

The Shoprite Group continues to grow its solar-powered fleet

The Shoprite Group is adding 39 solar-powered refrigerated rigid trucks to its existing solar-powered fleet of 749 trailers by the end of June 2021.

At present, the Group has a total fleet of 855 trucks and 1 247 trailers of which 749 are solar-powered trailers (473 are refrigerated trailers and 276 units are not refrigerated, but the tail lift is powered by solar energy).

The Group has 89 rigid trucks with diesel powered refrigeration of which 8 are solar powered (for the tail lift only). It is the first time that the Group is adding solar-powered nitrogen refrigerated rigid trucks to its fleet - this is also a first in Africa.

The non-solar-powered trailers in the fleet are traditional diesel-powered refrigerated trailers, with the diesel-powered cooling unit situated at the front of the unit.

Solar-powered units have been deployed in the Group's fleet since 2017, in an effort to reduce the company's carbon footprint.

Read more about other solar initiatives [here](#).

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References

<https://www.engineeringnews.co.za/article/shoprite-to-expand-solar-powered-refrigeration-fleet-by-39-trucks-2021-05-20>

<https://www.shopriteholdings.co.za/articles/Newsroom/2021/shoprite-expands-solar-pv-project-commitment-climate-friendly-operations.html>

The Group has also fitted solar panels to the roofs of 649 trucks, which generate 760 MWh annually - enough power to run 1 040 refrigerators for a full year. These allow drivers to switch off truck ignitions at delivery locations, reducing noise and exhaust pollution, while keeping the cold chain intact.

Q&A

*The Shoprite Group is adding 39 solar-powered refrigerated rigid trucks to its existing solar-powered fleet that consists of 775 trailers, says group sustainability manager Sanjeev Raghubir. **As this is a dynamic number, the existing solar-powered fleet now totals 749 trailers (as of yesterday, 17 May 2021)***

Shoprite has a total fleet of 855 trucks and 1 247 trailers, of which 473 are refrigerated trailers.

*So 'n rigid truck het nie 'n trailer nie - dis meestal 'n soliede trok, versus 'n articulated trok, met die sleepwa/trailer. Mens kan nie rigid trok by 'n fleet of trailers las nie? (Skies...ek weet...) **You're right. Technically the truck is fixed to the trailer. So we are getting 39 rigid trucks and this will be added to our existing solar-powered fleet of 749 trailers, by the end of June 2021.***

*So kan ek vra: Hoe groot is die existing solar powered **trailer** fleet? Is dit 473 units trailers - uit 1247 trailers? **No, it's 749 out of 1 247.***

*Hoe groot dan is die totale bestaande refrigerated **rigid** truck fleet? En hoeveel van hulle is solar powered? **89 rigid trucks with diesel powered refrigeration of which 8 are solar powered (for the tail lift only). It's the first time we are adding solar-powered nitrogen refrigerated rigid trucks to our fleet. This is also a first in Africa.***

*Ook, is daar dan solar powered trailers wat nie refrigerated is nie? **Yes, 749 - 473 = 276 solar powered trailers are not refrigerated***

'existing solar-powered fleet that consists of 775 trailers'....versus 'of which 473 are refrigerated trailers.'

*Wat is dan solar powered? Die tail lift? **Yes, it only powers the tail lift***

En dan, as ek praat oor hoe die nitrogen in die refrigerated trailers werk, is dit dieselfde vir die rigids? **Yes, it works the same**
Werk hulle altwee dieselfde?

The Shoprite Group will, by the end of June, have added 39 solar-powered refrigerated rigid trucks to its existing solar-powered fleet of 749 trailers, says group sustainability manager **Sanjeev Raghubir**.

“It’s the first time we are adding solar-power nitrogen refrigerated rigid trucks to our fleet. It is also a first for Africa.”

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Shoprite has a total fleet of 855 trucks and 1 247 trailers, of which 749 are solar-powered trailers. Of this solar-powered trailer fleet, 473 units are refrigerated. The remaining 276 units are not refrigerated, but the tail lift is powered by solar energy. The non-solar-powered trailers in the fleet are traditional diesel-powered refrigerated trailers, with the diesel-powered cooling unit situated at the front of the unit.

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Each solar-powered refrigerated trailer makes use of four solar panels to generate energy that is then stored in batteries. This

energy is used to move nitrogen around to cool the trailer, explains Raghubir.

This means that the nitrogen has to be refilled at Shoprite's depots, similar to the traditional cooling system where the diesel has to be replenished.

Raghubir says the solar-powered units have been deployed in the Shoprite fleet since 2017, in an effort to reduce the company's carbon footprint.

When approached by a local vendor with the solar solution, the company ran a pilot programme to test the technology, followed by large-scale implementation of the locally manufactured trailer.

"The solar-powered trailers mean that we have reduced our use of diesel and, therefore, our emissions," says Raghubir. "With this system it is not necessary to idle the truck when loading and offloading."

"You can also uncouple the trailer from the truck, and it will run on its own power – also at night.

"The system also makes less noise, which is important when considering that many of our delivery areas are adjacent to office parks and residential areas.

"Nitrogen is also cheaper than diesel."

Raghubir says the solar-powered units deliver a return on investment in two years.

The trailers have to date, also delivered a reduction of 471 t of carbon dioxide equivalent a year for Shoprite.

He adds that solar-powered units provide the same level of refrigeration as diesel-powered units.

"We are also able to monitor the temperature of the trailer remotely, to ensure the cold chain remains intact."

Despite the success of the solar-powered units, Shoprite will not expand the technology to its entire South African refrigerated fleet, says Raghubir.

"It can become a risk to the cold-chain if there is a shortage of nitrogen, as has been the case during Covid-19."

The shortage of nitrogen arose as manufacturers switched to the production of oxygen for medical purposes.

Shoprite is, however, continuously refining the system, and has recently increased the lithium iron phosphate battery's capacity by 40%, while also increasing the solar panel output per panel. 🇳🇬