HMS Bergbau Group: "We do need both gas and coal for a reliable and affordable energy system until we have found a viable, truly sustainable long-term solution to our energy system"

– HMS Bergbau AG operates in the markets for coking and thermal coal, anthracite, PCI and petcoke. The company's portfolio also includes biomass, wood pellets and hydrogen. In your opinion, how long the competition between such ecological types of fuel and coal will last?

– We pursue our business depending on customer needs. Each market has its own challenges, efficient and timely supply of energy resources is at the heart of all economic activity, and coal continues to provide an important part to the world's energy security. Each fuel has its place in the market, many environmental issues are there for all of them. However, we do not foresee that biomass products have the means to replace conventional fuels, also but not only driven by their low eROI *(Energy Return on Investment – Metal Expert).*

– What are the challenges that your company and other suppliers face when working in new product segments?

– We have had banks refuse to finance new product flows because we are also active in coal. It is the negative sentiment about fossil fuels that limits our growth. We are trying to explain to our finance partners the importance of doing the business efficiently and sustainably and that 80% of our entire existence depends on energy derived from these fossil fuels that Western financing institutions want to stop funding.

– Last year was rather difficult for the coal market, both in Europe and Asia. Short supply coupled with weather, logistical and other factors sent prices to new all-time highs. In your opinion, how accurately current price levels reflect the market environment, and how long will suppliers be able to maintain their prices?

– We believe that current prices reflect the demand and supply imbalance, however the high price levels are not sustainable and not good for anyone. The

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coal suppliers have had tough times and now enjoy extraordinary returns, but this will not last. Some sort of normality will move back in. At the same time, we foresee that commodity prices remain rather high due to insufficient funding in new projects resulting in insufficient supply growth. This is true especially for coal, but also for gas, oil and certainly various ore and metal products.

– What are the economic consequences of retaining high coal prices in 2022?

– You can see it now – in the end the consumer has to pay higher prices for products. Energy is at the core of all products. Someone has to pay, and it always ends up being the final consumer (through taxes or price of products). Higher inflation is inevitable.

– European governments are actively implementing coal phase-out policies, but last year made it clear how hard it is to follow this strategy without

a compensating mechanism. What will be the coal consumption dynamics in Europe in the next 2-3 years?

– It looks that the anti-coal agenda will continue in Europe and as soon as gas prices normalize, coal demand in the EU will again decline. However, we need all reliable energy systems in Europe to avoid a serious energy crisis and blackouts, that includes gas, coal, nuclear, hydro, and selectively wind and solar. However, European (or any global) carbon taxation wrongly only considers CO2 emissions during combustion. It does not account for natural uptake of CO2, i.e. less than half of emitted CO2 actually ends up airborne in the atmosphere and thus can contribute to global warming, nor for entire value chain GHG emissions including methane.

Even solar panels require silicon, which is produced with coal needed for reduction of quartz sand. Also, making solar panels requires large amounts of energy. Today, almost 80% of solar panels are produced in China partially with forced labour and mostly with energy from coal. Solar panels have a life span of 1/3rd of a conventional power plant and require much higher material input per MW capacity, all of which needs to be recycled after its useful life. How can solar energy cause zero CO2? I hope that European decision makers will use all this available information to make forward looking energy policy, but we fear that dispassionate discourse on the topic of energy policy has become difficult. I continue to be available for any reasonable discussion on the topic of energy policy and GHG emissions.

– Currently, there are active discussions about natural gas as a more environmentally friendly option at power plants. Is the opinion well argued? How many years it will take for renewable energy sources and natural gas to fully replace coal?

– If you truly account for all value chain GHG from coal and gas production, processing, transportation and combustion, it turns out that surfaced mined coal in fact is "better for the climate" than any natural gas… and much better than LNG. Prof Smith from Univ of St Louis in the US and I just received peer-review for our new scientific paper called "Climate Impacts' of Fossil Fuels in Today's Energy Systems". The results are surprising but use only simple math and reported methane and CO2 emissions from the IPCC and IEA. As a consequence, any swap from coal to gas will do the opposite "to the climate" than envisioned or hoped for if one accepts IEA and IPCC data to be correct. Thus, you have my answer to your question. It makes no sense to switch from coal to gas for climate reasons. We do need both gas and coal (in addition to other forms of producing power) for a reliable and affordable energy system also in Europe until we have found a viable, truly sustainable long-term solution to our energy system. Such a new solution may be a combination of fusion/fission and solar/geothermal based but will have little to do with today's photovoltaic or wind mills. We need to make our energy systems more efficient and sustainable to reduce the negative impact on our environment, that remains very important.

– Asian countries, including China and India, also intend to phase out coal in power generation by 2060. Taking into account high energy consumption and relatively low efficiency of renewable power generation in these countries, do you consider these predictions too optimistic?

– It is difficult to discuss in a few sentences current global decarbonization policies. Let it suffice to say that the world will likely require 50% more primary energy by 2050. I find it rather optimistic to assume this entire 50% growth would come from wind and solar. Even if it were to come from wind and solar, where would the remainder come from? Remember, that our electricity demand will grow much faster than the 50% mentioned before, driven by EVs, heat pumps, DRI, etc). What we urgently need is investment in, not divestment from conventional fuels including oil, coal, gas, and nuclear to avoid a serious prolonged energy crisis that will hurt industries and worst of all cost lives especially in developing nations. We also need these investments to clean up conventional fuels and minimize its impact on the environment. Do you truly believe Bangladesh with its 200 million population has the space, money, solar irradiance, or wind resource to change from coal to

wind/solar? What will provide backup at night and during the monsoon or on hazy days?

We need to increase energy efficiency, not decrease it, and this requires funding. Thyssen Steel chairman Mr. Osburg in Germany just recently said that (freely translated)"Going climate neutral will increase energy demand 10x from 4,5 TWh to 45 TWh for Thyssen's Duisburg plant alone" (*Die Welt – Metal Expert)*. Remember, this is for producing the same amount of steel. How can it be environmentally friendly to require more energy for the same product? We need efficiency gains, not efficiency destruction. That is why I mentioned eROI before.

– Indian consumers significantly reduced their presence in the external coal markets in H2 2021 because of high prices. Is there any increase in demand from India in other segments, such as petcoke? Should we expect a rise in India's coal imports in 2022?

– I do expect an increase in imports in India. However, if prices remain too high, India will struggle to afford and will push more for local supply and other alternatives. Either way, the market will find a new balance where price levels normalize so that India can also afford again to import.

– Apart from a gradual decrease in extraction and decommissioning of coal-fired power plants around the world, financial institutions also stop financing coal-related projects. What are the future financial prospects of the coal sector?

– Indeed, financing is the key issue. I see that financing will move East and become more private which in the end means higher cost of finance for the projects. I predict that financial return from the fossil fuel industry will attract new private money. Remember, on the other side, returns from renewable investments will become more and more marginal as too much money chases too few projects.

– Given the shortage of spare thermal coal volumes on all export routes, how did the geography of sales change in the past year? Are there any new non-traditional routes?

– Europe reappeared and increased its coal demand as high gas price caused gas to coal switching. This will surely normalize again. In general, I believe future coal flows will mirror more or less historic flows of reduced coal burn especially in Europe, even though I think it is environmentally and economically a mistake. I would like to reiterate that environmental protection is absolutely key for all industrial activity, but we cannot go from bad to worse, we have to find smart solutions to deal with today's challenges.