



International Partnership
for Hydrogen and Fuel Cells
in the Economy

South Africa Update

34th IPHE Steering Committee Meeting
1 – 4 December 2020
Virtual Meeting

Announcements and/or New Initiatives

South Africa – Profile November 2020



- **Key Collaborations: Triple helix collaboration for disaster response management**



- Seven (7) fuel cell systems were deployed at 1 Military Hospital in Pretoria as part of government's response to COVID-19
- The fuel cell systems were used to provide power to life saving equipment in the field hospitals through a collaboration involving four government departments and private sector including Sasol, Air Products and Protea Chemicals.
- The fuel cell systems incorporated the catalyst and membrane electrode assemblies developed through the HySA Programme
- Given the speed of deployment and their modular nature, hydrogen fuel cells are an excellent technology to deploy in disaster management.



Announcements and/or New Initiatives

South Africa – Profile November 2020



• Key Collaborations (2): Skills and Capacity Development for an Emerging Industry



- A six-week training course on the installation, operation and maintenance of fuel cell systems involving 15 unemployed TVET graduates was launched on 2 November 2020 at the University of Pretoria
- The training programme is a collaboration involving the DSI, SANEDI, EWSETA and Bambili Energy
- It is expected that the trained graduates will be absorbed by companies operating in the sector
- The intake of trainees is expected to increase in the coming years with more partners coming on board.



Examples of Lessons Learned and Impact

South Africa – Profile November 2020



Program initiative, policy, regulation or mandate	Lessons Learned/Outcomes
Renewable Energy Independent Power Producer Purchase Programme (REIPPPP)	<ul style="list-style-type: none"> • Government support and investments are critical for the successful implementation of renewable energy uptake • Large scale uptake of renewable energy technologies requires long term funding commitment • Once there is policy certainty, private sector is always ready to invest.
Hydrogen South Africa (HySA) Strategy focused on development of hydrogen and fuel cell technologies	<ul style="list-style-type: none"> • 15 –Year commitment by government to fund HySA enabled the programme to assist with a response to the COVI-19 pandemic • The need for a broader National Hydrogen roadmap through stakeholder consultation that goes beyond the RDI Programme • The Hydrogen Society Roadmap development was therefore initiated



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Status of Deployments

- **Currently, deployments are happening on a project by project basis. However, a more integrated deployment strategy expected following the approval of the Hydrogen Society Roadmap**

Leading Government Initiatives

- The Department of Mineral Resources and Energy (DMRE) has recently made a call for the procurement of 2 000 MW of emergency power targeting a range of energy sources and technologies under the Risk Mitigation Independent Power Producer Programme (RMIPPP) in September 2020.
- The RMIPPP is designed to address the country’s short-term electricity supply constraints by delivering power to the grid no later than June 2022.
- This paves the way for the procurement of 11 813 MW of new generation capacity with 6 800 MW planned from renewable energy sources (PV or Wind) for the years 2022 to 2024 of which 513 MW is targeted for procurement during 2022. A further 3 000 MW has been earmarked for generation from gas for the years 2024 to 2027.

Deployment Goals

- Major Deployment goals will be covered in the Hydrogen Society Roadmap

Goals or Focus Areas

- Stationary Fuel Cell deployments
- Mobility Applications including materials handling and mining equipment

Funding for 2020/21

- A budget of **USD4M** for technology development through HySA
- **USD2M** for stationary deployment projects
- **USD2M** to kick start the Platinum Valley Project

Total DSI Budget: **USD8M**



Thank you



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Highlight to Include in IPHE Newsletter *South Africa*



• Skills and Capacity Development for an Emerging Industry



Senior officials from the key partner organizations during the launch



The trainees used the installation at 1 Military hospital for their practical work

- A six-week training course on the installation, operation and maintenance of fuel cell systems involving 15 unemployed technical graduates with engineering qualifications was launched on 2 November 2020 at the University of Pretoria
- The training programme is a collaboration involving the DSI, SANEDI, EWSETA and Bambili Energy
- It is expected that the trained graduates will be absorbed by companies operating in the sector
- The intake of trainees is expected to increase in the coming years with more partners coming on board.



Status of Applications and Goals *South Africa*

Application	Status (As of <i>November 2020</i>)	Goal (For <i>Year</i>)
1) H₂ Applications		
a. Energy Storage (e.g. MW, GW of capacity)	0	N/A
b. Electrolyzers	<i>Small kW</i>	N/A
c. Other (e.g., Steel, Marine, Fertilizer, etc.)	<i>Insert number</i>	<i>Insert number</i>
2) Transportation		
a. Light Duty Vehicles	<i>4 (scooters)</i>	N/A
b. Medium and Heavy Duty Vehicles	0	N/A
c. Buses	0	N/A
d. Trains	0	N/A
e. Forklifts	2	N/A
3) Stationary		
a. Residential	0	N/A
b. Commercial	N/A	N/A
c. Back Up Power	300	N/A
<i>4) Deployments of stationary fuel cells in public buildings</i>	7	N/A

