

Hydrogen economy will see no growth in SA without adequate investment into new skills

By [Yershen Pillay](#)

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There is ongoing excitement in South Africa about the prospect of the hydrogen economy - we are one of just two African countries gearing up for it. The ability to turn chemical energy into electrical energy without emitting greenhouse gasses is certainly something to be celebrated and invested in.



Source: Supplied

At the same time, with the global hydrogen market expected to record a value of \$184.10bn in 2025, the economic opportunities open to the wider hydrogen value chain are a good news story amidst the narrative of South Africa's poor economic outlook. However, most important for unlocking the hydrogen economy will be our ability to foster the new skills required by this sector.

New talent and new skills

If we are to enjoy the jobs created by the hydrogen economy, it is vital to have an appropriately skilled workforce to fulfil these new roles – many of which we are probably yet to imagine. Along with the diversified business growth we are hoping to see, we will need new talent and new skills to match.

I predict that these skills required will range from hard and soft skills, from technical skills to management skills. We will require a new breed of installers, electricians, chemical and electrical engineers, plant managers and materials handlers – all equipped with up-to-date knowledge and understanding of hydrogen and hydrogen-related products. From high-school graduates to post-doctoral candidates, the hydrogen economy will provide something for everyone.



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New job titles which demonstrate this need for wide ranging skills include, among others:

- Fuel cell fabrication and testing technician
- Hydrogen energy systems designer
- Hydrogen pipeline construction worker
- Hydrogen systems safety investigator
- Senior automotive fuel cell power electronics engineer
- Emissions reduction project manager
- Hydrogen systems sales consultant

These are just a few examples taken from a report in the *Renewable Energy and Environmental Sustainability* journal, but it demonstrates that many of these jobs require different skills and education than current jobs.

I believe that is our responsibility as CHIETA - to assess training requirements so that the demand from this rapidly growing part of the economy is sufficiently met. As hydrogen is cross-sectoral, we look forward to partnering with other SETAs in energy and manufacturing, as well as our industry partners and stakeholders, to be proactive in identifying and fulfilling the skills gap.



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Preparing the next generation of graduates

But where do we start? With the cross-cutting nature of the hydrogen economy, there are many areas requiring our attention. However, my suggestion is that our first step must focus on preparing the next generation of graduates for these roles. We can do this by partnering with industry stakeholders as well as research teams, and encouraging knowledge sharing amongst industry and academia. The hydrogen economy is within our reach, but we will need collaboration across large corporates, tertiary education institutes, and training authorities to make it happen.

ABOUT THE AUTHOR

Yershen Pillay, CEO, Chemical Industries Education and Training Authority (CHIETA)

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