

# Energy Transition



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**COP27 EXCLUSIVE SOUNDINGS OMAN ESG ENERGY FORUM REPORTS**

***‘Oman is Committed to Decarbonizing, and in the process, Help the World Decarbonize’***

**Areej Mohsin Haider Darwish**

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

Oman has overcome social and economic challenges and kept pace with regional and global changes. It has given emphasis on the role of comprehensive environmental, social, and governance (ESG) framework in its drive to economic diversification. Work on an ESG framework is still ongoing on a national scale but adhering to it will be a concerted effort by both the public and private sectors in the Sultanate. I consider this to be one of the driving factors of the 21st Century.

The country is ranked third in the Middle East and North Africa in renewable energy transition. With a collective focus to transform the energy sector by reducing reliance on hydrocarbon resources for power generation and making optimum use of energy, Oman is taking strong strides in the solar and wind energy sectors. The launch of the Ibri Solar Power Project – the largest renewable energy project in Oman – is a translation of the country’s energy diversification strategy. The Dhofar Wind Power Plant in the wilayat of Shalim and Hallaniyat Islands is the largest wind power plant in the region.



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

**Ambition - keyword of our renewed strategy for the years to come.**

Oman aims to reach net-zero carbon emissions by the year 2050 – that's an ambitious goal. However, we have prepped up for it as we have initiated a national plan to reach that goal by establishing the Oman Sustainability Centre that will supervise and follow up on carbon neutrality plans and programmes. Investing in green hydrogen is one that presents itself as a key vector that will enable Oman to pursue its decarbonization, economic, and energy security objectives. The pathway to net zero must be seen as an opportunity for Oman to

create economic value, increase industrial competitiveness and attract investments to help diversify and strengthen the country's economy. The journey will be long and transformative, but I foresee a modern Oman that imbibes a culture of sustainability and modernism. We need to create platforms of dialogue built on the core values of Oman, which are: integrity, culture, respect, and professionalism. I am confident that the Sultanate will achieve these goals under the visionary leadership of His Majesty Sultan Haitham Bin Tarik.

*Source: Keynote Speech, Oman Energy ESG Forum, November 22, 2022*

## Decarbonization: Policies to Thrive?

Timely, transparent, proactive, and ambitious. These cornerstones of decarbonization policies are non-negotiable for the UAE and others striving for Net Zero by 2050; a very short 28 years away. The OPEC member has already made huge progress, including global firsts in green energy and environmental protection and management. But the world recorded more climate-related disasters than ever in 2021. Clearly, national policies in the UAE and the wider Middle East's energy sector must work far harder and far quicker.

**T**he complex and delicate dynamic between juggling energy security and climate targets is being highlighted more starkly than ever before, especially amid the domino effect of Russia's invasion of Ukraine on global supply markets. These growing intricacies, propelled by clashing needs and capabilities, mean decarbonization is a multifaceted marathon, not a sprint – and policies must be far fitter to effectively drive and guide change.

As policies evolve in a world of globalization 4.0, we must avoid generalizing regions, especially when referring to developing countries; there are 21 nations in MENA, while Africa and Asia are comprised of 54

and 48 countries, respectively, for example. Clearly, decarbonization journeys will vary for different places and different people, which good policies will acknowledge and cater to. Of course, some very broad policies and frameworks will help establish a global baseline of best standards and knowledge, as illustrated by the United Nations Framework Convention on Climate Change (UNFCCC). Then, countries must design tailored policies to address their specific needs. In an ideal setting, this creates a holistic yet nuanced approach, which is best to meet the Paris Agreement's target to limit global warming to well below 2°C by 2050, preferably to 1.5°C. As it stands, we are far off track.

Imagine a carriage being pulled in lots of directions at the same time; it never actually moves forward. This is what the world's decarbonization journey could become unless we have clear, firm, and realistic policies.

**FULL REPORT HERE**

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## INSIGHTS

### Can India Become a Solar Panel Powerhouse?



**Bill Spindle**  
Former Council on Foreign Relations  
International Affairs Fellow in India

Renewables hold the promise to provide more than just energy for India. They can also create jobs and boost manufacturing prowess.

That was clear during a visit I made to the ancient Arabian Sea port of Surat. The city was once the Mughal Empire's main international port of call. It's now one of the world's fastest-growing cities. Surat has over the past half century turned itself into a global hub for diamond cutting, but at least one diamond fortune is now being funneled into solar panel manufacturing.

One of the biggest players in the diamond industry, Shri Ram Krishna Exports or SRK, was founded by Govind Dholakai. He arrived in Surat as a young man in 1964, found his way into the diamond cutting business and started the company with two friends. Now he's a billionaire.

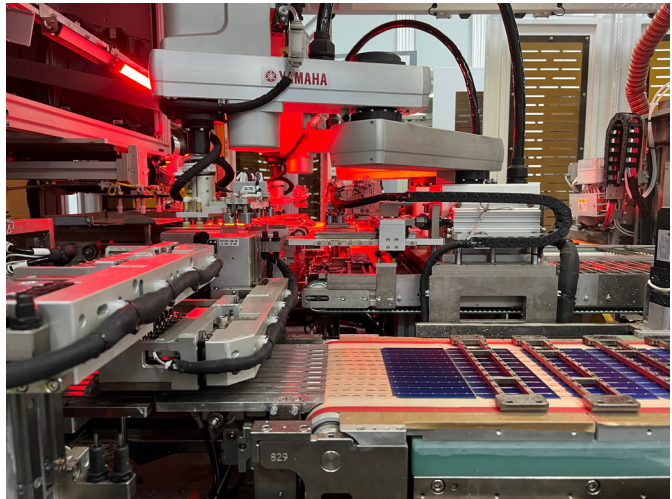
In 2008, amidst the global financial crisis, Mr. Dholakai looked to diversify the family business. His nephew, Ishver, recently returned from overseeing the company's U.S. operations in New York City's diamond district, suggested a move into the solar panel business.

Solar seemed like a business with a future, and panel manufacturing could draw on SRK's reputation for precision, Ishver figured.

"It's in our bloodline," he told me.

After traveling to Germany, Japan and the U.S. to research the industry, Ishver launched Goldi Solar with seed funding from SRK in 2011. Like a handful of other Indian solar manufacturers, Goldi decided not to compete at first with the Chinese in making solar cells themselves or the polysilicon wafers they were composed of.

Instead, Goldi bought solar cells from Chinese companies and assembled them into modules. This was a less technologically challenging, more labor-intensive task playing to India's strengths,



allowing the company to set up in a former denim jean factory near Surat. They even hired the factory manager to run their operations.

Solar project developers snapped up these modules, arranging them into the massive arrays in the deserts of India's northwest I visited.

India's solar sector accelerated dramatically.

"It was getting cheaper and cheaper," said Bharat Bhut, who co-founded Goldi and serves as a director. "The lower the price, the more the viability of solar power went up."

The problem remained, though: Like much of the world, India was spending huge sums to purchase solar panels from China. What earlier was a boon increasingly has felt like dependency on a country with which India has a raft of border disputes and fought a full blown war in 1962.

In 2020, a conflict erupted between Indian and Chinese troops at a flashpoint in the Himalayas. The clash left 20 Indian soldiers and an unknown number of Chinese combatants dead. In the aftermath, India has worked to reduce dependency on Chinese technology.

Source: *The Energy Adventure(r)*

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## Daryl Wilson

Executive Director  
Hydrogen Council



### Hydrogen is the Second Wave of Renewables

As renewable energy became a larger part of our grid systems, we recognize the need for a complementary system, for storage stabilization and for distributing renewable energy around the world. The Hydrogen Council just recently published a report on hydrogen trade and trade flows of hydrogen and hydrogen derivatives around the world, and hydrogen is one way where we can take the wind and the sun that is so plentiful in some regions and then move it to those regions that don't have those renewable resources and give them the opportunity to use decarbonized renewable energy.

### Playing a systemic role in energy industry

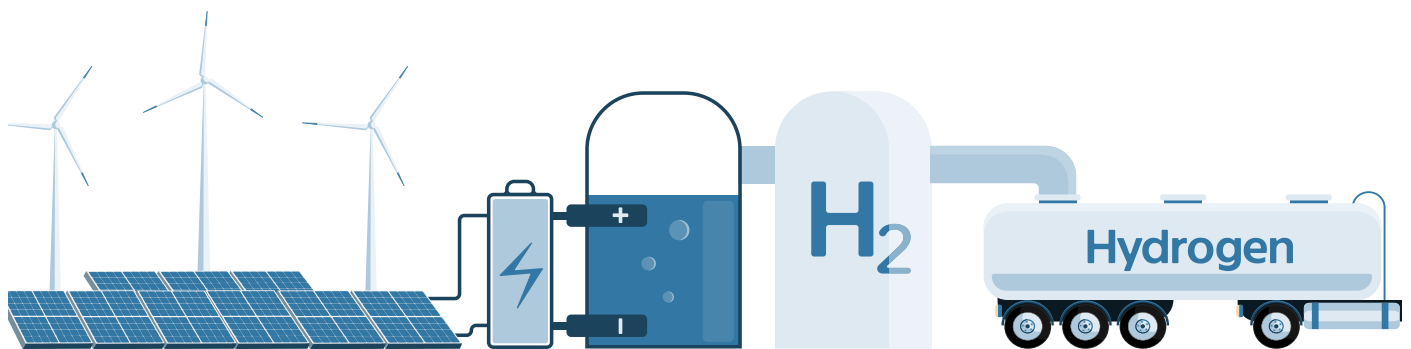
The Hydrogen Council reports that hydrogen will make around 20%, which is a very large contribution to final energy use by 2050. Today, it has widespread use - 90mn MT/yr - in industry and we expect those industrial applications will be decarbonized as part of the transition. From ammonia fertilizers to mobility applications where hydrogen will be a big part of electrifying our transport system and hydrogen fuel cells will be powering trucks, buses, and planes, and powering marine transport. There is also a systemic contribution that hydrogen makes. As we use

more wind and solar on the grid, we need very large energy storage capability, and hydrogen plays an important role there as well. But there are many solutions needed to tackle climate change and that is not enough.

### Colors don't help much

Frankly, I think hydrogen colors add more confusion than help the situation. In respect to the carbon content, the color system is not helpful because I can easily show you blue hydrogen projects which are much greener than green hydrogen projects, and the whole thing becomes very difficult to follow and understand. It's important that when it comes to the carbon footprint of hydrogen pathways, we need a transparent, clear system that says how many kilograms of CO2 are being emitted per kilogram of hydrogen being produced. Then it becomes very concrete and transparent, and we get away from the whole color system. In terms of describing the various pathways, no, there's no one clear winner. We're going to see hydrogen coming from fossil fuel sources, from renewable energy sources and we'll see hydrogen moving around the world - in many different derivatives of hydrogen.

Source: Hydrogen Full-Court Press Interview Series



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## REPORT

# POWER SECTOR TRANSITION: The Future of Green Power Market Instruments

China used to lavishly subsidize renewable energy development, normally 20 years at fixed tariff for solar and wind projects and 15 years for biomass power projects. And yet two facts pushed the government to adopt more market-based instruments instead of subsidies:

- High level of subsidies quickly drained the Finance Ministry's pocket, where arrears of subsidy payment overpassed RMB 100 billion (about \$14 billion) by the end 2017; and
- Dramatic decline of cost of renewable power sources.

This Insight report reviews two types of market instruments – the green certificate and green power purchase, and examines their links to other instruments such as the mandatory renewable power absorption quota (RPAQ) and the national emissions trading scheme (ETS)..

### Green Certificate:

Green certificate (GC) was the first market-based instrument China introduced in 2017. It was intended to encourage renewable energy development while reducing the burden of public subsidies. It is issued by the National Energy Administration (NEA) to the renewable power generation companies that meet certain required conditions. One GC corresponds to 1 MWh of power generation. It's given a unique digital code that describes where this power is generated. It was initially reserved only for onshore wind and large-scale solar projects that are entitled to government subsidies. In 2019, it was extended to non-subsidized projects. A 2020 NDRC regulation further stipulates that when their subsidy entitlement period is over, all renewables projects can receive GCs and participate in trading. Thus, a GC can be issued either from a renewable project still under government subsidy or outside the subsidy scheme.

The certificate was initially designed for voluntary purchases by individuals or institutions who want to support renewable energy development. Later, it is turned into part of the renewable energy consumption quota. And it can be bought from a designated GC purchase platform. For renewable power generators, once they sold their certificates, the corresponding volume of power will no more be eligible for state subsidies. The result has been disappointing. China issued a total of 34.21 million GCs from projects under the subsidy scheme, but only 79 thousand or 0.23% were purchased. For projects out of the subsidy scheme, about 11.4 million GCs were issued, only 1.97 million or 17.3% were purchased.

Reasons for this under-performance are simple. Firstly, the price of a GC, averaging at RMB 50 (about \$7), is far below the cost of subsidy, which varies between RMB 167.8 (about \$23.6) – 269.5 (about \$38) per MWh for an onshore wind project. Power generators under the subsidy scheme therefore prefer to await the subsidy payment rather than sell the certificates and lose the subsidy. But for buyers, price for a GC under the subsidy scheme is far too expensive. And secondly, the links to mandatory mechanisms such as the renewable energy consumption quota and the ETS are not yet established. As there is no an active GC trading market, the buyers cannot resell the certificates. The dire reality is that the market cannot achieve scale by merely counting on volunteers to pay a green premium.

Source: © CN Innovation ([www.cn-innovation.tech](http://www.cn-innovation.tech)).

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## COP27 EXCLUSIVE SOUNDINGS:



“The Loss and Damage Fund agreed to at COP was progress in that it was a signal that the developed world has to help, but it needs to go well beyond just the damage from emissions. We need to look at how to help developing countries transition, and that’s a much taller order, particularly with so many of the oil producing countries also resistant to this idea of completely phasing out hydrocarbons.”

### Marc Ostwald

Chief Economist & Global Strategist  
ADM Investor Services International

“One notable thing in COP27 was that the oil industry had a much greater prominence, certainly, than it did in Glasgow and more than any previous COPs. There’s always been this feeling of ‘we don’t want these dirty, polluting hydrocarbon companies anywhere near us’, but they were there in force in Sharm El Sheikh. There was a feeling too that the COP 27 is a bit of a holding pattern and COP 28 next year in the UAE will be the one that makes big decisions on climate change.”



### Frank Kane

\*Former Arab News Energy Columnist

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