

Achieving SA's green hydrogen economy will depend on a highly specialised workforce

By [Viren Sookhun](#)

7 Apr 2022

With the world looking to countries that have optimal renewable energy resources to provide clean energy of the future, South Africa has the opportunity to revolutionise its economy and supply green hydrogen to the world.



Source: iStock.

Growth in the hydrogen sector will result in a significant number of new job opportunities for which new skills, training programmes and qualification assessments will be required.

Ensuring an adequate supply of trained and competent individuals for such a rapidly growing sector will become a priority as the hydrogen energy sector grows and we work toward decarbonisation commitments.

Society's decreasing reliance on traditional energy sources such as coal and petrochemicals will result in an employment shrinkage but reskilling these workers from traditional energy backgrounds to transition into the expanding hydrogen sector should be much easier with the training and skills already obtained.

South Africa has what it takes

In developing South Africa's green-hydrogen value chain, we can become a key supplier into the global hydrogen market. Not only does South Africa have optimal environmental conditions, it is also rich in the natural resources required for the hydrogen economy, such as Platinum Group Metals (PGMs).

PGMs are used in the electrolyzers that produce green hydrogen as well as a fuel in hydrogen fuel-cell vehicles. South Africa holds more than 80% of the world's platinum reserves and has one of the largest platinum mining companies in the world.

South Africa is guided by the [Hydrogen Society Roadmap](#) which identifies the production, storage, and distribution of hydrogen, while highlighting the importance of research, development, and innovation, alongside the promotion of gender equality and social inclusion in developing the hydrogen economy.

By implementing this roadmap, within a few years it is anticipated that at least 20,000 new jobs will be created annually as part of the adoption of the hydrogen economy.

Challenges to a growing sector

The main hurdle in this industry lies in the fact that it is new, and when something is new, it requires extensive research. Here, South Africa will be reliant on global players and multinational organisations to assist with research and feasibility studies through partnership initiatives that focus on upskilling. This will enable the skills transfer to happen locally and for training to take place within our borders.

Ultimately, more jobs will be created in renewable energy and hydrogen than what we will shed in traditional methods of energy, so the net effect will be positive. However, this will require extensive upskilling and retraining for the future in terms of hydrogen fuel.



How investing in the 'fuel of the future' stands to boost SA's economy, create much-needed jobs

Sindy Peters 24 Feb 2022



Looking around the world, Japan is currently testing hydrogen-fueled trains, while Germany has just procured the first hydrogen train with plans to pilot-test it on certain routes from mid-2023.

Airbus is assessing the feasibility of converting their aircraft 100% to hydrogen fuel, and Turkey and other European companies have already launched hydrogen-powered ships.

As for the potential hydrogen-fueled vehicles, such as trucks and buses, these hold much more promise for South Africa from a cleaner mobility perspective, as current limitations with battery storage and unreliable electricity supply may hinder the adoption of electric vehicles. Given the similarity in infrastructure requirements for transitioning from fossil to hydrogen fuels, this makes hydrogen a preferred candidate for mobility.

What's needed to grow the hydrogen economy?

Starting at the top of the value chain, South Africa will need scientists, researchers, and highly-specialised individuals who can produce green hydrogen by electrolyzing water.

Further down the value chain we need to start with training and upskilling people here within South Africa, particularly young, unemployed people, through health and safety courses to enforce the Occupational Health and Safety Act. This will become increasingly important as the hydrogen industry is regarded as a high risk due to the nature of fuel and gas.

Building the hydrogen economy is going to require co-operation and co-ordination between many stakeholders, particularly

in education and training opportunities. Government entities, educational institutions and the private sector must collaborate to handle the increased demand for skills and qualifications in this industry.

To make the most of these opportunities to build a highly-skilled workforce, industry would benefit from the assistance of Temporary Employment Services (TES) partners, particularly during the recruitment, upskilling and training processes.

New skills for a new industry

Given that labour and human resources are going to be the most important part of growing the hydrogen and renewables economy, the value of using a TES provider lies in their extensive resources, such as training companies, healthcare facilities, along with the staffing and outsourcing side, including recruitment.

With all the necessary accreditations, a TES partner can handle the entire labour component, from community-stakeholder engagement, to creating training programmes and reporting back to client partners and government, to ensure transparency in achieving the desired outcome: an inclusive, sustainable, and competitive hydrogen economy by 2050.

ABOUT THE AUTHOR

Viren Sookhun is the managing director at Oxyon.

For more, visit: <https://www.bizcommunity.com>