

**iKaya Primary School switches on its solar system: MEC calls for a scalable solution for Western Cape's 1 542 schools.**

Stellenbosch's iKaya Primary School in Kayamandi on Wednesday (27 September 2023) became the second school in town to benefit from green initiatives of the Western Cape Education Department, Stellenbosch University's social impact division, and other partners, after switching on their new photovoltaic (PV) system that will enable the administrative wing of the school to switch seamlessly from the Eskom grid during loadshedding. Being retrofitted with power-saving lights as part of the project, this school will from now on bank R30 000 a year in savings on their utility bill.

Speaking at the celebration function, David Maynier, the Western Cape MEC for Education, said the challenge is to find a scalable solution for the province's 1 542 public schools to install similar solutions for electricity savings and efficiency. "If we look at the outlook over the next three to five years, we know that load shedding is here to stay, and it is a significant disruptor in the school environment. I would therefore like to put the challenge out there and ask that we take this partnership forward and create optimal solutions that will make a difference in the lives of our learners, as we did here today at iKaya Primary."

Stellenbosch University's Engineering Faculty, its Department of Social Impact in partnership with the Western Cape Education Department started this initiative to fund piloting IoT energy management and lighting efficiency retrofits at 75 no-fee schools in the Western Cape, back in 2017 - helping schools to save on their electricity bills by installing smart meters to monitor usage and retrofitting them with energy-saving lighting.

Being instrumental in this project, Prof Thinus Booyesen, chair of the Internet of Things at SU's Engineering Department, said it is a huge privilege for the University to help make a difference in schools and communities that are struggling financially. "We know that not all schools are created equal, therefore we try to make a difference with this project and where we can – with the help of partners – install PV to help keep the crucial lights on for the schools to function."

The first school to benefit from this project was Cloeteville Primary School - known as the Green School - which received a 7.5kW PV system, generating approximately 14MWh (14 000 units) of electricity per year, negating almost 13 tonnes of CO<sub>2</sub> annually and saving R20 000 per year while selling electricity back to the grid. The Green School also became the country's first school and second building to receive an Energy Performance Certificate (EPC). Cloeteville Primary will now be upgraded to a hybrid system with a hybrid inverter and batteries. Next in line is Cloeteville Secondary School which will be equipped with energy-saving systems as part of SU's social impact programme. From their side, the WCED will roll out similar programmes to another seven schools in the Western Cape region.

Dr Leslie van Rooi, Senior Director Social Impact and Transformation at SU, said the University has contributed just over R1 million to this project. "We do this because we believe in the possibilities of our local schools and because we know that our collaboration, support, and learning together are fundamental to SU and our town's possibilities. The University is very grateful that we can join hands this way. We are looking forward to taking the Partnership with the WCED and other stakeholders further so that we can make sure the lives and future of our children are brighter. "

"Loadshedding and the cost of electricity have a devastating impact on our economy," says Booyesen. "The cost is, however, not limited to business, as they directly affect operations at what we believe to be the lifeline of our fledgling democracy: schools. We are incredibly privileged to have the support of Stellenbosch University's Division for Social Impact to effect real change at the schools that need it most. This intervention at necessitous schools will substantially reduce their monthly electricity expenses, reduce their carbon footprint, and keep essential services going through bouts of loadshedding. Moreover, the burden on our frail grid will be reduced, immediately benefitting us all."

Jason Samuels, from Industrial engineering at SU, who recently received his Ph.D. under the supervision of Prof Booyesen, and his team from the SU spinout company GreenX, that is working pro-bono for SU on this project, have spent the past two years covering many miles to do extensive energy audits at various schools to determine how it can retrofit them with energy-saving lights and meters to measure and manage their usage. Their solution lends itself to scalability whilst incorporating each school's individual load profile at a low cost. The team was responsible for the PV installation at iKaya Primary School which will enable them to save R30 000 per year on their energy bill.

"We have been working with schools across the Western Cape for more than two years now and we understand the challenges. We have also created a solution that works for each school at cost-effective rates. My team and I, together with the support from the WCED and SU, are ready to take on the challenge of rolling this project out to all the schools in the province. We welcome schools to get into contact with us to start their process. We will also be looking for private partners to support us in this endeavour that will greatly benefit society in the Western Cape," said Samuels.

iKaya's school principal, Thandi Gxekwa, as a school in a very poor community, she is immensely grateful for this initiative. "You have made our lives easier and I believe we will see a lot of improvements in the school, even in our curriculum."

Media enquiries

Petro Mostert

[petromostert@sun.ac.za](mailto:petromostert@sun.ac.za)

Mobile 0823346193

## AFRIKAANSE WEERGAWE

iKaya Primêre skool skakel sy sonpalene-selsel aan: Minister vra vir 'n skaalbare oplossing vir die Wes-Kaap se 1 542 skole.

Stellenbosch se iKaya Primêre Skool in Kayamandi het Woensdag (27 September 2023) die tweede skool op die dorp geword wat voordeel gaan trek uit groen inisiatiewe van die Wes-Kaapse Departement van Onderwys (DHED), die Universiteit Stellenbosch (US). se sosiale impak-afdeling, en ander vennote, nadat hulle hul nuwe fotovoltaïese sonpaneelstelsel (PV) aangeskakel het. Die stelsel stel die administratiewe vleuel van die skool in staat om naatloos van die Eskom-netwerk oor te skakel tydens beurtkrag. Hierdie skool is deel van die projek waar skole toegerus word kragbesparende ligte en ander herwinbare energiebronne. iKaya sal danksy hierdie toerusting voortaan R30 000 per jaar op hul elektrisiteitsrekening kan bespaar.

David Maynier, die Wes-Kaapse LUR vir onderwys, het tydens die feesvieringe gesê die uitdaging nou is om 'n skaalbare oplossing vir die provinsie se 1 542 openbare skole te vind waar soortgelyke oplossings vir elektrisiteitsbesparing en doeltreffendheid geïnstalleer kan word. "As ons kyk na die vooruitsigte oor die volgende drie tot vyf jaar, weet ons dat beurtkrag hier is om te bly, en dit is 'n beduidende ontwrigting in die skoolomgewing. Ek wil dus graag die uitdaging daarstel en vra dat ons hierdie vennootskap vorentoe sa; neem en saam optimale oplossings sal vind wat 'n verskil in die lewens van ons leerders sal maak, soos ons vandag hier by iKaya Primêr gedoen het."

Die US se Fakulteit Ingenieurswese en sy Departement van Sosiale Impak, in vennootskap met die Wes-Kaapse Onderwysdepartement, het hierdie inisiatief in 2017 begin om die loodsing van IoT-energiebestuur en beligtingsdoeltreffendheid by 75 geen-fooi skole in die Wes-Kaap te befonds. Hierdeur help hulle skole om op hul elektrisiteitsrekeninge te spaar deur slim meters te installeer om verbruik te monitor en die skole met energiebesparende beligting toe te rus.

Prof Thinus Booysen, voorsitter van die Internet van Dinge by die US se Departement Ingenieurswese, was instrumenteel in hierdie projek. Hy het gesê is 'n groot voorreg vir die Universiteit om 'n verskil te help maak in skole en gemeenskappe wat finansieël swaar kry. "Ons weet dat nie alle skole dieselfde omstandighede het nie, daarom probeer ons 'n verskil maak met hierdie projek en installeer ons - met die hulp van vennote - PV om te help om die belangrikste ligte aan te hou sodat die skole kan funksioneer."

Die eerste skool wat by hierdie projek gebaat het, was die Laerskool Cloeteville - bekend as die Groen Skool - wat 'n 7.5kW FV-stelsel ontvang het. Die skool wek

ongeveer 14MWh (14 000 eenhede) elektrisiteit per jaar op en ontnem jaarliks byna 13 ton CO<sub>2</sub> uit die atmosfeer, terwyl hulle R20 000 per jaar spaar en boonop elektrisiteit aan die netwerk terugverkoop. Die Groen Skool het ook die land se eerste skool en tweede gebou geword wat 'n Energieprestasiesertifikaat (EPC) ontvang het. Cloeteville Primêr se energiestelsel gaan nou opgradeer word na 'n hibriede stelsel met 'n hibriede omskakelaar en batterye. Volgende aan die beurt is Cloeteville Sekondêre Skool wat toegerus sal word met energiebesparende stelsels as deel van die US se sosiale impakprogram. Van hulle kant af sal die WKOD soortgelyke programme na nog sewe skole in die Wes-Kaapstreek uitrol.

Dr Leslie van Rooi, Senior Direkteur Sosiale Impak en Transformasie aan die US, het gesê die Universiteit het net meer as R1 miljoen tot hierdie projek bygedra. "Ons doen dit omdat ons glo in die moontlikhede van ons plaaslike skole en omdat ons weet dat samewerking, ondersteuning en onderrig fundamenteel is vir die US en ons dorp. Die Universiteit is baie dankbaar dat ons op hierdie manier hande kan vat. Ons sien daarna uit om die vennootskap met die WKOD en ander belanghebbendes verder te neem sodat ons seker kan maak dat ons die lewens en toekoms van ons kinders verbeter."

"Beurtkrag en die koste van elektrisiteit het 'n verwoestende impak op ons ekonomie," sê Booyesen. "Die koste is nie beperk tot besighede nie, maar dit het 'n direkte impak op wat ons beskou die reddingsboei van ons jong demokrasie is: naamlik ons skole. Ons is ongelooflik bevoorreg om die ondersteuning van die US se Departement Sosiale Impak te hê om werklik verandering te bewerkstellig by die skole wat dit die nodigste het. Hierdie ingryping by noodsaaklike skole sal hul maandelikse elektrisiteitsuitgawes aansienlik verminder, hul koolstofvoetspoor verminder en noodsaaklike dienste gedurende beurtkrag aan die gang hou. Boonop sal hulle las op ons verswakte netwerk onmiddellik verminder tot voordeel van ons almal."

Jason Samuels, van Departement Bedryfsingenieurswese aan die US, het onlangs sy Ph.D. onder die toesig van prof Booyesen gedoen. Hy en sy span van die US afwentelmaatskappy GreenX, wat pro-bono vir die US aan hierdie projek werk, het die afgelope twee jaar baie kilometers afgelê om uitgebreide energie-oudits by verskeie skole te doen om vas te stel hoe hulle met energiebesparende ligte en meters skole kan help om hul gebruik te meet en te bestuur. Hulle oplossing leen hom uit tot skaalbaarheid terwyl elke skool se individuele lasprofiel teen 'n lae koste ingesluit kan word. Die span was verantwoordelik vir die sonpaneelinstallasie by die Laerskool iKaya wat hulle in staat sal stel om R30 000 per jaar op hul energierekening te bespaar.

"Ons werk nou al meer as twee jaar met skole regoor die Wes-Kaap en ons verstaan die uitdagings. Ons het ook 'n koste-doeltreffende oplossing geskep wat vir elke

skool kan werk. Ek en my span, tesame met die ondersteuning van die WKOD en US, is gereed om die uitdaging aan te pak om hierdie projek na al die skole in die provinsie uit te rol. Ons nooi skole uit om met ons in aanraking te kom om hul onderskeie energiebesparende projekte te begin. Ons sal ook op die uitkyk wees vir private vennote om ons te ondersteun in hierdie poging wat die samelewing in die Wes-Kaap grootliks sal bevoordeel,” het Samuels gesê.

iKaya se skoolhoof, Thandi Gxekwa, sê as 'n skool in 'n baie arm gemeenskap, is sy baie dankbaar vir hierdie inisiatief. “Julle het ons lewens makliker gemaak en ek glo ons sal baie verbeterings in die skool sien, selfs in ons kurrikulum.”

Media navrae  
Petro Mostert  
petromostert@sun.ac.za  
Selfoon 0823346193