

SA has huge green hydrogen potential, says global study

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SA has the potential to become an exporter of green hydrogen and cut its greenhouse gas emissions by 70% were it to take advantage of opportunities available in the hydrogen economy, due to abundant sun and wind.

This is the key finding of a report by global information consultancy IHS Markit, which has published a study funded by German green energy think-tank Agora Energiewende.

Hydrogen, which is produced by passing an electric current through water, is considered green when the electricity used is generated using renewable energy sources.

It is becoming an increasingly important energy source in a world searching for cleaner fuels and lower carbon emissions.

SA is the 12th largest emitter in the world with close to 80% of electricity produced by coal and with several very large energy-intensive industrial companies.

If SA was to stick to its current path of gradually adopting cleaner electrification by introducing renewable energy and retiring coal plants, it could reduce total emissions by 40%-45% by 2050.

But if green hydrogen was to replace other energy sources in industrial processes, SA could lower carbon emissions by 70%.

The study calls this a high-road scenario for SA.

"As costs for making green hydrogen come down worldwide, South Africa's resources of wind and sun can be developed beyond the power sector.

"They can combine with the country's industrial expertise and existing investments to create a new-generation synfuels industry, backed by hydrogen electrolysis.

"A 'hydrogen high road' offers both an economic boost — and thus an increase in jobs — and a deeper/faster route to decarbonisation," an IHS Markit media release says.

The study also models that a hydrogen high road would generate 370,000 additional jobs compared to the slow, gradual approach to reducing emissions, with employment gains in all sectors, except for coal mining.

Sectors that would be the biggest user of green hydrogen and save the most in reduced emissions would be the synthetic fuels industry, steel and chemicals.

The study was presented at a webinar on the hydrogen economy yesterday hosted by Chris Yelland of EE Business Intelligence.

Speaking at the webinar, both German ambassador to SA Martin Schafer and Thomas Duve, director of Southern Africa and Regional Funds for German development bank KfW, spoke of the need for Ger-

many and the EU to import green hydrogen in the future as they do not have the potential to produce enough for their own needs.

Germany's national hydrogen strategy has allocated subsidised funding to the KfW for suitable projects, including in SA, for the production, transport and storage of green hydrogen.

A request for proposals would be issued to the SA market in the next few weeks, Duve said.

The IHS Markit study views SA as a potential green hydrogen exporter that could compete favourably with other potential exporters in the Middle East, North Africa and Australia for markets in Europe and Asia.

SA would likely be able to produce more green hydrogen than it would need for domestic use.

Also speaking at the webinar, the head of infrastructure investment in the presidency, Kgosientsho Ramokgopa, said the government had already identified green hydrogen as a key area for investment.

"We think the state can co-invest and catalyse these investments," he said.

While SA did not yet have a national hydrogen strategy, the department of science and innovation had produced a draft hydrogen road map that required further development. — *BusinessLIVE*