



Most mining companies have already started addressing decarbonisation through the four pillars of ...

By Wilhelm Swart, Managing Director, 4Sight Operational Technologies

# Mining holds the key to DECARBONISATION

## NET-ZERO

A few global mining giants have aligned themselves with international goals of achieving net-zero emissions by 2050. An S&P report that surveyed the world's 30 largest mining companies found that only 8 have committed to net-zero goals, with some already touting carbon neutrality.

The remaining companies have less ambitious ESG and climate related programs in place or may have differing climate related objectives. Irrespective, most companies are keeping a close eye on emerging technologies and are constantly adjusting their emission goals as technology creates new options for lowering their carbon footprint.

## UPSTREAM AND DOWNSTREAM

Climate scientists agree that if we can achieve net-zero by 2050, we could limit the rise in global average temperature to 1,5 degrees Celsius. This goal could not be achieved unless mining plays its part.

McKinsey & Co reports that globally, the mining sector contributes between 4% and 7% of Scope 1 and Scope 2 emissions. But, the sector is linked to 28% of global Scope 3 emissions.

## DEFINITION OF EMISSIONS SCOPES

SCOPE 1



Emissions directly from owned or controlled sources

SCOPE 2



Indirect emissions from the generation of purchased energy

SCOPE 3



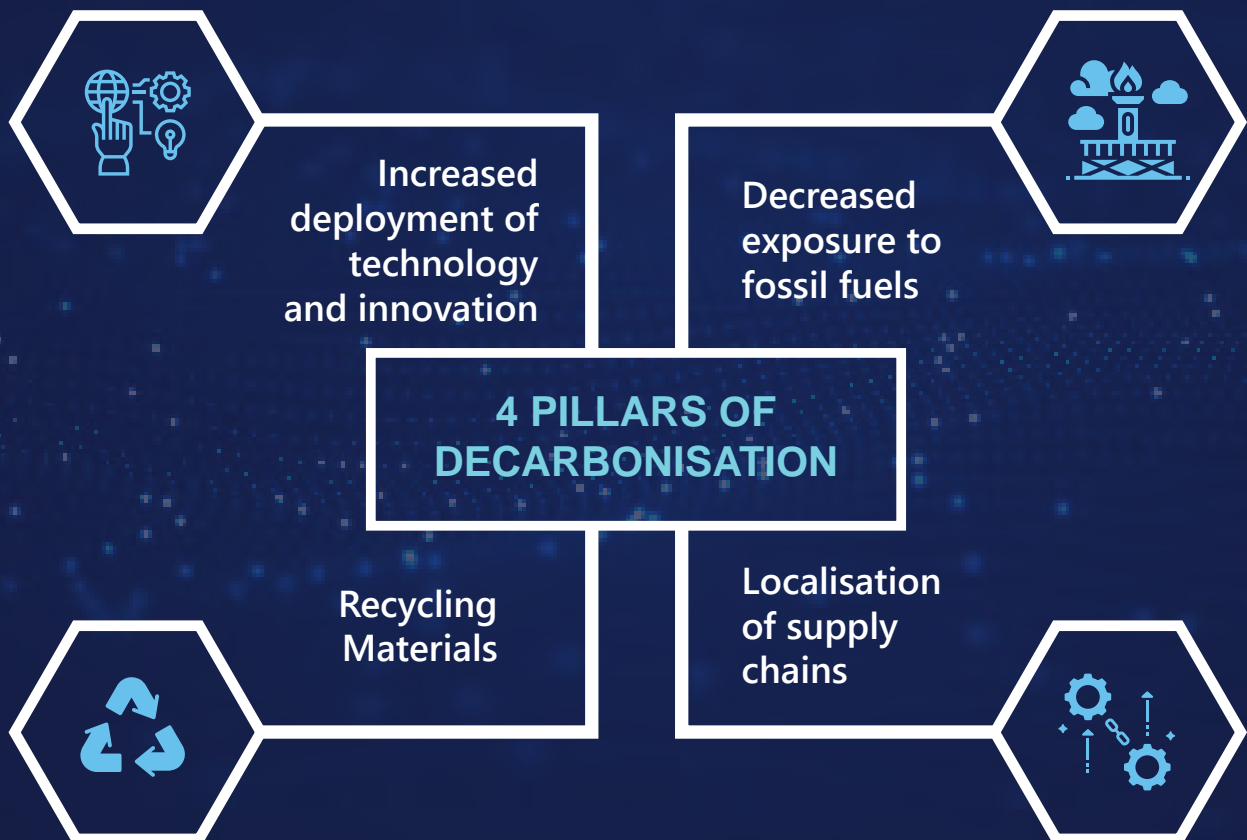
Emissions from the upstream and downstream operations across the supply chain of a company, including any caused by customers' use of those products

To reach these goals, companies must decarbonise their entire supply chain while looking at what their customers are doing with the products they sell them.

Mounting global investor pressure will eventually force companies to withhold products from those who disregard climate objectives.

The EU is already converting climate sentiments into laws and regulations, while shareholders are studying portfolios to identify those companies with the greatest number of downstream culprits.

**MOST MINING COMPANIES HAVE ALREADY STARTED ADDRESSING DECARBONISATION THROUGH THE FOUR PILLARS OF:**



Technologies that support decarbonisation, like wind turbines, solar photovoltaics, electric vehicles and energy storage may lead to the rapid decline in demand for coal and fossil fuels. The upside of these technologies are that they require other mined products as raw materials for production. This will increase the demand various mined minerals.

For example, electric vehicles and battery storage will increase the demand for Lithium, Cobalt and Nickel. Hydrogen fuel cells and Carbon Capture Technologies may increase the demand for Platinum and Palladium.

## GREEN CAPITAL

Going green also makes economic sense. The prices of global commodities are set to rise, increasing the costs of energy and water.

Swapping out diesel for electric vehicles. Reducing the amount of water used. All these measures will not only look good on ESG score cards, but will reduce operating costs in the long run. Green capital is hungry for global investment opportunities that produce commodities on which future green technologies will be based. Provided those companies are themselves serious about the lowering emissions.

## MINING AS CORNERSTONE FOR THE GREEN ECONOMY

While many look at mining as one of the culprits of global emissions, the fact remains that a net-zero emissions future is only possible with the raw materials and minerals that mining provides.

The current global economy is reliant on the products produced by mining operations. From glass to energy, from microprocessors to building materials.

From this point of view, mining shoulders a large part of responsibility to decarbonise our economy, while supplying the raw materials that we are dependent on to do so. Decarbonisation can only succeed within the course charted by mining companies.

## MINING NEEDS TO..



Set Emission  
Targets



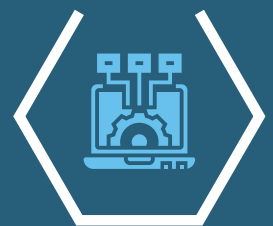
Track Progress  
Rigorously



Report  
Consistently,  
Publicly and  
Accurately



Evaluate short term,  
but also long-term  
climate risks and  
opportunities



Actively seek out  
technologies and  
strategies to  
decarbonise

## TECHNOLOGICAL OPPORTUNITIES

As one of Africa's foremost providers of technological innovation, the Operational Technologies Cluster of 4Sight Holdings is actively assisting mining clients in incorporating technologies to optimise supply chains and optimise processes.

Our Industrial AI solutions will assist your mine in achieving its climate objectives, while creating a safer and more profitable operation.

**Contact us today to learn how our technologies can help your mine to decarbonise!**