Repowering to accelerate the global energy transition

- Repower Initiative released *Financing the Clean Repowering of Coal Power,* a whitepaper introducing the less explored concept of 'repowering' the global fossil-fuelled coal asset fleet to repurpose them to produce cleaner energy and support a just and timely net zero transition.

- 'Repowering' is the sustainable reuse of all or part of an existing power plant, offering a solution to the energy trilemma of reducing carbon emissions, reducing costs, and delivering reliable power while supporting a just transition.

- Repower Initiative is focused on delivering tangible alternatives to coal fired power plants in Asia and across the globe. With philanthropic funding from HSBC, the Repower Initiative is undertaking research to explore the feasibility of repowering in Asia, including identifying potential sites for conversion.

A new whitepaper from Repower Initiative launched ahead of the London Climate Action Week 2024 explores options for 'repowering' coal fired power plants to deliver cleaner energy using the existing infrastructure and employees.

'Repowering' existing coal asset fleets potentially saves up to 35% of upfront costs, compared to equivalent new clean energy plants, enabling countries to capitalise on the existing power plan infrastructure such as turbines or grid connectors. It allows companies, utilities and other organisations to avoid complex time-consuming processes linked to securing land, construction permissions and grid access and delivers benefits to local communities who have historically relied on coal. It also creates opportunities for workers to retain their livelihoods whilst building on and expanding their current skills through re/up-skilling.

With estimates showing that $215 trillion of investment will be needed to reach net zero by 2050[1], it has never been more important to identify cost-effective climate solutions. Particularly for the high emitting fossil fuel-based power generation, such as coal fired power plants (CFPP), which are the largest single contributor of greenhouse gases globally, but many countries remain highly reliant on them to power their economies.

Since 2019, more than 500 new coal powered units have come online globally, and over half of all coal plant capacity is under 15 years old. Their closure in the near-term, ahead of their planned lifespans would involve stranded investment as well as significant economic, technical, societal and political difficulties.

The whitepaper proposes net zero conversion options such as advanced nuclear, geothermal, thermal energy electrical heat stores and the use of existing coal power plants as grid interconnection points for new renewable energy generation. An average repurposed plant could save up to 200 million tons of CO2 emissions, which is the equivalent of taking 44.5 million cars off the UK roads for a year. These options are also more sustainable than reconfiguring power plants to burn alternative fuels such as biomass, ammonia, or hydrogen.

The whitepaper outlines four key recommendations for stakeholders in the finance, national and international policy making community:

[1] BNEF New Energy Outlook 2024

1. Embrace emerging landscape of clean technologies
2. Integrate repowering in CFPP refinancing programmes
3. Prioritise investments in clean capacity and redirect subsidies supporting CFPPs
4. Mapping all CFPP sites and evaluating repowering options

The Repower Initiative is well-positioned to support countries and regions with the highest potential to reduce emissions due to significant presence of large, and relatively young, fossil fuel power plants – such as in Asia. The Repower Initiative will initially focus on the following China, Indonesia, India, and the Republic of Korea, prioritising countries targeted by the Asian Development Banks Energy Transition Mechanism and Just Energy Transition Partnerships.

QuantifiedCarbon (QC) founder Dr Staffan Qvist – who together with Baroness Bryony Worthington (UK Member of the House of Lords, global climate policy expert and now strategic advisor to QC) initiated and oversees the Repower Initiative project – said:

"We are excited to release our first white paper and look forward to working with HSBC to move the idea of repowering from extensive research to application, sharing our knowledge and experience with the financial services industry.

We hope to increase understanding of the potential that repowering pathways have for accelerating decarbonisation, as well as to lay the groundwork for the first projects to move forward.

The Repower community is growing with unprecedented momentum, please reach out if you would like to hear more and contribute."

HSBC Global Head of Sustainability and Partnerships, Jenny McInnes said:

"At HSBC we are collaborating in several initiatives to support a just transition of the energy sector including through our involvement in the Just Energy Transition Partnerships in Vietnam and Indonesia.

The Repower Initiative is an exciting partnership that is already beginning to shift the discourse around early-coal retirement and has the potential to be a real game-changer. By identifying sites where repower can reduce costs, deliver reliable energy now and in the future, and support local communities – in the countries and regions where it is needed most urgently – we have the potential to accelerate our transition to net zero."

NOTES TO EDITORS

The **Repower Initiative** (RI) [www.repower.world] began in 2019 and is a global non-profit initiative dedicated to the repowering of coal power plants, led by Quantified Carbon. Repower received philanthropic funding from Clean Air Task Force and Founders Pledge, amongst others including HSBC.

QuantifiedCarbon (QC) [www.quantifiedcarbon.com] a technical consultancy agency focused on decarbonization of the global economy, initiated and manages the Repower

Initiative. Dr Staffan Qvist, the Founder and Director of QC, has published extensively on this topic and is a recognised thought leader in this space.

HSBC Holdings plc

HSBC Holdings plc, the parent company of HSBC, is headquartered in London. HSBC serves customers worldwide from offices in 62 countries and territories. With assets of US$3,001bn at 31 March 2024, HSBC is one of the world's largest banking and financial services organisations.

Contact

Albert Payaró-Llisterri, Programme Manager, Repower Initiative
QuantifiedCarbon Ltd. +34 623 97 66 83; albert@quantifiedcarbon.com