Energy TransitionINTELLIGENCE





INTELLIGENCE BRIEFING

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ENERGY TRANSITION REPORT CLIMATE CHANGE INSIGHTS DECARBONIZATION VIEWS

Germany Maintains Focused Path Towards Energy Transition

Kristina Haverkamp, Managing Director, German Energy Agency

I am convinced that Germany should follow the path that has already been decided upon by the new German coalition in January last year - developing a faster expansion of renewable energy, having a more inclusive approach in energy communities. It is important to become more independent through renewable energy and remain economic in terms of the use of energy. We are also working on developing our partnerships with the Gulf region - with the UAE and Qatar, for instance - and with the US and Canada. In the short term, we are focused on LNG supply. Still, we are always talking about hydrogen, in particular green. Although green hydrogen is the optimal solution, grey hydrogen would also be acceptable. In fact, our LNG terminals financed by the German government need to be H2 ready. This means that they have to be built so that they can switch to green hydrogen as soon as it is available.



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Kristina Haverkamp, Managing Director, German Energy Agency

"We have another winter to face when there will be no Russian gas available in any European storage facilities!"



Has short-term energy security impacted energy transition plans?

The opposite is the case. Russia used to supply just above 50% of our gas demand before the war, and that has raised awareness that we need to become independent, which means more renewable energy than we had planned. We have increased our ambition in terms of deployment of renewable energies to 80% by 2030, doubling the share in electricity production which we have today. At the same time, we have taken short term steps to reduce energy, and particularly gas and electricity, consumption.

Have Germany and Europe conquered the energy security crisis of 2022?

One does have to be realistic. We are dealing quite well with this winter mainly because the storage facilities are full in Germany. We will need to look towards next winter when there will not be any Russian gas in any storage facility Europe-wide. Many measures are being taken, such as building LNG terminals, developing energy-saving routes, and creating energy-saving campaigns.

What makes coal a better choice for Germany over nuclear?

Germany decided to phase out nuclear in 2011, and our last three reactors running in 2022 should have been shut down by the end of that year. However, it was

decided to prolong their operation until April 15th, 2023, at a lower level to get us through the first winter without Russian gas and to save as much gas as possible. There will not be a prolongation after that, and it will be the end of nuclear power in Germany. I am personally convinced that this is the right decision because the issue of storage of nuclear waste has not been solved yet. Secondly, what we see in Zaporizhzhia right now, the largest nuclear power plant in Europe under the control of Russian warriors, makes you realize how vulnerable this technology is in times of crisis. On the other hand, ramping up coal-fired power plants and putting them back into the market is bad news for climate change. But it will serve as a bridge and I assume that we will step out of that at the latest, by 2024, when we are ready to have more gas coming from LNG and substitute gas with green and grey hydrogen.

The big challenge for Germany to overcome in 2023?

It will be crucial to secure the amounts of gas necessary to continue to provide heating for citizens and to satisfy the operational demands of German industry. The government is very much working towards that and on energy efficiency incentives at the same time. It will depend on many variables, such as the weather and the development of the Chinese economy. But, overall, it is in our capability to become energy-efficient faster.

*Paraphrased Comments

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Ibrahim Al Zu'bi SVP, Sustainability, Climate & ESG, ADNOC Group

How can ADNOC best juggle its strategy of pro-growth and pro-sustainability?

When looking at sustainability, energy producers like ADNOC need to align four main elements - economy, society, environment, and partnerships. That is a pragmatic and realistic way to ensure our objectives will be achieved. But we are also a responsible energy producer and cannot unplug the energy system of today until the system of tomorrow is ready. We can produce low emissions conventional energy while investing and preparing for the future. One example is our partnership with Masdar which has plans to grow its renewable energy capacity to over 100 gigawatts by 2030.

What is the best pathway for the UAE on its journey to net zero?

One of the best enablers when it comes to climate change and net zero is technology. We need to take action to decarbonize our own operations and portfolio where possible, while also supporting our customers to decarbonize. The first technologies we're implementing are around decarbonization. We've also expanded investments in zero carbon energies, including wind, solar and hydrogen.

Why has CCUS struggled to scale up to full economic viability?

We need to focus on key decarbonization levers, and this includes industrial scale implementation of CCUS. There's a growing alignment that climate goals cannot be achieved without widespread adoption of multiple carbon capture technologies. We're pursuing to expand our CO2 capture capacity sixfold to approximately 5 million tons per year by 2030.

How will ADNOC achieve its intended methane reduction targets?

Our new methane intensity target is ranked the lowest in the Middle East and to do that, we first need to improve the accuracy and transparency of our methane emissions management by using technology, drones, smart metering, and reporting, as well looking at advanced emissions and monitoring technology solutions, both on the ground and via satellite. Cross-sectoral collaboration is also key when it comes to using technologies around methane emissions.

*Paraphrased Comments

WEEKLY SOUNDING

"If you look at the reserves production ratio and the announcement that by 2050, ADNOC, with the rest of the region, is striving for carbon neutrality, you see that the only option is to expand production capacity. Our calculations give more than 50 years of reserves life for the UAE. We are now in 2023 so we will go well into the 2070s with the reserves' life under the new production target. It will be necessary for further growth to achieve neutrality, if you want to go into Scope 3. It was a brilliant move to bring COP 28 to the UAE, as it's a country which has a lot of leverage in reducing carbon intensity and can demonstrate what technology can deliver."

Peter Zeilinger
Senior Vice President - MEA Region
OMV









Is it too early to long for the Mango?



Bill Spindle

Former Council on Foreign Relations International Affairs

Fellow in India

Few things give Indians more spring pleasure – when climate change isn't interfering.

mong those who have lived in India, I doubt I'm alone in beginning to hanker for mangoes around this time of year.

It's far too soon, of course. And I sincerely apologize to those trying to keep thoughts of this most delicious of all fruit at bay for voicing this yearning aloud so prematurely, but....in a few short months, they will arrive, luscious and ripe.

If, that is, climate change doesn't get in the way, again.

A year ago as I made my way through India, a record spring heat wave enveloped the country. I wrote about it <u>here</u>. The spike in temperatures severely damaged India's mango crop, cratering the income of many thousands of farmers in the country's mango growing regions. Tens of millions of mango lovers were left without their favorite early summer treat, or paying ultra-premium prices for what survived.

India is the world's largest grower of mangoes, and has been for a very long time. Amir Khusrau, a renowned Mughal era Indo-Persian poet, called them "the fairest fruit of Hindustan." The roughly 40% of the world crop India produces today includes over 1,000 varieties.

Climate change has hit mango orchards in several ways. Sporadic rains now sometimes extend into December — well past the end of the traditional monsoon, a climate trend we looked at in my last post. That frequently delays the flowering of mango trees from the usual November and December until January, which pushes the ripening of the mangoes past March and into May and even June. Thus the harvest crosses into the ensuing year's monsoon, which begins in June and causes fruit to rot before it attains maximum ripeness.

Last year, though, the big problem wasn't late rains, but rather the early heat. Hot weather in March and April gives mango sun stroke. Development of the soft, sweet tissue we so love is retarded, the flesh of the mango left brown and mushy.

Argh! Those who have peeled a seemingly luscious mango with anticipation only to discover this unpleasantness, you know exactly what I'm talking about.

So disappointing!

The travails of the mango are a reminder that even as climate change threatens existential damage in so many ways — to everything from <u>parasites</u> to whole countries and ecosystems, conceivably even our species one day — it also threatens right now many small things that make life worth living. We can survive without mangoes. But, as with so many things climate change is altering and will soon alter much more, the magnificent diversity and sheer pleasures of the planet are already shriveling.

Sometimes we feel the impact more in the small things, like the sweetness of mango.

Near the city of Ratnagiri, I visited with Vivek Bhide, a local physician and one of the area's bigger mango farms owners. Bhide's family has been in the business for generations. He worked hard helping to get the area formally recognized by the Indian government as the sole home of the sweetest, juiciest, melts-in-yourmouthiest mango variety. This would be the Alphonso, aka The King of Mango.

The irony is that just when Bhide and other farmers of the area received the regional designation in 2018, weather conditions were seriously beginning to screw up the climatic sweet spot the region has enjoyed for cultivating these extra-special mangos.



Vivek Bhide, mango grower and physician.

"Climate change is a major problem," he told me as we sat in his receiving room for patients.

Beyond the shifting rains, Bhide said insect and bacterial pest threats are changing with more frequent off-season rains and higher average temperatures and heat waves. Like the younger generations of tea growers we met in Darjeeling, mango farmers along the northern Konkan coast are moving towards sustainable, organic farming techniques to try to make their crop more resilient in the face of new conditions.

I won't belabor the disaster that was last year's mango crop. This was covered very ably here by The New York Times, and my former colleague at The Wall Street Journal, Shan Li, did a wonderful podcast episode on the anguish of a mango farmer in the state of Uttar Pradesh. NPR's Diaa Hadid reported on the same crisis in Pakistan to the north of India.

I'll likely be back close to India this mango harvest season, in the United Arab Emirates, which is well within importing range. So here's to hoping this year's crop comes through.

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