



Green X Engineering

- ENTREPRENEUR:** Jason Samuels
- ESTABLISHED:** 2021
- TEAM:** 8 operations, 4 board members
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Green X Engineering helps buildings and organisations achieve energy optimization through energy audits and a smart metering app to inform critical interventions to save electricity, money and carbon emissions. They envision a world where buildings not only use power more efficiently but become hubs for renewable energy production, through the installation of solar panels.

“I want to have impact. And it is possible. That’s what I want to do with my life, I want to do research and then help.”

Words and photography by Chris de Beer-Procter



ABOUT THE BUSINESS

It is said that knowledge is power. And through his company, Green X, Jason Samuels is out to prove that knowledge is also key to saving power, and the planet. The company uses their engineering expertise along with an innovative smart monitoring app and sustainable interventions to reduce electricity usage and ease dependence on South Africa's strained power grid - saving money, and carbon emissions.

"Basically, Green X helps organisations do more with less," Jason says. The company, which he co-founded, was born out of his PhD research at the University of Stellenbosch. "I found that there was almost no literature on schools and energy usage from the South African perspective," he reflects. Jason wanted to change that. "We started off documenting what schools use, doing energy audits and seeing where they could save consumption," he says. The results were staggering and the research team realized that they could take their idea out of the academic realm and into the commercial.

Since their inception in 2021, the company has already made waves and even national headlines for their work with schools throughout the Western Cape. Most

notably with Cloetesville Primary School, where Green X helped the school became the first in the country to receive their Energy Performance Certificate, with a rating of A through the use of smart metering.

This, alongside energy audits, provided insight into their energy usage and revealed that there was still room for further optimisation. After understanding and optimising existing energy usage, Green X went on to install solar PV panels to further reduce energy use. As a result of interventions like replacing outdated, energy-heavy lightbulbs with efficient LED lights, the project saved the institution an average of R 2 000 per month and an estimated R 20 000 per year on energy costs. It is also reported that the renewable renovations will reduce the school's carbon emissions by 13 tons every year.

The project was also a personal one for Jason who is from the community and was a pupil at a neighbouring school. "We all have this dream of going back to build up our home, [and] seeing Jason do it was beautiful," says Grace Chidavaenzi who is a business intern at Green X.

Following their great success with Cloetesville Primary, the Western Cape Education Department has tasked

"Schools could function as a power generation node to aid the energy crisis. I know it sounds 'out there'. But they're perfectly positioned."



Green X with rolling out the energy intervention to 100 schools in the region over the next 3 years. The project is an encouraging step in the transformation towards a more circular economy in these pivotal public institutions - reducing waste, saving money and providing an opportunity to generate localised, renewable energy that will directly benefit communities.

"Climate change is a reality, unfortunately. And Eskom is another reality," says Grace, "we need country-wide ways to reduce our power consumption because

VISION FOR THE FUTURE

"As the Green X team grows in capacity and experience, we would like to have proven sustainable impact through efficiency. We would like to see the schools in South Africa fully optimised and functioning as energy hubs to supply their nearby communities, making them sustainable and cost-effective and giving them the ability to play a part in solving our energy crisis. Green X intends to walk alongside the schools to accomplish these ambitious goals.

Green X also seeks to play a part in the efficiency of the private sector, particularly in private schools and hospitals. Lastly there is also opportunity to also provide value in the residential space, i.e. homes and guesthouses."

our current infrastructure cannot handle it." Green X approaches their mandate not only as a necessity in a country that is burdened by chronic power instability, but as an opportunity to create optimized buildings that are platforms for innovation for a future that is not only brighter, but more efficient!



ADVICE ON CIRCULARITY FOR ENTREPRENEURS

"Pay attention to sectors of society that are overlooked, like poorer schools. There's a gap there."

I think there's value to monitoring- if you know what's happening and you can measure it, you can do something about that. That can be applied to food wastage, water wastage - all these streams.