



SAKHISISWE

(Building the Nation)

EDITION 1

RENEWABLE ENERGY UPLIFTING THE NATION

Renewable energy is a real success story in South Africa with a promise of an even brighter future. This is evident from the significant success of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), introduced by the South African government in 2011.



*“Sometimes it falls upon a
generation to be great.
You can be that generation.
Let your greatness blossom”*

Nelson Mandela



FOREWORD

WORKING TOWARDS BUILDING A BRIGHTER FUTURE THROUGH RENEWABLE ENERGY!



The success of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) is due to its remarkable socio-economic development programmes. The Independent Power Producers (IPPs) are companies contracted to develop renewable energy facilities across South Africa.

These companies contribute immensely to the social economic development of local communities by implementing Enterprise Development (ED) and Socio-Economic Development (SED) projects to support development and upliftment within local communities.

Some plants operate in the poorest areas, far from the cities. It is thanks to REIPPPP that lives have been radically changed and communities across the country have been uplifted by the benevolence and concern shown by the IPPs.

People's lives are being changed and new hope for the future is instilled in many areas.

Enterprise development brings prosperity to young entrepreneurs. Where there was despair, there is now hope, as communities and towns are given second chances and new opportunities.

From renovating crèches and old age

homes, to schools receiving computer labs, the installation of air-conditioning in areas with extreme heat, and the supply of Maths & Science teachers, the total impact of the contributions is staggering and there will be more to come.

REIPPPP owes it to itself to tell its 'good news stories' to South Africa through the eyes of the beneficiaries. In this publication you will be taken through a journey of the successes of ED & SED projects implemented in the country through our programme.

IPPs no longer view the implementation of these initiatives as obligations but as having a 'personal relationship' with the communities they operate in.

From myself and the team at the IPP office, we pride ourselves on the changes that REIPPPP has made in the lives of ordinary South Africans.

I hope the stories told in this publication inspire nation building and encourage us to commit towards radical economic and social development in our beautiful South Africa. Happy Reading!

Karén Breytenbach - Head of the IPP Office

WHAT IS RENEWABLE ENERGY?





Energy is the source of life. Everyone requires energy services to meet basic human needs such as lighting, cooking, a comfortable environment, mobility, and communication for easy living and survival.

Renewable energy is energy that is generated from natural processes that are continuously replenished. This

includes sunlight, geothermal heat, wind, tides, water, and various forms of biomass. This energy cannot be exhausted and is constantly renewed.

There are six commonly used sources of renewable energy in South Africa namely; Solar Photovoltaic, Concentrated Solar, Biomass, Hydro-Power, Landfill Gas, and Wind Energy.





SOLAR PHOTOVOLTAIC (PV)

Harnesses heat directly from the sun to produce energy for generation of electricity, thereby heating and lighting both homes and commercial buildings

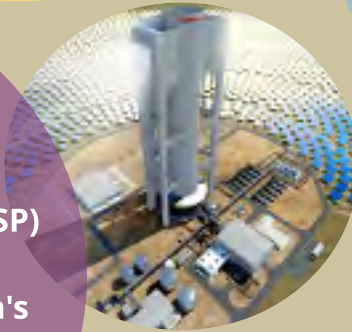


WIND ENERGY

Wind energy describes the process by which wind is used to generate electricity. Wind turbines convert the kinetic energy in the wind into mechanical power. A generator then converts mechanical power into electricity

CONCENTRATED SOLAR

Concentrated Solar Power (CSP) technology uses mirrors to concentrate or focus the sun's light energy and convert it into heat. This then creates steam to drive a turbine that generates electrical power



BIOMASS ENERGY

This is energy from plants. It comes from direct-firing power plants. Organic matter that constitutes plants is referred to as biomass, which can be utilized to generate electricity



LANDFILL GAS

This is energy generated from decomposing of municipal wastage/garbage in order to produce electricity, heat, fuels and various chemical compounds

HYDRO-POWER

Utilises moving water to produce electricity. Moving water creates high energy that can be harnessed and turned into power



**"THE FUTURE IS GREEN
ENERGY, SUSTAINABILITY,
RENEWABLE ENERGY."**

ARNOLD SCHWARZENEGGER

Former US Senator and Actor

DID YOU KNOW?

*reduces
air
pollution*

*diversifies
the power
supply*

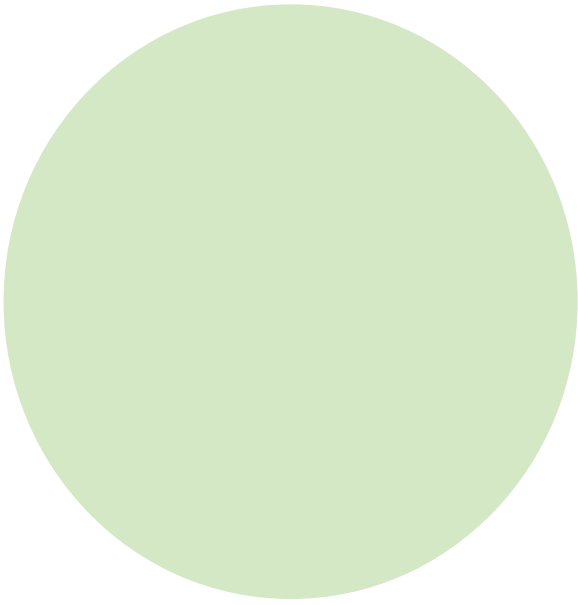
*creates
jobs and
industries*

RENEWABLE ENERGY

*decreases
dependence
on coal*

*moves South
Africa towards
a cleaner,
healthier
energy future*

*cuts global
warming
emissions*



RENEWABLE ENERGY SOUTH AFRICA



- 1998 – the ANC Government produces a White Paper on Energy – proposing 30% of national supply to come from the private sector (renewables).
- 2007 – Government commits to the delivery of 10 000 megawatts (MW) of Renewable Energy by 2013.
- 2009 – President Jacob Zuma commits at COP 15 in Copenhagen, that South Africa would introduce renewables into its energy mix and reduce carbon emissions by 42% by 2025.
- 2010 – Ompi Aphane and Karén Breytenbach launch the Independent Power Producer Office in Gallagher Estate, Johannesburg.
- 2017 – the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) has to date launched **112** renewable energy projects, adding approximately **6422MW** to the national grid, resulting in an investment of **R202 billion** in the South African economy.

THE Renewable Energy sector is among the most innovative and successful worldwide, increasing its renewable energy generation from 6.3% to about 34% in 2016

GERMANY

SPAIN

ONE of the world's leaders in wind power generation and turbine manufacturing. It has set the target of generating 20% of all its energy needs from renewable energy by 2020

ITALY

THE highest contribution from solar energy in the world. Since 2014 Italy produced 40% of its electricity demand from renewable energy

CHINA

LEADS the world in renewable energy generation. It is estimated that with the decline of nuclear energy, China will produce 50% of its energy from renewables by 2050

JAPAN

CURRENTLY produces about 10% of its energy from renewable sources and will increase this to 24% by 2030

INDIA

THE first country to set up the Ministry of New and Renewable Energy in 1980, and it intends to achieve 40% of its total electrical capacity from renewables by 2030

INTERNATIONAL FOOTPRINT

Socio-Economic Development (SED) is one of the commendable features of the REIPPP Programme. Companies have agreed to spend a percentage of their turnover on community development projects. Many projects are in the poorest areas of our country and the impact of socio-economic development in these areas is phenomenal. The beneficiaries often say that “they had nothing until the projects came to their towns”!

The following are some of the stories told by the beneficiaries of the REIPPP Programme from the Socio-Economic Development and Enterprise Development point of view.

SOCIO- ECONOMIC DEVELOPMENT

EDUCATION

KOUGA WIND FARM

Solar Powered Computer Lab Donated to Sandwater Primary School



Education plays an integral part in providing us with knowledge to improve social and mental wellbeing, develop personality and improve skills level. In their efforts to contribute towards the quality of education in the community they operate in, the Kouga Wind Farm equipped Sandwater Primary School with a solar powered computer lab. The school, which started by conducting its lessons in a community hall, owes part of its existence to the Wind Farm which also donated school furniture to them. Based in the rural community of Umzamowethu in the Eastern Cape, the children have no exposure to the modern world and living, however having a computer lab at school allows them to have access to the global space. They now have an opportunity to

learn amongst others, basic computer skills, Introduction to the internet and do school projects online. What is more interesting for the learners is that the donated computer lab operates through solar energy, which helps them understand how renewable energy works.



"The skills they learn each day in the computer lab will help them to choose their career fields and shape their future" said the IT teacher Ms Van Rooyen.

OUR LITTLE HEARTS SAY

"Thank You"

The Sublunary Trading Company (STC) has played a major role in the development of little minds, by providing tremendous support to the Ubunye Day Care Centre in Upington.

As part of its social upliftment programme, the company has provided support to the day care centre, by donating three air conditioned containers converted into classrooms. They have also provided the centre with jungle gyms, erected a palisade fence, donated tables and chairs, and various other items of furniture. In addition,

they provided a computer, stationery and a library to enrich the little minds.

The joy on the boys and girls little faces speaks louder than words. Learning, reading and climbing on jungle gyms is a big part of development in toddlers - helping to develop fine motor skills, reading, and the very important ability to interact and socialise with other children.

Amazing work
Sublunary!!

The Ubunye Day

care Centre in Upington

The Sublunary Trading Company (STC)
has constructed a solar plant at the

UPINGTON AIRPORT

which adds 9MW to the national
electricity grid.

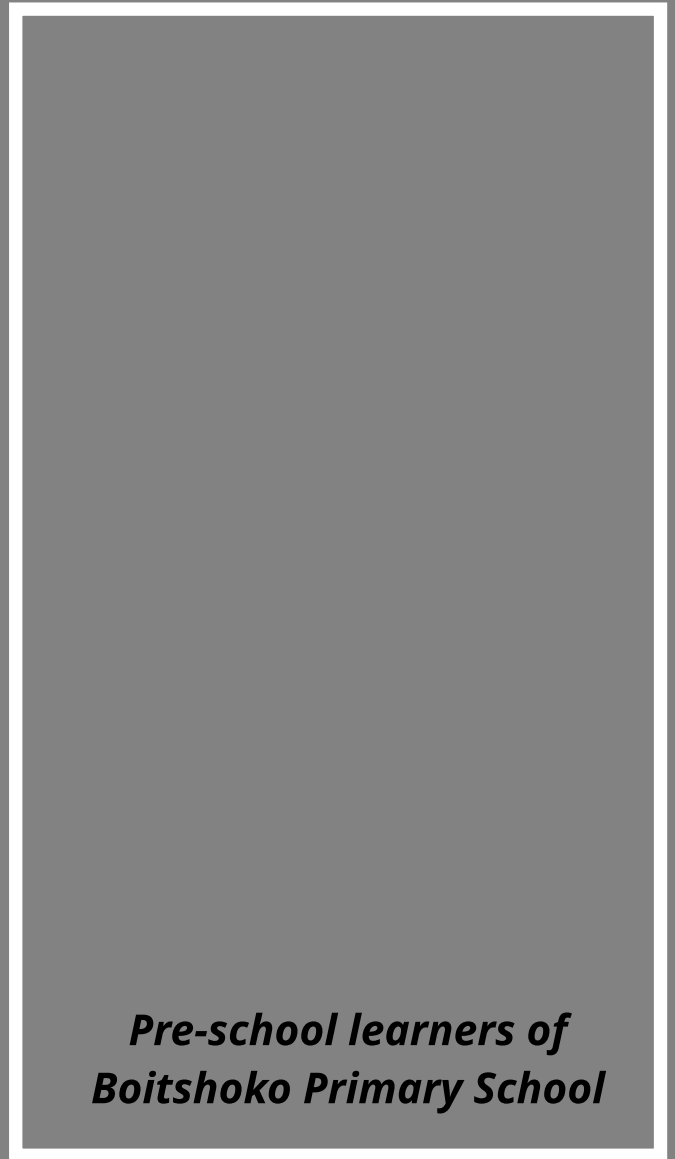
THE FUTURE BELONGS TO THEM



With 146 children (ages 5 to 6), and space for only 80, Boitshoko Pre-School faced an impossible task in providing the necessary education for these young minds.

Fortunately, Lesedi Power Project, situated in Groenwater just outside Postmasburg, came to their rescue. They renovated the buildings and provided more classrooms and office space. This has created much needed space, and has given Boitshoko Pre-School the opportunity to invite more children to join in the fun of learning.

The Principal of Boitshoko, Alette Grootboom, says, "This marks the beginning of a new chapter for the pre-school and the community, because with the additional two classes, we are able to accept more kids from the community." She [Grootboom] continues to express her joy and gratitude to Lesedi Power Project for all the work they have done to better the



***Pre-school learners of
Boitshoko Primary School***

conditions of the children of Boitshoko.

Lesedi Power Project

adds 64MW of power to the national electricity grid. It uses photovoltaic panels to harness solar power. Lesedi now feeds the South African electricity grid with about 140 GWH per annum of clean energy, enough to power approximately 65 000 South African homes.

ONE TOUCH TO CHANGE THE FUTURE



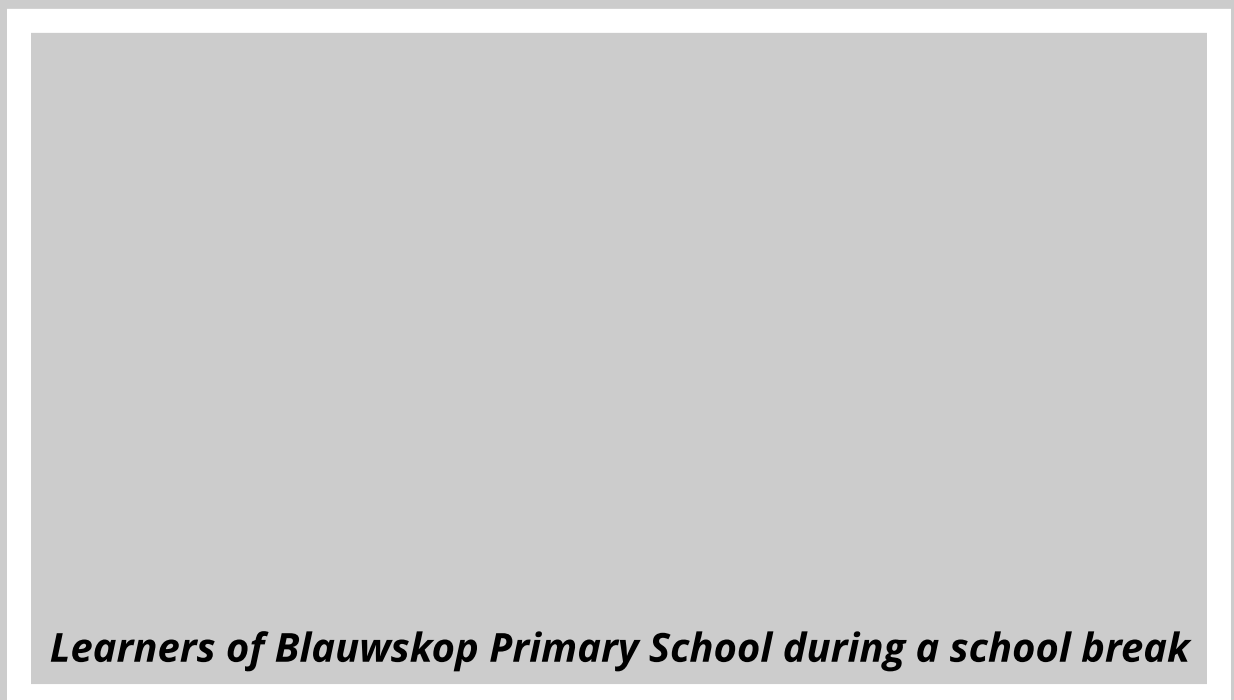
Khi Solar One

*"Air conditioning in Upington is
a necessity and not a luxury",
Mr Roelof van Breda, Teacher*

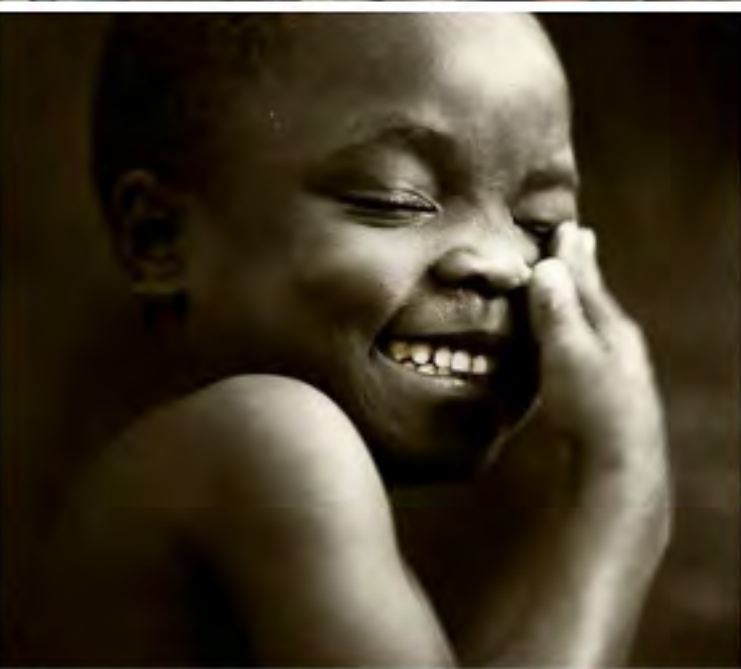
**NOW SCHOOL
IS COOL!!!**

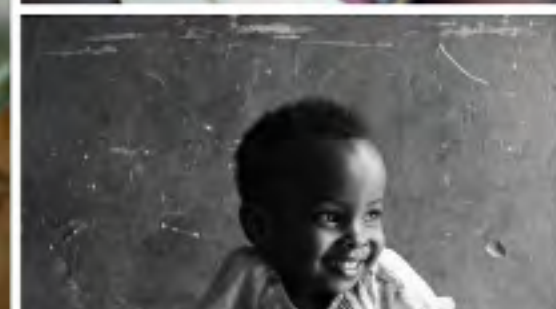
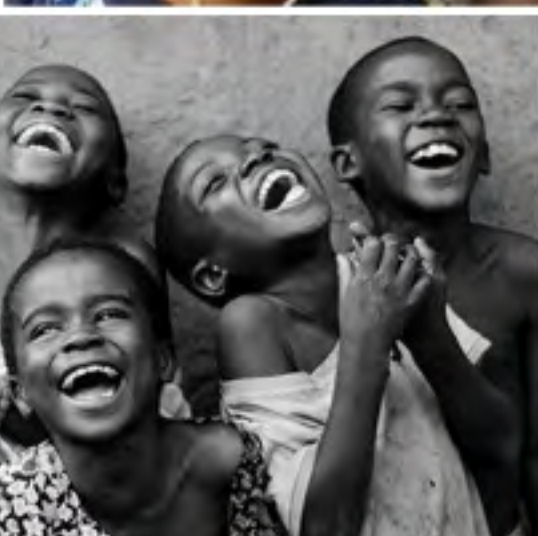


*Learners of Blauwskop Primary School outside an
air-conditioned classroom*



Learners of Blauwskop Primary School during a school break





Aries Solar PV

Energy Facility came to the rural school's rescue through their socio-economic development programme. They sourced a Science teacher for the school through the Teach SA initiative. The teacher, Ms Lerato Rabapane, who commenced teaching in 2015, hails from Gauteng province and says that it is her passion for teaching that made her relocate to a small town such as Kenhardt.

The emotional teacher shared how amazing it is to see children from disadvantaged families excel in their studies with so much enthusiasm. She, herself is thankful to Aries Solar for giving her the opportunity to change young people's lives through education.

Aries Solar Energy further assisted the school with a Mathematics teacher. Mr Eric Cloete, is a former learner of Kenhardt High School who is able to provide for his family and give back to the community by teaching Mathematics at his former school.

**DOCTORS IN
THE MAKING**

@

**KENHARDT
HIGH**

*Science Teacher, Ms Lerato
Rabapane with her proud learners*

*Grade 11 learners enjoying their
Science lesson*

The Aries Solar PV

Energy Facility, with an installed capacity of 10.65MW, is located on a 20-hectare site approximately 36km southwest of Kenhardt, in the Northern Cape Province. The Project was constructed over a nine month period and commenced operations in 2014.

Children from a disadvantaged

community 50km outside Port Elizabeth, are given a chance to learn about tennis, a sport many did not have knowledge of.

Grassridge Wind Farm supported the **Advantages Tennis Academy** by teaching the children of New Brighton how to play the game of tennis. This has now become a 'big thing' in the community, where parents come out on weekends to see their children play.

The sport has given the children confidence to compete in the provincial tournaments and some of them are in the national tennis database.

Grassridge Wind Farm has done immense social development work within the areas of Nelson Mandela Bay Municipality and are continuously changing the lives of many through job creation, education, sports development, and nutrition programmes.

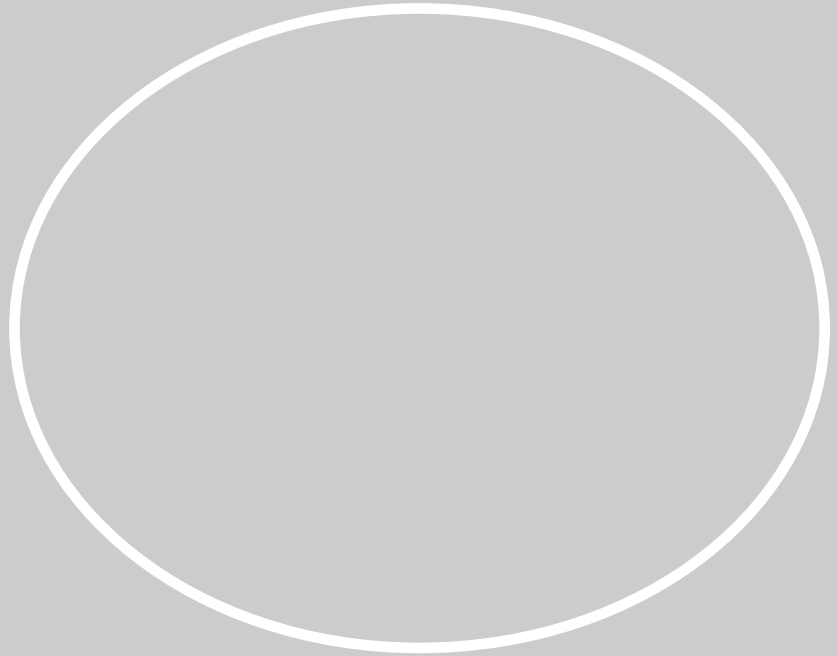
The Wind Farm intends to build a long lasting relationship with the communities.



The youngest tennis players at Advantages Tennis



GAME, SET and MATCH



Advantages Tennis Academy players with their coach



Grassridge Wind Farm is

located in the Nelson Mandela Bay Municipality with about 20 wind turbines and contributes 61.5MW to the national grid.

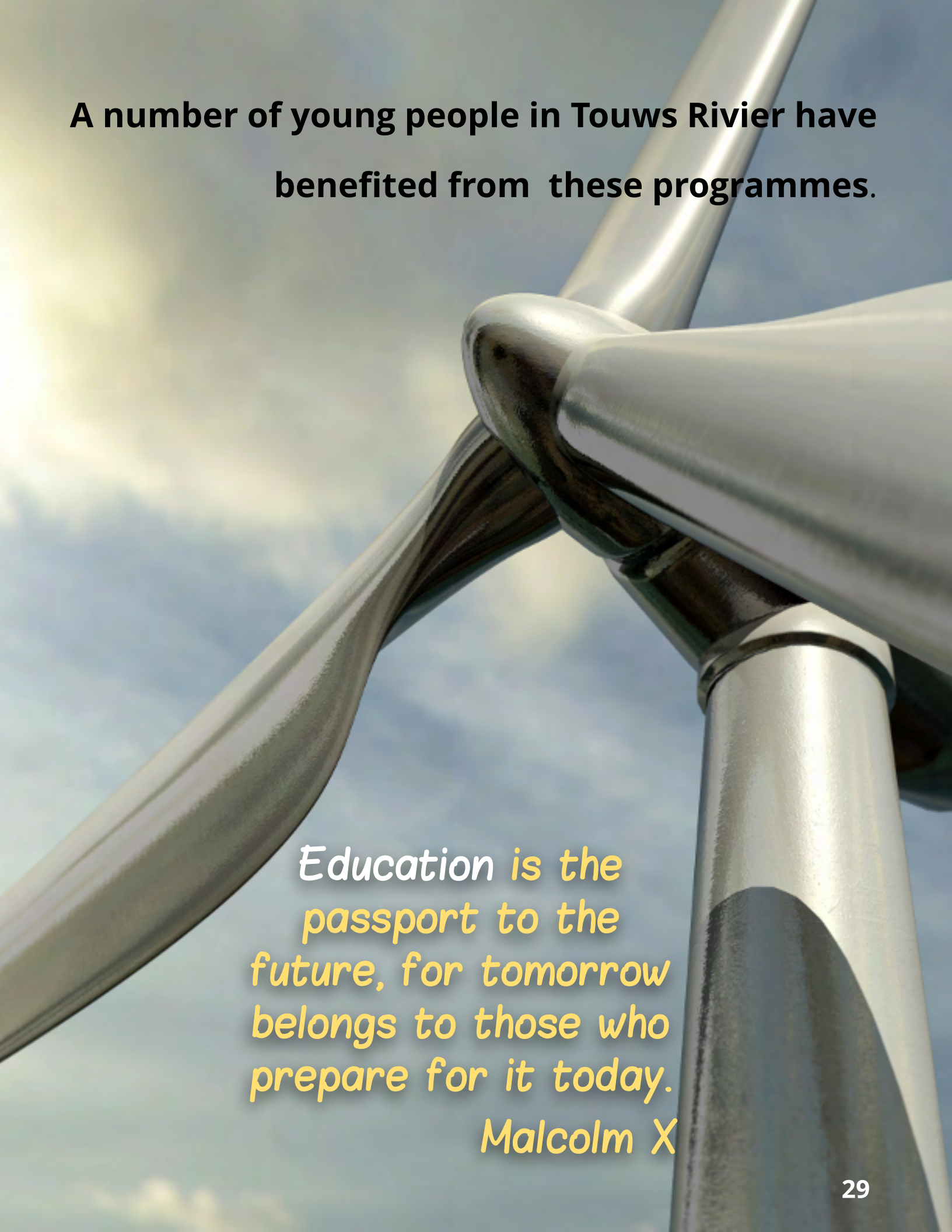
TOUWS RIVIER WIND FARM

ENRICHING YOUNG MINDS



Touws Rivier is a small rural town in the Western Cape with little prospects. Unemployment and hopelessness are the order of the day. The town also suffers from all the social ills that are found everywhere. Poorly educated and without skills, they have little to motivate them. Regan Kanie and Zubair Smith are two lucky learners who both received bursaries from the Touws Rivier Wind Farm to study electrical engineering. The Touws Rivier Wind Farm is trying hard to change the lives of the community members. They have implemented various projects to uplift the lives of the residents and have given them a chance at success. As part of their Enterprise

Development Programme, the wind farm has introduced a programme called Enterprise Starter Pack which aims to support the development of new, youth owned businesses in the community. The hopeful entrepreneurs learn basic business skills and introduction to business management. 'Experience Works' is one the Wind Farm's successful programmes, which is a working experience programme designed to provide young people with opportunities to increase their employability. They said that this has opened many doors for them.



A number of young people in Touws Rivier have benefited from these programmes.

*Education is the
passport to the
future, for tomorrow
belongs to those who
prepare for it today.
Malcolm X*

The bursary that changed the life of a young aspiring teacher

Rashida Le Roux's dream of a career in teaching almost never came true because of financial constraints her single parent suffered. The 28 year old from Kakamas in the Northern Cape is now getting a chance at tertiary education in a field she is passionate about, which is teaching.

She is currently in her second year of the National Teaching Diploma at an institution in Upington, where her fees and expenses are fully covered by the Kakamas Hydro Electric Power (KHEP).



Rashida Le Roux a 2nd year education student from Kakamas

"I always dreamt of working as a teacher in one of our local primary schools because giving back to my community is my primary goal and I owe everything to KHEP."

Kakamas Hydro Electric Power

project is a run off river power station that uses the natural flow and drop in elevation of a river to produce electricity. KHEP generates 10MW of electrical energy, enough to provide power to approximately 5 000 households.



GOUDA WIND FARM GIVES SMALL BUSINESSES OPPORTUNITIES



The Gouda wind farm, with its Enterprise Development Programme, has assisted young aspiring entrepreneurs in Gouda with business and skills development training. After the training they were assisted with funding to start up their own businesses.

HEALTH

ABILITY: CHANGING LIVES BY EMPOWERING PERSONS WITH DISABILITIES

The Association for Persons with Disabilities in Nelson Mandela Bay, is a non-profit organisation established to promote the advancement of persons with disabilities.

The Association enables them to attain their maximum level of independence and integration into the community and to take their rightful place in society. Their vision is to make Nelson Mandela Bay a disability friendly metro in South Africa.

The Ability Workwear centre provides basic and advanced sewing and garment manufacturing skills training to persons with disabilities.

The Ability Industrial Work Centre provides training and income generating skills for people with disabilities in an accommodating environment.

The Ability Recruitment Centre is responsible for finding employment for suitably qualified persons with disabilities in the labour market.



Employees of the Ability Centre hard at work

Grassridge Wind Farm

in Port Elizabeth has been instrumental in supporting this Centre. They have provided sewing and other related machinery to the Centre and have helped increase the production capacity of the Centre.

The Siyanceda Home Based Care Centre provides health care support to the sick in Bedford, a small community just a few kilometres outside Cookhouse in the Eastern Cape. They attend to terminally ill patients, orphans, and vulnerable children by visiting their homes daily to address their health needs.

With the support from Cookhouse Wind Farm, the employees were able to undergo introductory training on Community Home Based Care, which helped them learn about the basics of health care giving.

Today the Centre cares for more than 300 patients in the community.

The Centre is appreciative of the constant support they receive from the Wind Farm.



"Our biggest fear is to see our loved ones suffer".



COOKHOUSE WIND FARM SUPPORTS THE SIYANCEDA HOME BASED CARE CENTRE

*"The best way to
find yourself is to
lose yourself in the
service of others."*

Mahatma Gandhi

A FULL TIME DOCTOR FOR THE RESIDENTS OF GROBLERSHOOP

The lives of many residents in Groblershoop will never be the same. This is after Bokpoort Concentrated Solar Power (CSP) plant intervened in a long standing healthcare issue in the area. The CSP plant which is situated in Groblershoop ensured that the residents get a full time doctor, who is now based in the area. This came after residents had to drive close to 50km to see a doctor, resulting in so many unnecessary tragedies.

The residents now have access to the doctor and have been supplied with a bus service which transports the patients to the clinic.

Bokpoort CSP has built a good relationship with the community of Groblershoop and they intend to ensure that their healthcare needs are met.

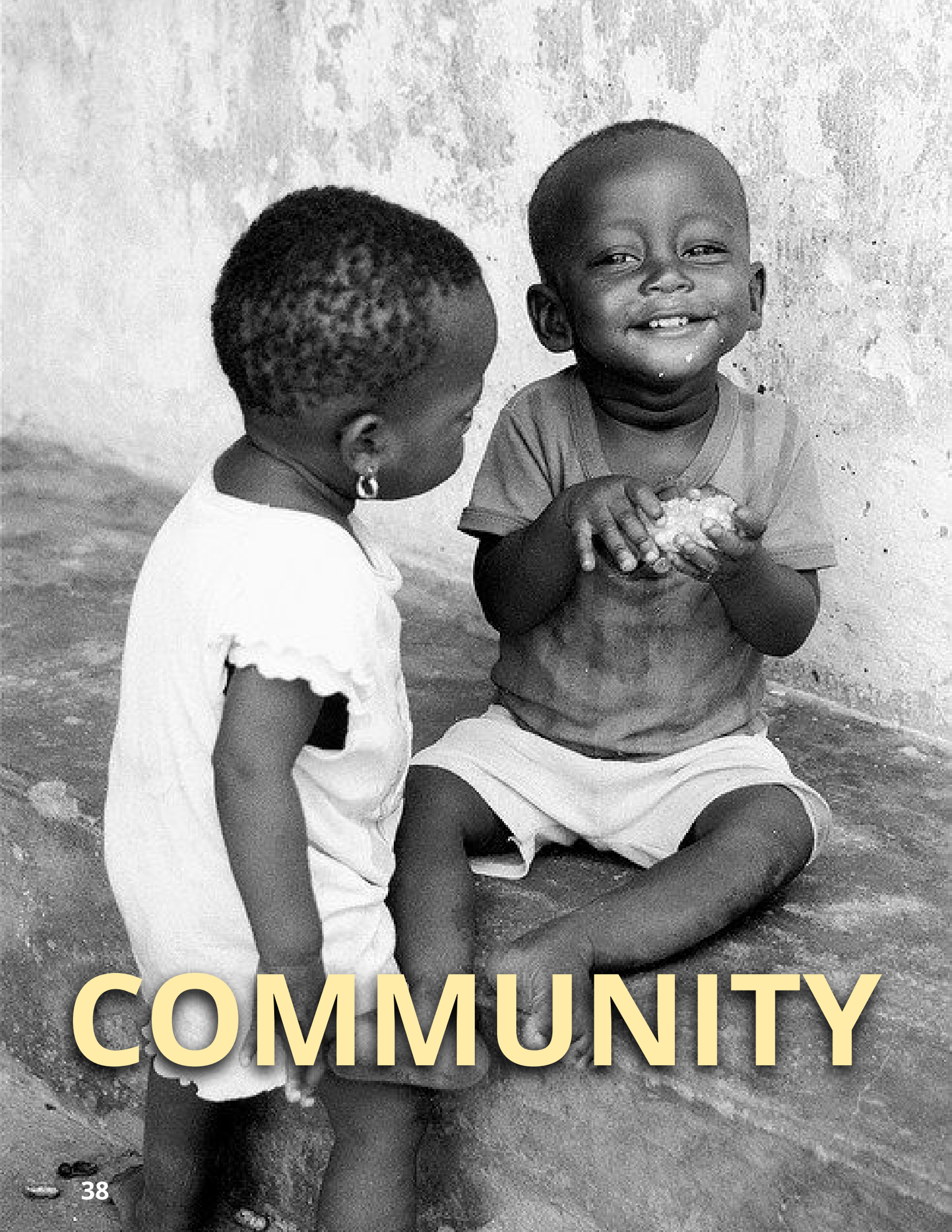


"Bokpoort CSP saved us – now we have our own doctor"

BOKPOORT CONCENTRATED SOLAR POWER



is a concentrated solar power thermal energy power plant, located near Groblershoop in the Northern Cape province of South Africa. It has a capacity of 50MW. It covers an area of less than 300 hectares.



COMMUNITY

TACKLING UNEMPLOYMENT HEAD ON



***A hopeful jobseeker
handing over his CV***

Apart from generating clean sustainable energy, the Jasper Solar Power Plant also promotes economic development and helps in job creation.

With unemployment posing a great threat in South Africa, the plant saw the need to create a Labour Desk Office which provides a platform where young hopeful

jobseekers can submit their CVs. The aim is to connect the jobseekers with potential employers searching for people to employ. This office has achieved much success in securing employment for many of the residents and owes its success to the support from the Jasper Project. Jasper Solar provided computers, office furniture, equipment and specialist advice to convert this office into a winning formula. The Mayor of the district, Ms Daniels, who is also Chairperson of the Labour Desk, ascribes the success of the office to the generosity of the Jasper Solar Plant.

Jasper Solar Power Plant

situated in Postmasburg, generates 75MW of clean, renewable energy that is sufficient to power more than 80,000 homes in South Africa and is expected to offset 145,891t of carbon dioxide every year from the atmosphere.

JEFFREYS BAY

WIND FARM

UPLIFTING THE FARMING COMMUNITY OF KRUISFONTEIN



The whirring blades of the massive wind towers enthrall all who visit the windy and beautiful town of Jeffreys Bay in the Eastern Cape. Each tower is almost 100 metres high and holds three blades that measure 45 metres each. The wind turns the blades to produce 138MW of electricity that is added to the national grid. The Jeffreys Bay Wind Farm also provides amazing assistance to the local farming community of Kruisfontein.



*Beneficiaries of the Jeffreys
Bay Farmers Project*

Jeffreys Bay Wind Farm

provides professional advice and amazing assistance to the farmers of Kruisfontein. They brought in expensive stud bulls from elsewhere to improve the future cattle stock of the local farmers and have developed a dipping pool to remove ticks and other organisms from the animals. They also provide much needed feed and water for the cattle in this drought-stricken area. The Wind Farm also assisted other farmers by providing a tractor for ploughing and other work on the farms. These small scale farmers

appreciate this, as until then, they had used donkeys and manual labour to plough the fields.

Another project undertaken by the wind farm is to uplift the local poor farm worker communities in the introduction of bee-keeping. This was something new for the farmers, but they have learnt quickly and the Wind Farm had to arrange a buyer for all the honey produced in the area.

Sweet, J/Bay Wind Farm, sweet!!!

A play home for the golden oldies



The **Rethuseng**

House for the

Aged speaks volumes

about the help they

received from **Lesedi**

Solar Power Project.

The project assisted

the aged with a two

room mobile air

conditioned container,

which serves as a

meeting place. The

elderly can now come together and gather at the Centre, to do

handwork activities such as sewing, beading, etc.

These young at heart oldies always look forward to the opportunity

of entering the Annual Golden Games competitions. These are

physical games such as soccer and running. They shared how

fulfilling it is to participate in the games as they get to interact with

other senior citizens from neighbouring areas.



*The golden oldies of
Rethuseng Home for the
Aged*



*Growing old is
mandatory,
But growing up is
optional.*

Walt Disney



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SOUTH AFRICA





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