

Power Purchase Agreement Case Study

University of Pretoria
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Net Zero on Campus Community Case Study

The [Net Zero on Campus](#) initiative, a collaborative effort between SDSN, the Climateworks Centre, and Monash University, aims to facilitate the sharing of lessons and resources to accelerate the decarbonization of university campuses around the world. The initiative consists of a “how-to” guide and accompanying online toolkit that will enable universities to accelerate the planning and implementation of net zero strategies, and act as living laboratories for testing solutions.



What is the case study trying to accomplish?

The department of facilities management at the University of Pretoria was tasked a few years ago to investigate the possibility of solar power generation, but the cost would be approximately a 32 million rand capital investment and would supply approximately 10% of the university’s electricity usage. So, the university decided to proceed with a power purchasing agreement (PPA) with the company, Next Renewables, instead. The PPA is a financial arrangement in which Next Renewables, the third-party developer, owns, operates, and maintains the photovoltaic (PV) system, and the university (the host customer) has agreed to site the system on its campus and purchases the system's electric output from the solar services provider for a 20 year period.

The electricity generated by the PV panels during 2021 was 1,366,767 kWh electricity. This resulted in electricity purchased in

University Information

City: Pretoria

Country: South Africa

Region: Africa

Campus Area (m2): 1,039,970

Number of Staff: Large (between 6,000 - 10,000 staff)

Number of Students: Very large (greater than 60,000)

Type of Institute: Public

Case Study Overview

Category: Energy

Initiative: Source Renewable Energy

Type of Net Zero Solution: Physical Intervention

Funding Source: Public-Private Partnership

Emissions Scope: Scope 2

Impact on Net Zero: Large positive impact

Scale: \$10,000 to \$100,000

Timeframe: Short (between 6 months and 1 year)

Stakeholders: Sustainability Office, University Administration, University Board, Utility Service Providers, Investors

Transformational Potential: Moderately Significant

Scope 1 of 9.3%. With two of the PPA installations on the Hatfield campus, the green energy produced will reduce the university's carbon footprint by about 498 tons of CO₂ emissions per year.

What were the key success factors in implementing the case study?

The installation and the signing of the power purchase agreement is very significant, as it showcases the willingness of the university administration to investigate and invest in new technology. This technology (PV solar generation) will support the already constructed 76 fossil fuel generators that generate approximately 42 MW electricity in times of load shedding.

What were the challenges or barriers you had to overcome in implementing your initiative?

The challenges around the installation of the PV solar panels were in terms of the required environmental authorization process and associated legalities. This was a time consuming lengthy process where government departments need to approve any construction or development listed in the environmental legislation.

What did you learn from the process and what are your recommendations to others?

The University of Pretoria was the first university in South Africa that signed a power purchase agreement with a fixed service fee, as opposed to the municipal level that can fluctuate and can increase by as much as 30% annually. Therefore, if for instance, the municipal electricity fee increases annually by 30% and our tariff is fixed at a price agreed upon in 2020, over a two year period, the university would save a lot of money. The University of Pretoria is purchasing electricity at a rate of R1,12 per unit in comparison with the electricity purchased from the municipality and provided by Eskom at a rate of R2,97/kWh.

The University of Pretoria is committed to sustainability and to keeping the costs of tertiary education as low as possible. With zero upfront capital outlay required from the University for such PPA projects, the University is able to realise cost savings right from day one of operation. A key lesson was to negotiate with the service provider when the project was initiated to achieve the goals set.

What resources did you use to implement this initiative?

Resource	Why is this resource helpful?
University of Pretoria Energy	More information on the ways that the university is improving and promoting energy efficiency and conservation on its campuses and other properties

Get Involved with Net Zero on Campus

Contribute to the Online Toolkit

- [Submit](#) your own case studies and decarbonization resources to be featured;
- Share your questions and/or feedback with us at info@unsdsn.org.

Join Our Community

- Join our global community of practice and Net Zero on Campus LinkedIn Group;
- Join global networks of academic institutions working on decarbonization: [SDSN](#), [Second Nature](#), and [EAUC](#). See our resource directory for more networks;
- Join the [Race to Zero for Universities and Colleges](#) campaign and make a net zero commitment;
- Empower your students and engage them in your campus decarbonization efforts: join [SDSN Youth](#) and see our guide for more information.

Learn More

- Explore [SDSN's free, open educational resources](#) from the world's leading sustainable development experts to use in your classrooms: MOOCs, educational videos and lectures, and global community of practice.

[Net Zero on Campus](#) is a collaboration between [SDSN](#), [the Climateworks Centre](#), and [Monash University](#), in partnership with [Second Nature](#) and the [EAUC](#) (Secretariat of the Race to Zero for Universities and Colleges).