Milken-Motsepe prize finalists open up SA green energy opportunities

Stellenbosch was buzzing with the return of students and Varsity Cup rugby, but there was another movement starting. The university engineering building hosted live demonstrations by four of the five finalists (one was in Nigeria) for the Milken-Motsepe Prize in Green Energy and each team had the same 24 hours to generate a minimum of 65kWh of electricity from their solutions. The grand prize is $1m in cash, with a runner-up prize of $250,000.

By Lindsey Schutters 20 Feb 2024

Stellenbosch University hosted the demonstration leg of the Milken-Motsepe Green Energy Prize competition.

“They’re all here right now, except for the one team who's in Nigeria that's testing simultaneously. They'll go another round where they use all of the data from this, then we will collect and give back to our judges,” explains Milken Institute senior director of social innovation, Emily Musil Church, about the competition.

“They will again have a chance to add any documentation they want, other investments they've gotten, business plans, all that, and the judges will sit and deliberate. No one will know until our livestream we'll have from our global conference in Los Angeles in May this year.”

“We're gonna fly all five teams to Los Angeles because we want all of them to get the opportunity to be at this conference and get to meet their investors and potential partners.”

RENEWABLES & ENERGY EFFICIENCY

MTN makes big gains in solar renewable energy project

15 Feb 2024

Among the finalists – AfTrack, Newdigit Technologies, Smart Agri-Centres, Omnivat, and GEG Geosleeve – Omnivat and GEG Geosleeve stand out as catalysts for other green energy markets that could expand to critical minerals.

Larger industry

Omnivat’s containerised units combine electricity from solar PV panels with water purification and hydrogen energy. The RO-filtered water and solar power run the electrolysers which feeds the hydrogen fuel cell and generates electricity.

It’s a vision of a working use case for the hydrogen economy that the Ramaphosa administration has placed at the heart o South Africa’s Just Energy Transition with an estimated R320bn investment requirement.

Omnivat's containerised system included a hydrogen fuel cell.

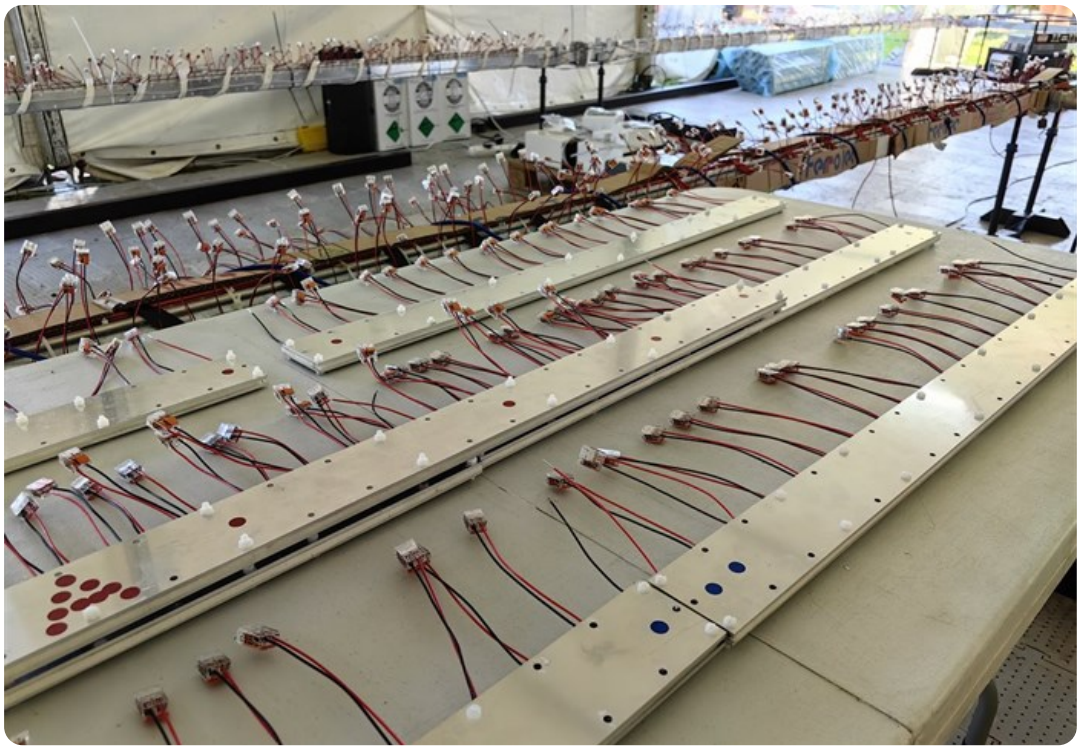
GEG Geosleeve aims to unlock South Africa’s geothermal energy potential with its innovative thermoelectric installation. Th system of thermoelectric panels is designed for temperatures of around 100°C – which is below the threshold considered be viable for largescale geothermal energy use.

But within the panel is a layer of bismuth-based metal alloy that becomes bismuth telluride that can generate electron flow there is a large temperature differential on opposite sides.

Unlikely sources

South Africa has about 87 hot springs within and on the margins of the Kaapvaal Craton, such as the Cape Fold Belt and t Limpopo Belt. While maximum recorded surface temperatures of 67.5°C, GEG – who operate geothermal energy comple in Kenya – estimates that there is sufficient heat to make the solution commercially viable.

It would also make use of local bismuth deposits which would further drive down material costs.



GEG Geosleeve had a novel installation

“We can only have one winner, unfortunately, but this is also part of the business opportunity. From what I've seen in othe competitions, I've been doing this type of work for 10 years now, you see a lot of companies that get started this way,” say Musil Church.

“So part of what we want is exactly this, them to get exposure and people say ‘well, that's really cool’ and be inspired to fin other solutions. It’s important in a time when there’s so much bad news out there.”

All the finalists will have an opportunity to present at Africa's Green Economy Summit happening in Cape Town from 21-23 February.

ABOUT LINDSEY SCHUTTERS

Lindsey is the editor for ICT, Construction&Engineering and Energy&Mining at Bizcommunity
View my profile and articles...