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SA circles back to shale gas as power crisis drags

By Wendell Roelf

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South Africa will auction at least 10 new onshore blocks for shale gas exploration in the environmentally sensitive Karoo region, a government official told Reuters, as the country eyes alternative energy sources to ease its worst-ever power crisis.



Sheep gather around a watering hole near Aberdeen in the Karoo, a semi-desert wilderness stretching across the heart of South Africa. Source: Reuters/Mke Hutchings

The first competitive auction for oil and gas resources, expected in 2024 or 2025 once legislation makes provision for the bid round is passed, includes acreage once held by Shell.

"We are potentially looking at a minimum of about 10 shale gas blocks in the Karoo that will be released through competitive bidding," Bongani Sayidini, chief operating officer at the Petroleum Agency of South Africa (Pasa) said.

Pasa estimates the Karoo Basin holds around 209 trillion cubic feet (tcf) of technically recoverable shale gas resources, although a 2017 study by geologists at University of Johannesburg said this was probably 13tcf, the lower end of estimates ranging between 13tcf to 390tcf.

Even 5tcf would be enough for a 1,000MW to 2,000MW gas-fired power plant to supply electricity for up to 30 years, the Academy of Sciences of South Africa said in its Karoo shale gas action plan released last year.



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Unclear cost comparisons

It isn't clear how the cost would compare to existing coal-fired power stations or the ever-cheaper wind and solar energies that are gradually replacing them.

Fracking in the Karoo Basin, a vast area covering more than half of South Africa's land surface, has been shelved for a decade because of resistance from environmental activists and farmers, and regulatory uncertainty.

Shell's 90,000 square kms is available after the oil major early last year withdrew an application to explore, Sayidini said.

Confirming the withdrawal, a Shell spokesperson said they are focusing upstream investment on fewer basins that align with global strategy and where Shell has competitive advantages.

New shale blocks offered will be smaller to increase participation, Sayidini said. It could take a decade or longer for the first gas output, if sufficient resources are found.



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Risk to environment

Falcon Oil & Gas and Bundu Gas and Oil Exploration, a majority-owned unit of Australia's Challenger Exploration, retained rights to apply for exploration licenses, Sayidini said.

"We believe this is the place to be with the best potential to make it commercially viable," Philip O'Quigley, Falcon's CEO told Reuters of the southern part of the basin, where the company is seeking a license.

Some 2,500 soil samples from the Karoo were sent overseas for analysis, Pasa officials said.

"Those confirmed gas and even oil seepages, so we now believe there might even be potential for oil in the Karoo," Sayidini said.

Activists and farmers worried about air quality, soil degradation and water use in a parched, semi-arid region remain sceptical.

"The enormous risk it poses to the environment cannot be understated," said Jonathan Deal, founder of Treasure the Karoo Action Group, a non-profit organisation specifically established to oppose fracking in the area.



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Water-scarce region

Hydraulic fracturing or fracking, a process where chemicals and water are injected into rock fissures to free gas, requires vast quantities of water.

Oil companies have suggested trucking or piping it in, although this might prove prohibitively expensive. Others propose water used for drilling and fracking being recovered and re-used, although it is unclear how viable that is.

New fracking regulations released for public comment last year are to be finalised in August, the department of environmental affairs said.

But farmers - fearing competition over scarce water that may become depleted or polluted - think the fracking risk is too great.

Brent McNamara, chief executive of Agri-Eastern Cape, said he feared it would damage agricultural productivity.

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