



Press Release  
08 April 2021  
Immediate Release

---

### **Energy Efficiency critical to effective Covid-19 vaccine rollout**

As South Africa is preparing for a broad roll-out of the country's vaccine programme, energy efficiency is one of the factors to consider, according to the South African National Energy Development Institute, (SANEDI).

Energy is crucial to operate cold chains that store vaccines. The Johnson & Johnson (J&J) vaccination against Covid-19 has a shelf life of up to 2 years if it is stored at -20°C. The J&J vaccination can also be safely stored in a domestic fridge for up to 1 month. The effectiveness of this, depends entirely on an uninterrupted supply of energy to maintain its low storage temperature requirements.

As such, the South African National Energy Development Institute (SANEDI) highlights the vital importance of energy efficiency in the current energy-constrained situation, to support our country in the government's effort to vaccinate South Africans against Covid-19.

SANEDI's General Manager responsible for Energy Efficiency, Barry Bredenkamp says, "As the vaccine roll-out extends from the main urban centres to the more remote rural areas of the country, it could become harder to sustain an unbroken cold chain in the broader logistical scheme-of-things. If there is an energy outage for whatever reason, freezers and fridges will lose temperature, potentially compromising the vaccine. Which is why we all need to do everything in our power to conserve energy and be as energy efficient as possible, during this trying time."

Bredenkamp urges, "There are various ways South Africans can be mindful of their energy consumption. Heating water is one of the most energy-intensive processes in the home and therefore one of the most expensive. Be sure to set your geyser temperature to 60 degrees. Also, when cooking on electric hobs, match the pan size to the element size, for example a

12cm pan on a 16cm burner will waste more than 40% of the heat. Remember to also insulate ceilings, doors and windows, wherever possible.”

He adds, “Co-incidentally, a recent research report indicates that domestic refrigeration is a major contributor to high energy consumption, which can be overcome by reducing the frequency of opening-and-closing the refrigerator, ensuring the doors are always properly closed and the door seals are in a good condition.”

Dr Ashok Sarkar, Senior Energy Specialist at the World Bank, recently addressed a World Bank workshop series related to *Vaccine Cold-chain Challenges*. In his address, he pointed out, “It’s important to find a way to maintain a cold chain for the vaccine in a climate-friendly manner. Maintaining a cold chain can cause environmental problems for two reasons: one, because it uses energy and if that energy comes from fossil-fired power stations, that contributes to global warming. Two, many of the refrigeration units in developing and even some developed countries are not energy efficient and use a great deal more energy to achieve the same cooling effect.”

Bredenkamp concurs, “We believe that the successful roll-out of the vaccine in South Africa depends on reliable, sustainable and efficient energy throughout the value chain, which includes the warehousing, transport, end-destination storage and ultimately injecting the recipient with the vaccine. The same principles relating to the reduction of energy consumption in household refrigerators referred to above, apply to the use of these vaccine fridges and front-line medical staff should be made aware of this. The same applies to off-grid vaccine refrigerators in areas that do not have access to grid-connected electricity. Ultimately, the more we all play our part and save as much energy as possible, the more energy will be freed-up for use by more people in the country.”

South Africa began its first phase of the Johnson & Johnson (J&J) vaccine rollout on 17 February 2021. According to studies\*, the J&J vaccine provides 57% protection against moderate-to-severe Covid-19 disease, 85% protection against severe disease and 100% protection against death, as caused by the new Covid-19 501Y.V2 variant in South Africa.

Ends 636 words

\* <https://www.sanews.gov.za/south-africa/everything-you-need-know-about-johnson-johnson-vaccine>

### **Follow SANEDI on social media**

Facebook: @sanedi.gov

Twitter: @sanedi.org

LinkedIn: @sanedi.org

**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 4<sup>th</sup> Industrial Revolution, within the National Development Plan (NDP), through consultative, sustainable energy projects. For more information, go to [www.sanedi.org.za](http://www.sanedi.org.za).