

Energy Transition Dialogues

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SCROLL DOWN

TOP 5 CIRCULAR MOVES RUSSIA-UKRAINE & CLIMATE SNAPSHOT: IPCC'S LATEST THIS WEEK'S EVENTS

Hydrogen: Boost investors' confidence to see real progress

Dr. Naveed Akhtar, Founder and CEO, Hy-Hybrid Energy

Some say the private sector has collectively announced up to \$300bn worth of additional investment in hydrogen. These numbers are far too ambitious. There is no doubt that the demand is there, but where is all this money going to come from? The forecast for the cost of electrolyzers is also far, far too high. This is one cause of nervousness among investors. The costs of electrolyzers, for example, must fall in order to bring a green hydrogen economy into play. Instead of making big announcements, we really need to develop efforts on the ground. I am currently leading a 400MW green hydrogen project overseas and these are the sorts of challenges we are seeing. Investors need to see what they can expect in terms of turnover and return on their investment (ROI). For some, if they invest money now, they will wait at least ten years [to recoup] as other market costs like electrolyzers still need to fall.

Hydrogen in the clouds

Developing hydrogen fuel cells for use in aviation is an ongoing effort, as some challenges must still be overcome. It will take some time to sort metric and volumetric challenges, for example. When we talk about fueling a large Airbus aircraft, the hydrogen fuel cell market is not ready at scale. I expect we will see hydrogen combusted by gas turbines in the next five to ten years, with hydrogen fuel cells becoming more common in the 2030s.

131

large-scale hydrogen projects were announced between February-July 2021 alone, taking the global total to 359 projects.¹

\$500bn

is the total investment in the global value chain for hydrogen up to 2030.²

43.8%

CAGR growth in the global hydrogen fuel cells market is expected – from \$2.78bn in 2020 to \$16.5bn in 2025.³

Sources: ¹ Hydrogen Council; ² Hydrogen Council; ³ Research&Markets.com



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Circular Economy: Top 5 Steps in 2022?



Riad Bestani
Founder and General Manager
ECO-SQUARE

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see countries with a waste crisis and a very low level of recyclability as a loss of opportunity. This is not necessarily a negative, because it offers potential to dramatically improve the situation. In turn, this creates many business opportunities to develop a new waste management system – whether it is organic or non-organic waste – in a way that really supports a circular economy.

What do you know?

Building awareness about what circularity is and its importance is the first step. This is where you see the involvement of people – be it individuals, corporations,

governments – who want to ultimately make sure the right infrastructure is established. For a circular economy to work, it must make financial sense. I would summarize the key factors to creating a successful circular economy in three Cs: collaboration, change of mindset, and cost-effectiveness. If you are green on all three elements, then you are moving in the right direction. We know that circularity is not a ‘one person, one company, or one organization’ job. Nobody has all the answers – we must work together. I have seen so many announcements about new partnerships, because nobody has all the expertise to address this waste issue.

Aditya Shah

Head of Circular Economy
Creek Capital



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Most countries send their waste to landfill and some do not even have sanitary landfills – they are simply dump sites. The environmental hazards surrounding these processes are massive. Dubai took a step in the right direction earlier this year in terms of diverting waste from landfills by introducing a tipping fee from January (from AED10 per visit to AED100 per ton of non-recyclable waste deposited). From experience with other countries, this method works well as you start to see the value of your waste. Then, it is far likely to be considered a resource, instead of waste. This is at the end of the value chain; efforts must also improve at the start. For example, the concept of extended producer responsibility is very important in terms of supporting a

“polluter pays” principle. This model has been very, very successful elsewhere, especially in regards to waste like batteries, tires, and end-of-life vehicles.

Commerciality matters – a lot

There is much more confidence from investors’ perspective that investments to support a circular economy are not going to just be part of their ESG, but also be commercially viable. It has taken time to build this confidence. It started years back when governments set out their National Visions about what they wanted to achieve and the role of innovation. This was then backed up by new policies and regulations, all providing a framework for investors to work within.

300mn

tons of plastic waste are generated worldwide every year – equivalent to the weight of the entire human population of 7.8bn people.¹

100bn+

tons of resources enter the economy every year – everything from metals, minerals, and fossil fuels to organic materials, like plants and animals. Yet just 8.6% is recycled and used again.²

\$200bn

of savings could be generated per year by adopting a comprehensive circular economy approach for the plastic sector. This would also reduce the annual global volume of plastics entering our oceans by more than 80%, reduce GHG emissions by 25%, and create 700,000 net additional jobs by 2040.³

¹Independent; ² World Resources Institute (WRI); ³ Ellen MacArthur Foundation

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**Meghna Lakhani Talreja, Founder and CEO
Optas.App and One Modern World**

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There are so many start-ups and mobile applications available in the UAE for consumers to improve their waste management, plus four recycling projects.

There is now a free door-to-door recycling service in Dubai and Abu Dhabi, for example. Looking ahead, I think they need to be taken more advantage of and there must be more public awareness. The same applies to plastic labeling, as this would make people much more conscious about the impact of their single-use plastic. Correct labeling means consumers can directly understand the consequences of each item. Plus, there

is going to be a ban on single-use plastic bags in the UAE from the 1st July.

Government support

There is a far bigger push from the government in the UAE to support new companies, especially in the field of sustainability. I have been part of the many different programs going on, which are also helping create more awareness. There is a significant rise in the number of collaborations as well. There is no shortage of ambition and we are seeing many actions being

Top 5 Takeaways

- Recapture the “loss of opportunity” when it comes to waste management, i.e., improve the commerciality of waste to incentivize recycling and reuse.
- Embed the concept of extended producer responsibility, so that the importance of circularity is threaded into the earliest stage of R&D and commercialization.
- Build public awareness to help spur a cultural shift, with the aim of making circularity principles entirely second nature. Bolstering education as to the depth and breadth of circularity is also key to best show how true circularity requires total, global buy-in.
- Make it more commercially viable for investors to support circularity systems, which means extending relevance and payback far beyond ESG measures.
- Investors’ confidence has significantly increased, with many more open to exploring new projects. Supportive regulations from governments are helping (more are needed), as is mounting public appetite for a less wasteful future.

Critical Question

Do you think that a true circular economy can be achieved in the Middle East by 2050?

Meghna Lakhani Talreja: Definitely.

Riad Bestani: Hopefully. But it will be very, very challenging.

Aditya Shah: I am optimistic. Just look at how the newer generation has embraced sustainable living.

Michelle Meineke: Possible. But it requires tremendous change, starting with carbon pricing mechanisms.

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OMAN ENERGY MASTER PLAN 2040
Special Report Part V

Whitepaper
Q1, 2022

The Water-Food-Energy Nexus
How to find Sustainable & Holistic Solutions for Oman?

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RUSSIA-UKRAINE & CLIMATE?

Climate is the Furthest Thing from Putin's Mind...Or is it?

Amid a plethora of speculation about all that is motivating the Russian President's invasion of Ukraine, here's my two cents to add...



Bill Spindle
Council on Foreign Relations, International Affairs Fellow, India

Among the legion of demons rattling about Russian President Vladimir Putin's head and spilling over in angry speeches purporting to outline why he's invading Ukraine, climate change seems nowhere to be found. And yet, as the world is transfixed by the sudden historic showdown in Europe, there's a case to be made that the tectonic shifts of a changing climate and the wholesale energy transition needed to solve it may have played a role in the timing of Putin's move to reshape the global power landscape.

I would put it this way: The world is finally, inexorably facing the challenge of climate change — perhaps too late, undoubtedly too slowly, yet nonetheless moving in earnest to address the problem. That will eventually bring wholesale changes in where we get energy and how we use it. A day when oil and gas, staples of Russia's resource-extraction economy, are no longer the lifeblood of the global economy is now on the horizon, albeit still very far in the distance.

There's a catch, though. As this transition gets underway, it has dawned on major oil and gas producers from Saudi Arabia to, yes, Russia, that a final golden age may be at hand for them. Western-produced supplies of oil and gas aren't keeping pace with the still-persistent global demand. This could result in a world where petro-states, still eager and able to meet that demand, enjoy a feast of both rising prices and growing production. That's precisely what many energy industry analysts say has been happening over the past year. Economies are rebounding from the Covid-19 pandemic, while Western oil and gas producers remain tentative about expanding production. It's a massive opportunity for petro-states. But who knows how long it will last. And when



it turns, it could be very ugly for the unprepared.

From the Persian Gulf to, no doubt, the Kremlin, petro-states are beginning to position themselves to survive a potential world of hurt as oil and gas peaks and begins edging downward. At that juncture — and many believe it will come well within the timeframe Vladimir Putin plans to still be ruling Russia — petro-states could face falling prices and falling demand. Even a slight but steady downtick in both those at the same time would be disaster for nations heavily dependent on petroleum and gas production.

So, some are preparing. Saudi Arabia and the UAE are loudly touting plans to diversify their economies and overhaul their societies away from oil and gas, even as they aim to significantly ramp up oil production in the coming years to pay for this overhaul. They're trying to make hay while the sun shines, including by boosting renewable energy production, from solar to nuclear and hydrogen. In the

US, investors who lost hundreds of billions of dollars in shale oil and gas producers are now demanding better returns as shale companies also boost production.

Is it so crazy to think Putin calculated that the time is now to move on his ambition to build a new Russian empire? Yes, his plan may backfire — although even countries most opposed to his actions are going to great lengths to continue buying Russian oil and gas despite it all. But he may have worried his dreams would only get harder to realize later. His global clout may be at a peak. Putin's mindset and Russia's advantages lie with military force and raw power politics, not diversified trade and commerce. So, he may have decided, as Arab Gulf states clearly have, that they are entering prime time, perhaps their last best chance to fortify their global position before the geopolitical landscape slowly shifts against them. Something to ponder...

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SNAPSHOT

IPCC'S LATEST

The IPCC has finalized the second part of the Sixth Assessment Report, Climate Change 2022: Impacts, Adaptation and Vulnerability.

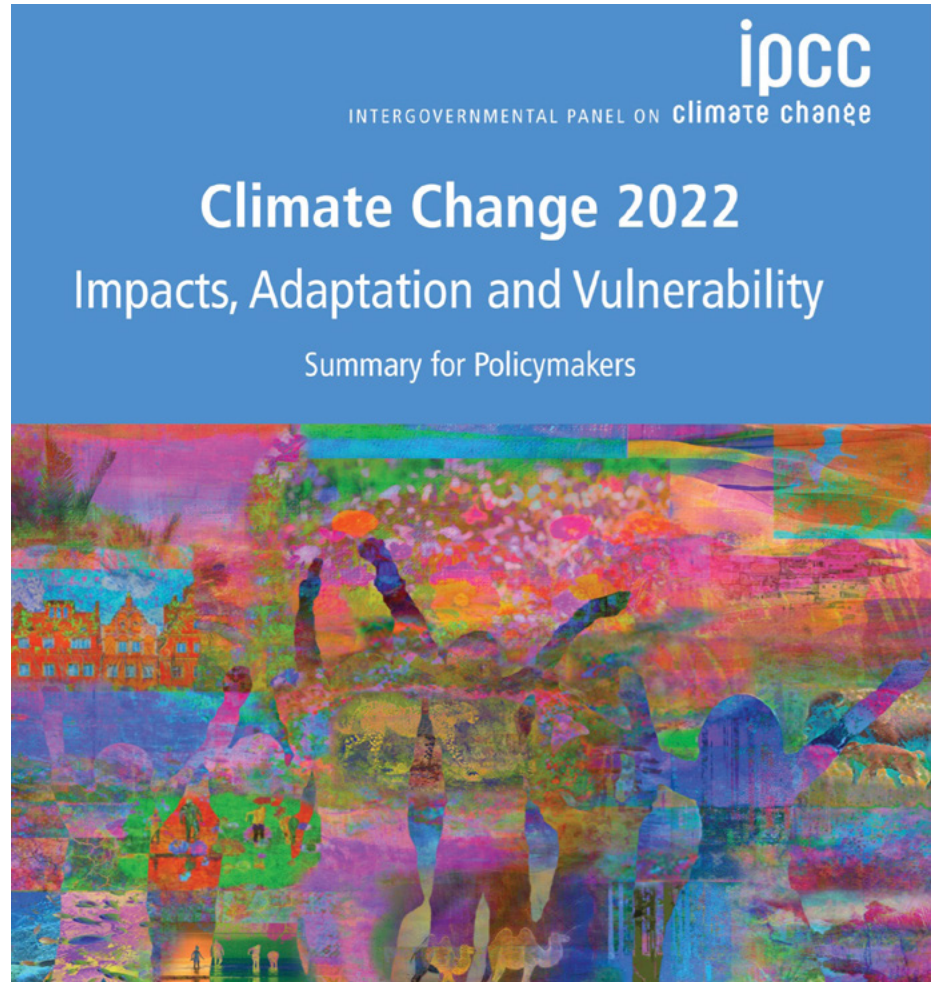
Written by 270 authors, with more than 34,000 citations and 62,000 review comments, it serves as another gargantuan red flag waving furiously in the global wind of change. It highlights how much farther we need to go and how much faster we need to move. With the full report nearing 1,000 pages, here is a rapid-fire snapshot of key themes.

Safeguarding and strengthening nature is key to securing a liveable future.

There are options to adapt to a changing climate. This report provides new insights into nature's potential not only to reduce climate risks but also to improve people's lives. "Healthy ecosystems are more resilient to climate change and provide life-critical services such as food and clean water," said IPCC Working Group II Co-Chair Hans-Otto Pörtner. "By restoring degraded ecosystems and effectively and equitably conserving 30-50% of Earth's land, freshwater, and ocean habitats, society can benefit from nature's capacity to absorb and store carbon, and we can accelerate progress towards sustainable development. But adequate finance and political support are essential."

Cities: Hotspots of impacts and risks, but also a crucial part of the solution.

This report provides a detailed assessment of climate change impacts, risks, and adaptation in cities, where more than half the world's population lives. People's health, lives, and livelihoods, as well as property and critical infrastructure, including energy and transportation systems, are being



"The scientific evidence is unequivocal: climate change is a threat to human wellbeing and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future."

– Hoesung Lee, Chair, IPCC

increasingly adversely affected by hazards. These include heatwaves, storms, drought, and flooding, plus slow-onset changes like rising sea levels. "But cities also provide opportunities for climate action – green buildings, reliable supplies of clean water and renewable energy,

and sustainable transport systems that connect urban and rural areas can all lead to a more inclusive, fairer society," Debra Roberts, the Co-Chair of the IPCC Working Group II.

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THIS WEEK EVENTS

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TWO MINUTE WARNING INTERVIEW SERIES

Bill Spindle

Council on Foreign Relations
International Affairs Fellow in India

TUESDAY /// MAR 8th /// 12:00 (UAE)

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PODCAST

WEDNESDAY /// MAR 9th /// 13.00 (UAE)

Hydrogen: Financing Hurdles in 2022?



Dr. Valentina Dedi
Lead Economist, Advisory Consulting
KBR



Oliver Phillips
Associate Director - Sustainable
Finance - Africa & Middle East
Standard Chartered Bank



Dyala Sabbagh
Partner
Gulf Intelligence

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