



Press release - FINAL

## **Groundbreaking research in Green Hydrogen technology to officially commence**

The South African National Energy Development Institute (SANEDI) will next week visit the Durban University of Technology (DUT) as part of its ongoing partnership with the institution on green hydrogen research. The two-day visit, commencing on 19 August will lay the groundwork for a joint research project focused on producing green hydrogen from borehole water.

Professor Sampson Mamphweli, Head of the Department of Science and Innovation's Energy Secretariat at SANEDI, will deliver a public lecture on South Africa's green hydrogen research landscape on 20 August. Dr Titus Mathe, Sanedi CEO will give a high level presentation about Sanedi and the possible areas of further collaboration between Sanedi and DUT, focusing on the creation and establishment of a centre of excellence at DUT. The event will culminate in the signing of a collaboration agreement between SANEDI and DUT, marking the official commencement of the project.

"This partnership aims to address South Africa's pressing energy challenges by exploring the potential of renewable power and hydrogen technologies. This partnership signifies a significant step forward in South Africa's transition to a low-carbon economy and underscores the importance of collaboration between academia and industry in addressing energy challenges," says Mamphweli.

The collaboration is in direct response to an unsolicited proposal from DUT, highlighting the institution's commitment to innovative energy solutions. The project seeks to stimulate local economic growth in rural South Africa through the development and deployment of green hydrogen production technologies. The proposal was approved as it aligns with the national research priorities of South Africa's Hydrogen Society roadmap, while simultaneously expanding on the work of the Department of Science and Innovation that has already begun with the Energy Secretariat at SANEDI.

The \$USD14 billion dollar hydrogen economy as espoused in the Hydrogen Society Roadmap and the Green Hydrogen Commercialization Strategy is poised to make the country one of the world's leading producers of green hydrogen and Green Ammonia for both local use and the export market. Green Hydrogen forms a key part of South Africa's Just Energy Transition plans. Additionally, global commitments towards hydrogen production and demand create an opportunity for South Africa to engage in energy export at the international level. The International Energy Agency's models project that in a net -zero 2050 scenario, global demand for hydrogen will reach 140 GW

by 2030. A 2021 feasibility study by SANEDI on South Africa's potential for a green hydrogen economy found that to make this new sector a reality, key regulatory and policy enablers are required to launch hydrogen projects to strengthen existing policies that promote the growth of the Hydrogen economy. To ensure a successful hydrogen economy, a comprehensive policy framework is necessary to support the development of green hydrogen projects.

The collaborative research project is expected to support policy decision making as the country moves to reduce its greenhouse gas emissions in line with our international commitments while energising local economies. By investing in green hydrogen, South Africa can diversify its economy and create a more sustainable form of energy. This will help to reduce the country's reliance on fossil fuels, create new jobs, close the gender and skills gap as well as reduce harmful emissions that pose enormous risks as a result of the changing climate. South Africa is one of 26 countries investing in the development and deployment of green hydrogen to align with the globe's goals to reach net zero emissions by mid century and beyond.

The research will investigate the feasibility of generating green hydrogen from borehole water using Polymer Electrolyte Membrane (PEM) technology and will be supported by a dedicated Post-Doctoral and Masters student who will be trained to support the research. The project will generate new knowledge and provide a platform for researchers to collaborate and exchange ideas. This could lead to increased innovation and the development of new technologies that would benefit the South African economy.

SANEDI has committed an initial R2 million grant for the first year of the project, with further funding allocated for the subsequent two years. This research has the potential to create a more sustainable, cost-effective and environmentally friendly energy source, while also providing South African students with valuable research opportunities.

### **About SANEDI:**

The South African National Energy Development Institute (SANEDI), established by the Government, directs, monitors, and conducts applied energy research to develop innovative, integrated solutions to catalyse growth and prosperity in the green economy. It drives scientific evidence-driven ventures that contribute to youth empowerment, gender equity, environmental sustainability, and the 4th Industrial Revolution, within the National Development Plan (NDP), through consultative, sustainable energy projects. For more information, visit [www.sanedi.org.za](http://www.sanedi.org.za).

### **Issued on behalf of SANEDI by One Union:**

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