Fund (IMF); <sup>2</sup> PwC.

**220Mt+**  
of CO<sub>2</sub> could be captured per year by 2030, but this is reliant on a dramatic acceleration in project developers’ on-the-ground progress.<sup>7</sup>

**90%**  
of CO<sub>2</sub> emissions captured by 2050 will be sequestered underground.<sup>8</sup>

**10x**  
more carbon is sequestered by seaweed than trees<sup>9</sup> – a major and untapped opportunity for Oman. Comparatively, parts of Asia have created multi-billion dollar seaweed farming enterprises.

Sources: <sup>1</sup> Delegate; <sup>2</sup> Delegate; <sup>3</sup> Grand View Research; <sup>4</sup> International Energy Agency (IEA); <sup>5</sup> IEA; <sup>6</sup> IEA; <sup>7</sup> IEA; <sup>8</sup> Delegate; <sup>9</sup> Delegate.



# INTERNATIONAL ENERGY:

## Leveraging ESG for Commercial Growth?

- Steve Phimister, Managing Director, Petroleum Development Oman (PDO)
- Eng. Yousuf Mohammad Al Ojaili, President, bp Oman
- Walter Simpson, Managing Director, CC Energy Development (CCED)

*How much are energy companies embracing ESG as a business growth driver?*

**Phimister:** We have already moved away from merely ESG compliance to proactivity. Energy companies know sustainability is here to stay and Oman's Net Zero 2050 strategy is a sectoral response to that. It requires collaboration, policy legislation, investment, and proactivity. Our sector is big part of the solution, so PDO's plan is to reach Net Zero by 2050 and halve our emissions by 2030.

*Does ESG compliance lead to business growth?*

**Al Ojaili:** There is unity across the world on the point that we have a serious environmental issue to address. There is agreement that there must be a very fast energy transition and that Oman must be a part of that. BP has reduced its emissions by 27% on 2019, even though we increased production by 50% in 2020. Doing green completions of the wells has been one key route to achieving this, for example. The company, the

**“Most of the investments we are all making today add value. We can reduce CO<sub>2</sub> emissions by 50% without destroying value, but more support is needed for the other half.”**

Steve Phimister  
Managing Director, PDO

**“People skilling is essential. There is no excuse for us not to have Omanis who are familiar with renewables or hydrogen.”**

Eng. Yousuf Mohammad Al Ojaili, President, bp Oman

partners, and the government have all gained because we no longer burn the gas, but sell it as condensate.

*Is ESG compliance good for the bottom line?*

**Simpson:** ESG is fundamental to the way we will be successful as a business; it is not an add-on. The challenge has been getting that accepted by organizations. I can only talk about how we have done it internally. That has included looking at what it is that makes us successful as a business and then relating those factors to what we are doing in the ESG space. We are going to be successful if we are a low-cost operator, if we have a small environmental footprint, and if we are valued by the communities we work with.

*How integral are social factors to the success of the energy transition?*

**Al Ojaili:** There will be more pressure on all of us to provide better quality social development in Oman. The government wants to see quality employment and quality human capital development, as well as large scale ICV initiatives into manufacturing, such as supporting a green hydrogen market. One challenge is that the market outlook for hydrogen is still developing globally and there is also competition in the region, both within the GCC and MENA.

*How is the industry attracting and developing tomorrow's leaders?*

**Simpson:** My experience recruiting graduates in Oman is that they are competitive and demonstrate top-quality leadership and problem-solving skills, comparable with graduates anywhere else in the world. But we must ensure we give them the training, the experience, and the international exposure to become future leaders so they can drive the market forward. To me, that is just good business.

*How vital is the integration of E and S to solving problems locally?*

**Al Ojaili:** The government is being very specific on the need to build local capabilities, whether this be in R&D or talent development. People skilling is essential. There is no excuse for us not to have Omanis who are familiar with renewables or hydrogen.

**“Graduates in Oman are competitive with graduates anywhere else in the world, but we must support them. That is just good business.”**

Walter Simpson  
Managing Director, CCED

# Committed to Excellence





# PREPARING FOR NET ZERO

## Challenges and Opportunities for Oman's Workforce in 2023?

A new era of sustainability calls for new ideas, which means a “massive” investment in upskilling and reskilling Omanis and foreign workers, delegates said. But this relies on dramatically elevating two-way communication between educators, industry stakeholders, government bodies, and society – an oft-discussed call to action that now needs to truly be realized. Time is short to create and inspire creative, pragmatic, and digitally-enabled talent to underpin the sultanate’s journey to Net Zero by 2050 – its greatest national challenge yet.

“What are we missing? What are we doing right? Do we really understand where we’re going and what we must prioritize? Shall we share this intel, or is it precious IP?” asked delegates, among many other questions. Therein lies the urgent need for cohesive action between all the major actors responsible for creating a world-class workforce in Oman.

“Some boards in academia and industry are not talking to each other as much as they need to. Either they have limited time, they are too stuck in their ways, or they lack understanding of the problem because they don’t have real-life exposure to it,” a delegate explained. Looking ahead, the best route may be establishing a common knowledge-sharing platform, regular meetings, or sector-specific hubs. Whatever the structure, efforts to pinpoint quantifiable steps as part of a broader roadmap must be achieved this year.

FIND A COMMON VOICE

Setting a compass amid a mist of ambiguity is very difficult. While laden with opportunity, there are still more questions than answers on the road to Net Zero. Equally, such ambiguity



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can no longer be an excuse for a lack of progress. “It’s very complicated to start something from scratch when you do not know where this is going, but designing roadmaps with the information we have now and starting even small-scale projects and learning initiatives on knowledge we guarantee we’ll need going forward is critical,” a delegate said. This includes digital

70,000

new job opportunities are expected in Oman.<sup>1</sup>

65%

of Oman’s population consists of people under 29 years of age, highlighting the vast potential to shape the sultanate’s workforce of the future.<sup>2</sup>



skills, encouraging creativity and innovation, promoting critical thinking, strengthening communication, and hand-on skills.

A NEW INTELLECTUAL MENU

Educators need to adapt the curriculum to create specific skills for the 21<sup>st</sup> Century, including leadership, problem solving, and pragmatic troubleshooting. “We also need to look at the best practices we already have in our backyard,” a delegate said, referring to Oman’s highly successful and innovative oil and gas industry. Working in challenging environments to demanding targets whilst sustaining upmost health and safety standards is just one example of how the industry is adept at difficult juggling acts, i.e., the aforementioned skills that the new era of talent for the energy transition needs. Far greater collaboration between academia and industry is needed to understand what skills industry needs and how academia can best provide them. One delegate spoke of how outdated courses at universities – learnings with no long-term applicability – reflect how urgently today’s disconnect must be resolved.

ALL HANDS AT THE PUMP

“Oman needs people with vocational talent, people who can fix things, not just talk about fixing things,” a delegate said. Others believed that

“We urgently need more hands-on experience, people who can fix things and figure out how to make scalable technology.”

giving equal attention to vocational and academic pathways enables talent to have more varied careers, which strengthens retention – a major issue, especially in the fossil fuel industry. A spotlight was also shone on the role of operators, saying that they need to focus on elevating their already significant value by focusing more heavily on upskilling existing employees.

GET GOING!

Changing the culture and the intellectual narrative of Oman’s workforce in support of Net Zero is an enormous undertaking, one which will take decades to achieve. Yet, delegates said the lack of urgency suggests stakeholders are underestimating the pivotal role that a new type of brainpower will play up to 2050. This is an economically and environmentally dangerous mismatch, which could affect Oman’s competitiveness on the global stage as other nations post progress in their Net Zero endeavors. As one delegate summarized: “If Oman wants to be a leader in the region, driving forward sustainability, we need to create new norms of how we learn and how we work – essentially, how we think.”

1,242

schools across Oman have received 729,331 male and female students in the 2022-2023 academic year. There are 57,033 teachers, specialists who also need upskilling in the sultanate’s journey to Net Zero.<sup>3</sup>

12.7mn

renewable energy jobs were achieved last year worldwide, a jump of 700,000 new jobs in one year despite the lingering effects of COVID-19 and the growing energy crisis.<sup>4</sup>

85%

of future jobs and businesses are unknown today, such is the rapid pace of change.<sup>5</sup>

79<sup>th</sup>

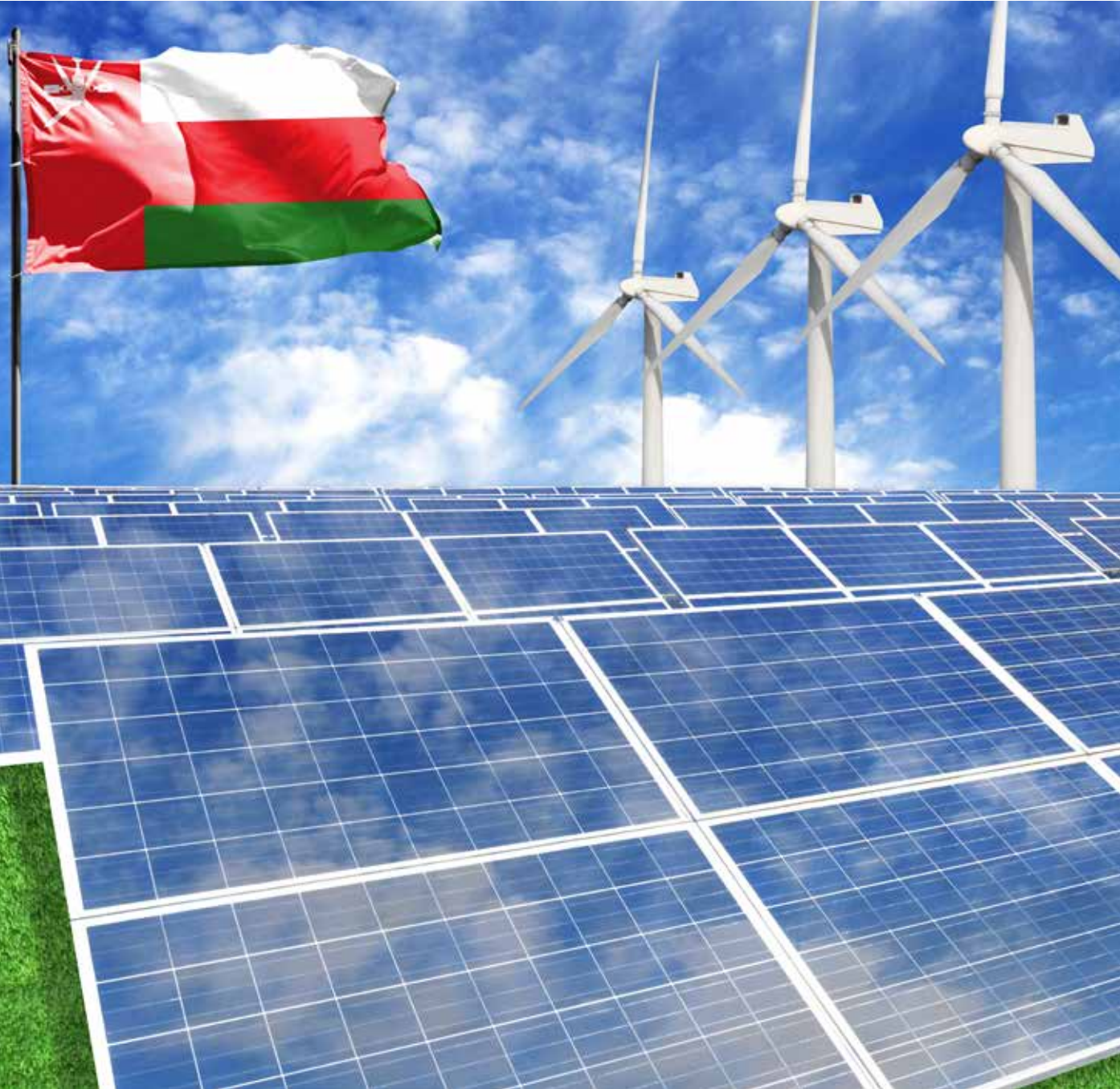
out of 132 countries is Oman’s ranking in the Global Innovation Index 2022, climbing five places higher on 2021.<sup>6</sup>

Sources: <sup>1</sup> Oman Chamber of Commerce and Industry (OCCI); <sup>2</sup> UNICEF; <sup>3</sup> Times of Oman; <sup>4</sup> International Renewable Energy Agency (IRENA), International Labor Organization (ILO); <sup>5</sup> ‘The Future of Jobs’, World Economic Forum (WEF); <sup>6</sup> Global Innovation Index 2022.



# NATIONAL VIEWS: Actions to Build an ESG Strategy?

- H.E. Eng. Naif Ali Hamed Al-Abri, President, Civil Aviation Authority (CAA) Oman
- AbdulRahman Al Yahyaei, CEO, Oman Energy Association (OPAL)
- Dr. Masoud Al-Azri, General Director of Planning, Ministry of Agriculture, Fisheries & Water Resources, Oman
- Eng. Ahmed Akaak, CEO, The Special Economic Zone at Duqm (SEZAD)



*What is the status of ESG in Oman today?*

**Akaak:** The world is turning to Net Zero and ESG will be compulsory in every sector soon. It is about access to funds and attractiveness to investors, so it is increasingly mandatory for countries and organizations. We have a strong vision in place, with very strategic environmental and sustainability management. These will enable us to create a platform for sustainable development for the future – something we must embrace.

*How deeply has ESG infiltrated the corporate mindset in Oman?*

**Al Yahyaei:** At the country level, Vision 2040 has really articulated all the issues of ESG and it has become a mandate for attracting foreign investment. Some parts of the energy sector are already implementing ESG, such as the operators. International companies are also implementing ESG and they fully understand the requirements. Investors today do not just look at the balance sheet. They look at CO<sub>2</sub> emissions, how you are socially responsible, how you treat your workforce, the governance of the organization, the processes, the procedures, and so on. At a country level, we are ahead of the game. We have all the institutions required to implement ESG and the majority of listed companies in Muscat Securities Market are complying with ESG.

*How developed are supportive policies in Oman to mandate ESG within companies?*

**Al-Abri:** We need to look at it on a sector basis. In aviation, for example, there are many policies stemming from the global perspective. We are very much linked to International Civil Aviation Organization (ICAO), which includes more than 190 countries. So, many of the policies with regards to social, governance, and climate have that in mind. These then cascade all the way to the national operators that are working in the airports and airlines. On the corporate side, the Ministry of Commerce, Industry, and Investment Promotion sets policies for the industry and SMEs, with said policies then flowing from there. There are different levels and categories of

**“At a country level, we are ahead of the game. We have all the institutions required to implement ESG and the majority of listed companies in Muscat Securities Market are complying with ESG.”**

maturity in terms of policy setting, but having a Net Zero goal sets the North Star for Oman. Many policies will now stem from that.

*Is E, S, or G the most urgent and most viable element to immediately tackle?*

**Al-Azri:** Environment is very important, such as in agriculture. Changing agriculture can contribute significantly to a greener future, including increasing green plots and using green waste for biofertilizer. Policy is also important in agriculture, especially in regards to water management – itself a key issue. Currently, there are no policies on how to use the water from oil, even though we have a shortage of 316,000 cubic meters of water in Oman and 90% of domestic water comes from desalination. There needs to be more support.

*How fast is SEZAD attracting investment in tandem with ESG goals?*

**Akaak:** We want to ensure we have a fundamental infrastructure facility that will contribute to simplifying the supply chain, in and outside of Oman. We are working with our clients in Oman and beyond to support financing of long-term investments and looking into decarbonizing current assets, securing climate funding for innovation within the industry, and skilling and upskilling Omani talent.

*How has COVID-19 impacted appetite for ESG-related investment?*

**Akaak:** We are more resilient and more qualified to manage all adverse economic turbulence. We are looking beyond Oman to see what frameworks

we can embrace domestically and selecting investments that offer higher value propositions, i.e., contributing more to our GDP, job creation, and technology advancement.

*How can talent and employment be further strengthened in Oman?*

**Al Yahyaei:** The energy sector has led the way in developing the workforce and job opportunities and it will soon play a major role in enhancing the renewable energy market as well. OPAL has been licensed to host the first Sector Skills Unit for Oman’s energy and minerals sector to develop national occupational standards via training programs. Currently, we have around 14 programs, incorporating electrical, mechanical, maintenance fabrication, health and safety, and so on. We are working with many international organizations to expand our programs to include the required skillsets for greener markets like wind, solar, and green hydrogen. It took us a long time to reach 90% Omanization at the operational level and we have 55% Omanization at the contractors’ level today. Our vision is to make sure we have all the resources available to supply new projects across the energy sector.

*How important is a common standard of ESG criteria?*

**Al-Abri:** Having a common ESG standard for all sectors could make life easier, but it is not necessarily the right strategy. ESG principles need to be understood, but each sector does not have to have the same document per se. Considerations need to be taken, such as how an ESG strategy ensures an organization’s sustainability, its access to financing, how attractive it is to investors, and how to ensure the ESG principles move along the entire value chain.

*What about cross-sector collaboration?*

**Al-Abri:** Cross-sector collaboration for ESG in Oman has transformed over the last year. The roadmap has been collectively worked on by sectors to create a single goal. I believe we will see more such collaboration now there is the common target of Net Zero by 2050.

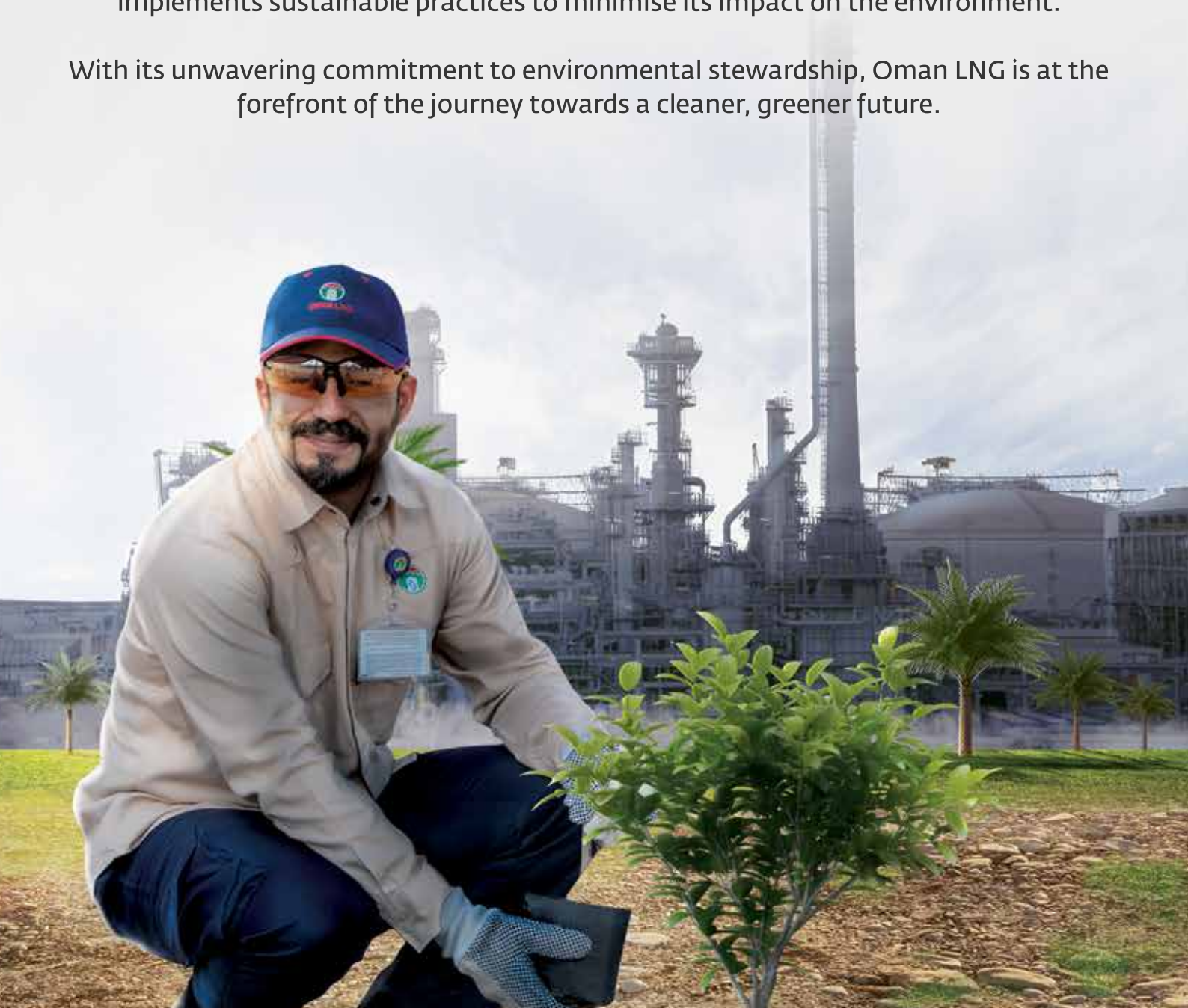


# Committed to Sustainability

Oman LNG is dedicated to preserving a clean and sustainable future for generations to come. The company has a strong commitment to deliver Liquidied Natural Gas (LNG) and Natural Gas Liquids (NGLs) safely and reliable around the globe.

Reducing the carbon footprint and increasing energy efficiency are of utmost importance to Oman LNG. To achieve this, the company consistently adopts cutting-edge technologies and implements sustainable practices to minimise its impact on the environment.

With its unwavering commitment to environmental stewardship, Oman LNG is at the forefront of the journey towards a cleaner, greener future.



## The Commercial Power of ESG



**Walter Simpson**  
Managing Director, CC Energy Development (CCED)

**E**SG is not an add on. It is fundamental to the way we will be successful as a business, as part of our commitment to creating long-term value for Oman that extends well beyond its oil field projects. One challenge is that not all organizations accept this ethos just yet. At CCED, we have looked at what will make us successful as a business and then we have correlated those factors to what we are doing in ESG. We know that we will be successful if we are able to be a low-cost oil and gas operator with a small carbon footprint and if we are valued by the communities we work within and with. These are critical elements that define our future.

### A ROBUST CORRELATION

In the environmental space, I can be more cost and environmentally efficient if I manage my water usage and waste more accurately, for example. This will also help Omani communities; MENA is the world's most water scarce region. Plus, if we

train and develop talent properly, the company benefits from positive feedback and a flow of new ideas and technologies. If the company is using and developing local contractors, it is building its position in the community, the local workforce, and reducing import costs. The link between supporting ESG and strengthening the bottom line is very clear.

### ELEVATING TRAINING

Omani graduates are top quality; competitive, digitally aware, passionate about supporting the sultanate's Vision 2040, and more recently, Net Zero by 2050. They demonstrate excellent leadership and problem-solving skills, certainly comparable with graduates anywhere else in the world. However, we must help them gain the experience and knowledge they need to thrive in both the hydrocarbon and the renewables sector – to be future leaders of Oman's industry. Therein lies our essential and collective role of social responsibility. This means

providing appropriate training, real-world experience opportunities, and international exposure to all walks of professional life. This is the right thing to do socially, but it also makes very good business sense. Oman will not succeed without the cadre of talent coming through the pipeline. We must inspire, develop, and retain the best hearts and minds we can.

**4**

**CCED's uncompromising attitude towards safety and sustainability is based on four key values: trust, commitment, empowerment, and zero tolerance for unsafe behavior.**

**3**

**month campaign called 'Be Healthy For Life' was launched by CCED last year to increase the awareness and knowledge of healthy lifestyles across the company.**

Sources: CCED



Top “RECOMMENDATIONS” extracted from open discussions and opinions by 250 high-level stakeholders

TOP INDUSTRY RECOMMENDATIONS

|  | CHAMPION                       | SUPPORT   |
|--|--------------------------------|---|
| <p><b>1-4. ESTABLISH AN INDUSTRY ESG COMMITTEE TO INSTIL BEST PRACTICE ASSESSMENTS</b></p> <p>Quarterly gathering of key industry representatives to share knowledge and collectively identify objectives specific to Oman. This includes trackable deliverables and targets on key issues, like data management, engaging with international counterparts, and synergies in hard-to-abate sectors. This one-stop shop for intelligence will foster business connections and serve as a network of trusted ESG advisors, potentially becoming a model of collaboration for other countries – all without jeopardizing IP or diluting competitiveness.</p> <p>Measurable and quantifiable KPIs in a top-down structure – from experienced companies to beginner companies – to embed standardized and strategic ESG initiatives. This transparent approach to sharing enables areas of success in Omani businesses – i.e., international best practice in health and safety (H&amp;S) – to serve as a learning template for other, less developed areas.</p> <p><b>OBJECTIVES FOR ESG COMMITTEE TO ACCOMPLISH:</b></p> <ul style="list-style-type: none"><li>• <b>INTER-INDUSTRY ESG DATA PROTOCOL</b> - Establish a common foundation of rules and understandings, with clear definitions and focal points for engagement for all businesses. The protocol will be hosted on a digital platform, which importantly would strengthen supply chains and facilitate cross-sector knowledge, i.e., between energy and aviation markets.</li><li>• <b>CREATE A COMMON DIGITAL PLATFORM</b> - An accessible and digital platform run by an independent third-party to ensure transparency, tracking E, S, and G metrics in-line with the MSX voluntary ESG disclosure of projects/initiatives in Oman in realtime. This will greatly enhance collaborative efforts, boost transparency, and quickly identify gaps where more work is needed.</li><li>• <b>BOOST DATA TRANSPARENCY AROUND ICV</b> - Greater clarity on the economic value of ESG is imperative to bolstering financial appetite and cultural buy-in, supporting the goals of National Vision 2040. Appoint a team to communicate the importance of building a data bank on the current value of ICV and how embedding individual ESG policies in all key industries can elevate that – supporting all Oman's key national goals up to 2050. This includes better communicating how to standardize the measurement and reporting of ICV to key stakeholders.</li><li>• <b>APPOINT KNOWLEDGE AMBASSADORS</b> - Elevate ESG knowledge for leaders of C-suite companies across the nation – CEOs, managing directors, and team leaders – so the details and nuances of this field become second nature. This leads to more progressive dialogue and tangible results. Each Ambassador will also be responsible for developing the company's knowledge bank, with a focus on quarterly meetings with an international panel of experts to determine the next best steps.</li></ul> | PDO                            | <p>OQ</p> <p>PETROFAC</p> <p>EDO</p> <p>INDUSTRIAL INNOVATION ACADEMY</p> <p>OMAN LNG</p> <p>DHL GLOBAL FORWARDING</p> <p>SOHAR INTERNATIONAL</p> |
| <p><b>5. ESG CHAMPIONS TO DRIVE PROGRESS</b></p> <p>Appointments will be supported by quarterly intelligence reports on key ESG trends and metrics and engagement with an international network of experts to spur progress. This will boost employees, investors, and customers' cultural buy-in.</p>   | ASYAD GROUP                    |   |
| <p><b>6. INDUSTRY-TO-STUDENT REAL WORLD KNOWLEDGE</b></p> <p>Existing and prospective talent will vastly benefit from more real-world experience of ESG within all different types of businesses, including an annual networking forum and quarterly on-campus sessions with visiting professionals to better understand the 'People, Purpose, and Profit' perspective of business in Oman. Can also establish an online portal for students to seek knowledge directly from professionals, leading to mentee-mentor relationships.</p>  | PDO                            | MUSCAT UNIVERSITY   |
| <p><b>7. HUB OF IDEAS FOR OMANI TALENT</b></p> <p>An easy-to-access virtual marketplace for all Omanis – students and professionals – to brainstorm and share ideas on key issues. This organically strengthens academia-industry connections and evolves siloed efforts into collaborative synergies that make greater economic and environmental sense.</p>  | CCED                           | <p>MUSCAT UNIVERSITY</p> <p>SULTAN QABOOS UNIVERSITY</p> <p>INDUSTRIAL INNOVATION ACADEMY</p>   |
| <p><b>8. FORUM TO SCALE UP GREEN HYDROGEN MARKET</b></p> <p>Oman's plans to rapidly scale up a green hydrogen market would greatly benefit from attending a biannual forum of key stakeholders with a focus on achieving actionable targets over a six-month timeframe. Such actions will relate to R&amp;D, international partnerships, offtake agreements, and talent development – all particularly critical as competition in the GCC intensifies.</p>   | HYDROM                         | <p>OQ</p> <p>OMAN HYDROGEN CENTRE</p>   |
| <p><b>9. EMPOWERING OMANI SMES THROUGH ESG COMMITTEE AND ACCELERATORS</b></p> <p>Establish a SME ESG Committee with representatives from government, business, academia, and society to scale up SMEs' existing successes. Monthly meetings set realistic targets, recorded and analyzed by an independent party. Launch SME ESG Accelerators to support low-carbon technology commercialization and boost patent creation within Oman's industries.</p>   | INDUSTRIAL INNOVATION ACCADEMY | SOHAR INTERNATIONAL   |

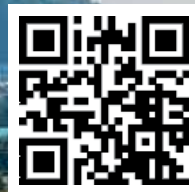
TOP STRATEGIC POLICY RECOMMENDATIONS

|  | CHAMPION    | SUPPORT  |
|--|-------------|--|
| <p><b>1. IDENTIFY CORNERSTONES OF OMAN'S ESG ETHOS</b></p> <p>Biannual knowledge-sharing events with key stakeholders to pin down the ESG policies that must be prioritized as the most relevant to Oman, i.e., more renewables (E), nationalization, (S), and data transparency (G). Key stakeholders can then build upon this foundation to create a comprehensive national ESG strategy by 2025.</p>  | ESTIDAMAH   | SOHAR INTERNATIONAL  |
| <p><b>2. ESTABLISH A GREENING COUNCIL</b></p> <p>The Council will particularly support the SME sector, including innovation and R&amp;D, to embrace best practices. Insights harvested from quarterly gatherings of key stakeholders will result in a drafted Green Practice Handbook by year-end.</p>   | ESTIDAMAH   | SOHAR INTERNATIONAL  |
| <p><b>3. OMAN CHAPTER' IN MEA FORUM OF SUSTAINABILITY</b></p> <p>Host regular training seminars on key aspects of ESG, breaking the acronym down into tangible impacts on business and government. This can extend into a social network to accelerate communication and progress.</p>   | ASYAD GROUP |  |
| <p><b>4. SUPPORT MANUFACTURING OF ELECTROLYZERS</b></p> <p>Facilitate a knowledge-sharing forum to explore how manufacturers in Oman can best start building a domestic market for electrolyzers, which would significantly elevate the country's competitive edge in the region's budding green hydrogen market. Manufacturers needs clarity on policies that focus on certification, best practices, and talent utilization, especially nationalization.</p>                                       | HYDROM      | <p>OMAN HYDROGEN CENTRE</p> <p>OQ</p> <p>PETROFAC</p>  |
| <p><b>5. LAUNCH INVESTMENT FUND FOR ESG INITIATIVES</b></p> <p>More collaboration in the business-finance nexus on what policies can deliver the most valuable economic support to drive ESG. Gatherings of national and international experts can explore tax incentives for lessadvantaged companies, more attractively priced loans, financial relief for consortia, more openness to asset ownership, streamlining visas for foreign institutions, and more funding for higher risk R&amp;D.</p> | ESTIDAMAH   | SOHAR INTERNATIONAL  |
| <p><b>6. ACADEMIA-BUSINESS LOW CARBON ROADMAP</b></p> <p>Quarterly meetings between stakeholders in academia and business to build a roadmap on how to nurture knowledge-appropriate talent for businesses' ESG evolution up to 2030 in a way that also supports National Vision 2040. An independent party can record and analyze key decisions made during the meetings to improve transparency and advance this critical dialogue as quickly as possible.</p>                                     | OQ          | <p>MUSCAT UNIVERSITY</p> <p>SULTAN QABOOS UNIVERSITY</p> <p>DHL GLOBAL FORWARDING</p> <p>PDO</p> |
| <p><b>7. ASYAD'S AWARENESS PROGRAM ON ESG</b></p> <p>ASYAD is sponsoring an awareness program this year with the Environment Society of Oman (ESO) through a series, which aims to build a better understanding on the current and expected future impacts of the Environment part for the region and Oman's positioning of the issue. During the next two years, the program will continue to focus on Social and Governance.</p>   | ASYAD GROUP | DHL GLOBAL FORWARDING  |

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A business can't manage what it can't measure. Traditional methods based on calculations are unreliable compared to reality-based sensors and systems that monitor in real-time. Honeywell gives you the tools to accurately measure emission and process issues to provide an authentic baseline to guide your business on meeting industry protocols, fiscal targets and sustainability KPIs.

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