

Energy Transition



GI Consultancy
Intelligence
Publishing

INTELLIGENCE BRIEFING

ISSUE 72, WEDNESDAY, FEBRUARY 8th

SCROLL DOWN

OIL & GAS CREDIBILITY **EU RENEWABLES PROSPECTS** **INDIA COAL CONUNDRUM**

Decarbonising for Development: The Future of Global Economies

Ibrahim Al Zu'bi

Chair of the Global Council on SDG13 – Climate Action
SVP – Sustainability & Climate Change, ADNOC Group

The world watched closely as delegates of participatory parties from around the world discussed and negotiated matters regarding the future of development during the 27th Conference of Parties (COP27) in Sharm El Sheikh, Egypt. The discourse mainly revolved around one of humanity's greatest challenges: climate change, and more importantly, how each party could contribute to limiting it through its Nationally Determined Contributions (NDCs). These are pledges that each party commit to through developing and achieving targets that reduce its overall carbon footprint and contribute to the fight against climate change. These goals are associated with reducing the 'carbon intensity', or quantity of carbon released, a process that is generally known as "decarbonisation"[1]. Not only does decarbonisation encompass efforts that reduce emissions, but it also entails the absorption of excess carbon dioxide from the atmosphere and storing it in sinks where it no longer negatively influences climate change[2].



CONTINUED ON PAGE 2

CLIMATEPENPAL.ORG



CONTINUED

Ibrahim Al Zu'bi

Chair of the Global Council on SDG13 – Climate Action
SVP – Sustainability & Climate Change, ADNOC Group

While decarbonisation predominantly refers to the reduction of fossil fuels burned during power generation, it can be applied to almost all sectors of the economy. In fact, to meet the necessary objectives to dampen climate change impacts, there is no question of whether sectoral decarbonisation is a requirement, but rather how their emissions can be mitigated without affecting the sector's productivity[3]. This is due to the reality that although most emissions are released from energy requirements, with over 40% of total global emissions released from energy demands for industrial, commercial, and residential purposes, other sectors especially transport, agriculture, and land use are significant contributors to carbon emissions and must be addressed and decarbonised as well[4]. Thus, both the public and private sectors, now guided by the NDCs, have invested in research, development, and technologies that would maximise their decarbonisation journeys without severely affecting operations. These practices were applied across the board in varied sectors, albeit some more urgently than others.

For instance, the oil and gas sector is undergoing a transformation process where giants in the industry are now seeking low or zero-carbon alternatives to provide their clients with energy-generating products that are more sustainable and environmentally friendly. This includes the investment in renewable energy sources, the exploration of fuel alternatives such as hydrogen, and even the reduction of the intensity of existing fossil fuel products[5]. Leaders in the field such as the Abu Dhabi National Oil Company (ADNOC) [6], Total Energies[7] and many more have already begun moving closer

towards a low-carbon future. In fact, ADNOC has recently announced its ambition of achieving net-zero Scope 1 and 2 emissions by 2050[8]. Another example is the transportation sector in which major strides have been taken to reduce its carbon footprint through two main mechanisms: electrification or the use of 'greener' fuels. The introduction of electric means of transport such as e-vehicles[9] or trains that run on electricity[10] has provided clear pathways that could drive the transport sector to lower emissions. As for those which cannot be electrified, such as aviation, the use of sustainable fuels (e.g., biofuels produced from non-fossil fuel raw materials) are on the rise as an effective alternative[11].

When it comes to the agriculture and land use sector, the decarbonisation of it is more associated with understanding that the natural environment and its supported ecosystems are excellent absorbers and storage systems of atmospheric carbon. Therefore, total transformation is required in such a way that the natural environment is not compromised or destroyed for agricultural practices. This can be done through the implementation of improved and more sustainable methods of farming and crop and livestock production[12], alongside the protection and restoration of

existing carbon sinks such as woods and forests, peatlands, wetlands, and coastal ecosystems[13]. Based on principles of these ecosystems, the development and management of natural spaces known as nature-based solutions, or even inorganic technologies and systems that absorb carbon dioxide in a process known as carbon capture, utilisation, and storage (CCUS) are just as important to remove excess carbon and either consume it or remove it from the climate change cycle.

Ultimately, the goal of all decarbonisation efforts is to reach a point known as 'Net-Zero' where the total emissions produced equates to the total emissions consumed or stored – limiting climate change and its impacts. Eventually, net-zero targets will be ambitiously elevated into 'Net-Positive' goals where humanity's influence will result in greater consumption and storage of carbon than that released into the atmosphere. That said, neither of these goals would be possible without significant transformation, collaboration, and partnerships between not only the public and private sectors, but all nations and parties that result in the distribution and sharing of knowledge, capital, talent, and commitment to overcome this hurdle and protect the planet and its resources for generations to come.

[1] <https://www.twi-global.com/technical-knowledge/faqs/what-is-decarbonisation>

[2] <https://medium.com/drax/what-is-decarbonisation-f882380ad3e9>

[3] <https://www.unep.org/interactive/six-sector-solution-climate-change/>

[4] <https://ourworldindata.org/emissions-by-sector>

[5] <https://www.powermag.com/oil-and-gas-majors-focus-on-renewable-energy-hydrogen-and-carbon-capture/>

[6] <https://www.adnoc.ae/en/hse/environment-and-sustainability/2030-sustainability-agenda>

[7] <https://totalenergies.com/sustainability/climate-and-sustainability-energy>

[8] <https://www.zawya.com/en/projects/oil-and-gas/adnoc-to-pursue-a-net-zero-by-2050-ambition-ue5qv6gs>

[9] <https://theicct.org/why-are-electric-vehicles-the-only-way-to-quickly-and-substantially-decarbonize-transport/>

[10] <https://www.ft.com/content/10c9618c-72d7-4b83-98e4-3c27f96bc07a>

[11] <https://www.ft.com/content/10c9618c-72d7-4b83-98e4-3c27f96bc07a>

[12] <https://odi.org/en/insights/why-agricultural-reform-is-needed-to-achieve-net-zero-emissions/>

[13] <https://solve.mit.edu/articles/protecting-and-enhancing-natural-carbon-sinks-natural-climate-and-community-solutions>

Source: LinkedIn Pulse

Series Supported By:





Christopher Wood
Chief Executive Officer, RAK Gas

Closing the credibility gap in the oil and gas industry by hosting COP28

The energy industry entered 2023 with increased credibility, partly driven by the unfortunate war in Ukraine. The industry stepped up and filled the gaps in energy systems when there was a strain on communities worldwide. The industry recognizes the need to invest in the transition, educate people, and make it affordable. The UAE, for example, made several big announcements this month around projects being invested. They have some of the lowest solar energy production costs in the world. They are on the way to becoming one of the major hydrogen suppliers in the world. With the Middle East leading the next COP, it brings the energy industry into the equation. They will be included in the discussion to create a sustainable transition from a high-carbon energy source to a low-carbon net zero target.

Accessing capital to avoid a disorderly transition

Slashing investments in the energy sector that is trying to transition is dangerous. We saw what happened last year when we had energy shortages because of underinvestment in the oil and gas industry. We still face a lack of investment in energy infrastructure and exploration for the future. From a national oil company (NOC) point of view, we are slightly in a better place than international oil companies (IOCs) who access capital markets. There needs to be a better balance because we need carbon, oil, and gas as feedstocks for the transition. The circular economy in this context is key. We need to think about how we reuse, recycle, and educate to become more efficient as we consume less hydrocarbons.

Increasing partnerships between NOCs and IOCs moving forward

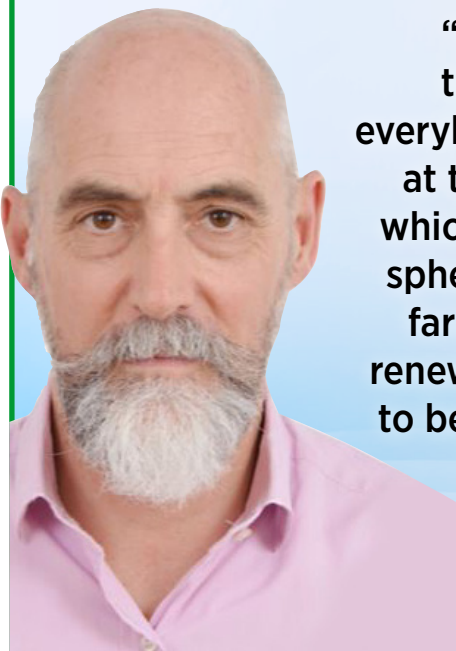
We have strong partnerships in Ras Al Khaimah with some very big IOCs who bring a lot of knowledge and technology to the table. It is all about knowledge sharing and sharing best practices between NOCs and IOCs. The NOCs in the Middle East have large balance sheets right now to reinvest in the renewable space. Still, we must develop partnerships with customers and IOCs in the region to keep moving forward.

**Paraphrased Comments*

Source: Microsoft Middle East & Africa Forum for Sustainability Leaders

WEEKLY SOUNDING

EU RENEWABLES



“There is this view within Europe that the energy transition will be a compounding initiative where everybody eventually gets all back into renewables exactly at the same time. Looking at offshore wind in the UK, which is the biggest in the world, it is not an investment sphere where you can have parallel large offshore wind farms going at the same time. The supply chain from renewables is just not geared up to do that. So, it’s going to be a much slower transition than many people think.”

James McCallum
CEO & Chairman, Xergy Group
Professor of Energy, Strathclyde University

Series Supported By:



Coal Conundrum, Goan Style



Bill Spindle

Former Council on Foreign Relations International Affairs
Fellow in India

Coal is the beating heart of India's energy system. Few know this better than the residents of Goa, many of whom have had enough.

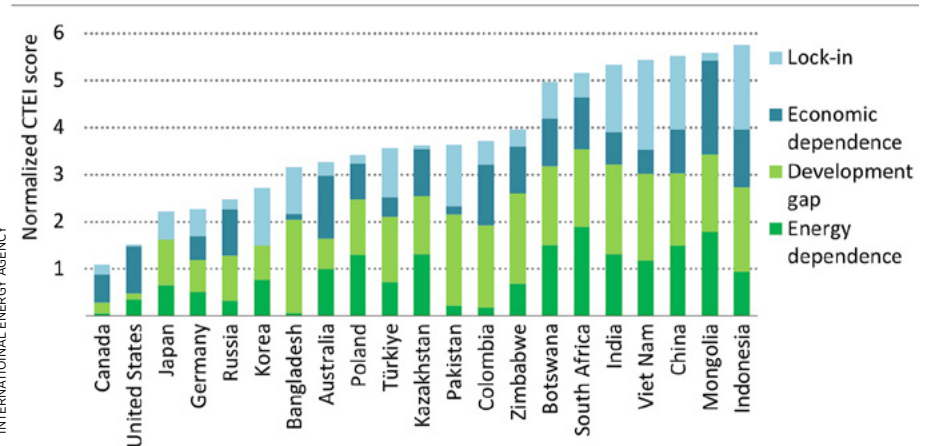
Most of our journey so far has been about the fallout from climate change and India's renewable energy boom. But let's not forget: coal remains the life-blood of India's economy, despite being one of the country's worst environmental scourges.

It courses through the subcontinent on railway cars and trucks, distributing black dust into the air, broken coal rubble along the way and ultimately carbon into the atmosphere when it is combusted to create heat and electricity. Domestic coal supplies are pulled from mines in the country's east, deeply scarring the mined areas and communities there. Imported coal arrives on ships from Indonesia, Australia and South Africa, where similar environmental and community damage is inflicted, often by subsidiaries of Indian industrial conglomerates operating there. Coal is fuel for three-quarters of India's total electricity generation. It generates all the heat used to make steel and cement. All these processes spew particulates and create huge accumulations of residual ash that add to India's worst-in-the-world air pollution and widespread environmental degradation.

India is among the world's most coal-dependent countries, relying on the dirtiest of all fossil fuels to meet fully 40% of its total energy demand, a share that's risen over the past few decades, according to the International Energy Agency.

Few know all of this better than the residents of Goa. Though one of India's smallest states, Goa's gorgeous beaches and lush forests have made it a destination for everyone from 16th century Portuguese explorers to 1970s hippies. Into this coastline, which includes some of India's largest sea-turtle nesting areas, is carved one of India's biggest ports for off-loading coal from Australia and Indonesia. It is then carried on by rail through several seaside communities and across one of most biodiverse habitats in the world to steel mills further inland. Railway cars carry the rolled steel sheets back to

Figure 1.9 ▶ Coal Transitions Exposure Index scores



INTERNATIONAL ENERGY AGENCY

the coast for transport around India and overseas.

Now the Indian government wants to vastly expand the port, put in another rail track parallel to the existing one and run a new electrical power line across the area.

Orville Rodrigues is part of a citizens protest movement opposing the port expansion and trying to stop the doubling of the tracks, which requires a dramatic widening of the rail corridor through the center of a biodiversity reserve. Unlike the Konkan Railway, which parallels the coast and was the subject of my [last post](#), this rail line is exclusively for freight. The first track already cuts through the mountain range known as the Western Ghats to reach the inland Deccan plateau in the state of Karnataka, home of huge steel mills owned by some in India's richest and most powerful families. The port is operated by Gautam Adani, who has become Asia's richest man since I wrote about him in [this post](#) a few years ago.

The movement, which has hamstrung the projects with marches and demonstrations, underscores the price India pays for its use of coal. Later in the journey we'll look at the reverse: the cost to mining communities will pay when India begins moving away from coal. That day remains both inevitable and

largely unplanned for. Such is the nature of dependence: destructive to continue, difficult to stop.

This chart (above) shows countries ranked by their various dependencies on coal, from the projected longevity of their steel and coal-fired power plants ("Lock-in") to the share of coal in electricity generation ("Energy dependence"). "Development gap" represents the amount of economic growth per person needed to catch up with global averages — a gap likely to be addressed using their current, coal-based system. "Economic dependence" is the share of coal in total exports. As you can see, India exports very little coal, but its relatively young fleet of coal-fired power plants threatens to lock it into coal for longer as it struggles to meet energy demand that is expected to more than double over the next few decades.

Goa was a Portuguese colony from 1510 all the way to 1961, when the Indian government forcibly annexed the enclave a little over a dozen years after India threw off the British empire. Rodrigues hails from one of the many communities along the Arabian Sea coast that adopted Catholicism

CONTINUED ON NEXT PAGE

Series Supported By:



and developed a distinctly Goan Portuguese identity.

He brought me to see this home of one of his neighbors. The family claims the foundations date back even before explorer Vasco da Gama's travels brought him to India in 1498. Today it retains the colonial era decor.

Rodrigues also showed me damage that the continuous rail trafficking of coal has caused the community. Despite plastic covers over the freight cars, coal dust from the jostling loads permeates the air and leaves a black film on foliage far from the tracks. Larger chunks of coal fall off and litter the sides of the railway bed. Many of the homes of residents are just a few feet from the tracks, which were cut and laid through land that was forcibly taken with only modest compensation. A doubling of the tracks would require the abandonment of many of the homes. These communities suffer elevated levels of respiratory disease, especially among children.

Residents and environmental activists also say the railway would severely damage the biodiversity reserve further inland with similar particulate pollution. It would also further bifurcate what was once a single, unimpeded natural habitat on both sides of the tracks. And the government is seeking to loosen regulations to permit more building and development, including piers, hotels and cruise ship berths, within a 500-meter band along the shoreline where all development is now prohibited.

The more they protest and resist, though, the more they're accused by the government of selfishly standing in the way of national

development, Rodrigues says.

"They tell the whole of India that we're against the nation," he says.

The protests in Goa began in April of 2020, just a few weeks after India's leader, Prime Minister Narendra Modi, ordered one of the strictest national lockdowns in the world as Covid-19 cases began to appear in India.

The demonstrations were in response to India's environmental ministry approving, in a video conference meeting, three large infrastructure projects — a second railroad track from the port, a four-lane doubling of a freeway and a second electrical transmission line alongside an existing one. All three projects cut through a major wildlife preserve in the Western Ghats mountain range, itself a United Nation's World Heritage Site.

Despite the lockdown, a dynamic campaign against the projects gained momentum. Protestors blocked train tracks, with many eventually being arrested, including a well-known soccer star who got involved. The movement eventually was dubbed the Save Mollem campaign — on social media #SaveMollem — after the biodiversity reserve the trio of projects threatened. Youth leaders, who ran the gamut from naturalists to graphic designers, deployed art and music to great effect and drew national headlines. Well over 10,000 mask-wearing demonstrators turned out for some of the demonstrations, despite the Covid threat and in defiance of government restrictions on gatherings. The local Catholic church even provided support for the movement.

You can see some of the art works [here](#). And

this [article](#) has some terrific photos of the region's natural beauty and unique collection of wildlife. Disha Shetty, one of India's leading journalists covering environmental, climate and human rights issues, produced this [series](#) of stories on the movement with support from the Washington DC-based Pulitzer Center.

I spent a morning in Goa meeting with Sarita Fernandez, a coastal policy expert who has worked to protect the state's Ridley Sea Turtle population and participated in the Save Mollem movement. She says the government likely didn't realize what it was up against in Goa, a state with some of India's highest levels of education and environmental awareness and a long history of defying the powers that be.

"Goans can get really rebellious and they did," she told me.

So far, lawsuits filed by the movement have succeeded in halting or altering the projects on orders of the country's special environmental courts. The government was told to drop the second electricity transmission line and string a new, higher capacity line on higher stanchions above the tree canopy in the forest to avoid having to cut through it. The road widening and railway track doubling were also rejected by the court for flaws in the environmental review, although the panel said the government could restart the project if a new environmental review showed a way to go forward without harming the natural surroundings.

Activists say that's unrealistic, but the government hasn't given up on the projects.

SOURCE: THE ENERGY ADVENTURE (R)

WEEKLY VIDEO

Daily Energy Markets INTERVIEW SERIES

GI Consultancy
Intelligence
Publishing



Kristina Haverkamp

Managing Director, German Energy Agency

"Germany: Achieving Short-Term Energy Security While Maintaining Long-Term Energy Transition?"

Series Supported By:  

CLICK HERE TO VIEW

Series Supported By:



