

Stresses / Shocks



Poverty



Unemployment



Robust city

Qualities of a resilient city



Inclusive city



Integrated city

RESILIENT CAPE TOWN PILLARS

PILLAR 1:
People
 Compassionate,
 holistically healthy city

PILLAR 2:
Place & Space
 Connected, climate
 adaptive city

PILLAR 3:
Economy
 Capable, job
 creating city

PILLAR 4:
Disaster readiness
 Collectively,
 shock-ready city

PILLAR 5:
Governance
 Collaborative,
 forward-looking city

Atlantis Renewable Energy Challenge: Building resilient youth in Atlantis, South Africa



Purpose

This case study describes the work of the Atlantis Renewable Energy Competition (AREC), an annual interschools competition for junior and high school students in Atlantis, a town within the City of Cape Town Metropolitan Municipality in the Western Cape, South Africa (SA).

The competition **builds resilience among youth**, through an innovative approach of a non-curriculum based **inter-school competition**. By exposing the learners to the **green economy**, and more specifically the **renewable energy** sector, it also seeks

to **inspire them to tap into local and other employment opportunities in the future.**

The case study discusses:

- the **employment challenges for young people** in Atlantis and South Africa;
- the **establishment of the Atlantis Special Economic Zone** for green technologies, and its job creation and poverty reduction potential;
- the importance of programmes such as the AREC in the **development of education and skills in order to build resilience** to unemployment; and

- the importance of partnerships and networks to support local livelihoods and employment, and promote cohesive, engaged and resilient communities who are able to survive, adapt and thrive in the face of change.

It is written for:

- **cities and regions** focused on **local skills development**; and
- **funders and other organisations** that could support and **replicate such programmes.**

This case study is part of a series highlighting how Cape Town is building resilience in order to: **SURVIVE | ADAPT | THRIVE**

Cape Town’s Resilience Strategy is a commitment to ensure that the City thrives in the future regardless of what shocks and stresses it faces. Resilient Cape Town offers a roadmap for a 21st Century metropolis to enable the city to become more resilient to growing physical, social and economic challenges. It envisions Cape Town as a **compassionate, connected, and capable** city where Capetonians **collaborate** across households, communities and institutions, to build **collective** responses to the current and future social, environmental and economic challenges.





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KEY INSIGHTS

The Atlantis Renewable Energy Challenge builds resilience by:

- ✓ Inspiring learners through creativity, innovation and competition.
- ✓ Creating awareness of, and interest in, the opportunities in the renewable energy sector both for future careers and to transform communities.
- ✓ Collaborating with local schools to achieve a resilient youth

Key lessons learned include the importance of:

- ✓ Effective learning is promoted by enabling and inspiring the youth to tap into their own creativity.
- ✓ Learning through doing and failing.
- ✓ Skills development programmes must cater to learners of all disciplines (arts, engineering etc.).
- ✓ In impoverished communities programmes that do not require substantial resources are more successful & inclusive.
- ✓ Flexibility and adaptability to address local and unique challenges.

Background

The link between education and unemployment

Unemployment is a key issue across SA with 27.5% of the national potential workforce being unemployed¹.

Education is a critical foundation for employment, given that the less educated are statistically more likely to be unemployed.

Of those unemployed in 2018:

- 2% were graduates
- 35% had a matric qualification
- >50% had less than a matric qualification²

This is challenging in the current context. SA youth face many obstacles that perpetuate disadvantage. Poor school results and low awareness of post-school opportunities make them vulnerable in the labour market and lead to high numbers of unemployed youth. The current national youth unemployment rate is 39%, over 10% above the national average, and almost one in

three are not employed or part of the education and training system.

Atlantis

These challenges are highlighted when looking at Atlantis, situated approximately 40 km north of the Cape Town central business district.

The 2011 census indicated an unemployment rate of 26.6% and only 32% of residents 20 years or older had completed high school (matric) or a form of higher education.

The Atlantis Special Economic Zone (ASEZ), a greentech manufacturing hub officially designated in June 2018 and launched by the President in December 2018, is expected to provide a major boost to efforts to regenerate the area and will prioritise the Atlantis community in terms of employment and SMME opportunities.

However, for the youth of Atlantis to be enabled to utilise these opportunities, there needs to be a proactive focus on skills development, and local enterprise development.

Atlantis, 40km north of the Cape Town CBD, was previously a major manufacturing hub for textiles, but this sector was negatively affected by trade liberalisation, resulting in thousands of job losses in the area.

The Atlantis Special Economic Zone is therefore an important project for uplifting the Atlantis community, building on an existing skills base and strong local infrastructure.

It has the potential to create 1200 direct jobs by 2022. Importantly this project must ensure shared benefits for the community of Atlantis.

City of Cape Town Resilience Strategy



¹ In South Africa, matriculation (or matric) is a term commonly used to refer to the final year of high school and the qualification received on graduating from high school.

² Taken from StatsSA Quarterly Labour Force Survey for Quarter 3, 2018

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What is resilience?

In human terms, resilience refers to “the ability of an individual to recover from setbacks, adapt well to change and to keep going even when facing difficult circumstances”.

Chronic stresses weaken the fabric of a city on a day-to-day or cyclical basis, for example, high unemployment, inadequate public transport systems, endemic violence, food insecurity and substance abuse. **Acute shocks** are sudden sharp events that threaten a city, for example, drought, fires, floods, diseases outbreaks and infrastructure failure.

Building resilience to shocks and stresses matters because disruptions or disasters of any sort, whether regional or distinctly local in scope, short or long in time scale, can be costly to those they impact. They can result in the loss of livelihoods, they can severely impact citizens’ mental health, they can result in injuries and death, and they can drive apart communities.

A resilient Cape Town is a compassionate, connected, and capable city, where Capetonians collaborate across households, communities and institutions, to build collective responses to the current and future social, environmental and economic challenges.

PILLAR 3

Cape Town is a capable, job creating city

VISION

Capetonians turn the challenges of resource constraints and rapid technological change into new opportunities.

<p>GOAL 3.1 Foster green economic growth</p>	<p>GOAL 3.2 Enable enterprise development in the informal economy</p>	<p>GOAL 3.3 Connect the workforce with a changing economy</p>	<p>GOAL 3.4 Collaborate with businesses to achieve a resilient local economy</p>
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ACTION: 3.1.1

Leverage the newly created Atlantis Special Economic Zone to cultivate the green economy while promoting economic mobility

DESIRED OUTCOME:

Increased local manufacture of green technology by capitalising on new local and regional market opportunities, with the associated creation of new jobs, particularly for Capetonians displaced from fading economic sectors.

ACTION: 3.4.4

Future casting for just transitions in a rapidly changing global economy

DESIRED OUTCOME:

Improved insights and scenarios for proactive societal responses to changing drivers of the local and regional economies in the face of, among other things, rapid technological change, the global response to climate change, and variances in the international trade regimes.

WHAT IS THE GREEN ECONOMY?

The working definition for the green economy as it relates to Cape Town is: “expanded economic opportunities created through the provision of goods and services and the use of production processes that are more resource efficient, enhance environmental resilience, optimise the use of natural assets and promote social inclusivity.”



Solution

The Atlantis Renewable Energy Challenge (AREC), as part of a broader skills development drive, works to address these challenges through education and skills development at both junior and high school levels.

What is AREC?

In 2016, **GreenCape**, a non-profit organisation that drives the widespread adoption of economically viable green economy solutions from the Western Cape, South Africa, in partnership with the **City of Cape Town**, launched a pilot programme, the AREC for school learners in Atlantis, Western Cape.

The AREC was designed with the intention of promoting skills development for the youth of Atlantis. Its intention is to equip learners with knowledge on the green economy and career opportunities therein, with an emphasis being placed on the renewable energy sector.

This was also done to assist the community of Atlantis in being able to utilise the future green economy opportunities that originate from active investment promotion in the area and into the ASEZ specifically.

The competition is unique as it:

- does not only cater to high performing learners. Entry is open to anyone and academic performance is not a barrier to entry.
- encourages team work by allowing groups of up to 5 individuals to enter.
- incentivizes participation through the availability of prizes, but without the pressure associated with curriculum based work.
- combines with the Atlantis Career Expo to showcase the unique future career opportunities available to learners living in Atlantis.

How has AREC developed from the original pilot programme?

In 2017 another career awareness intervention took place which was modelled on the AREC's 2016 successful pilot programme.

We were positively blown away and delighted by the submissions. The creativity and enthusiasm of the learners was inspiring. The colourful canvases of the 2019 AREC show the transformative power of renewable energy and the learners' deep love for their community and the planet.

Olivia Venter, Sustainable Energy Markets Department, City of Cape Town.



Atlantis learners who were part of AREC 2017 were invited to attend the annual Windaba Conference.



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Atlantis learners participating in AREC 2018 present their model to the judges.

THE FOUR AREC THEMES TO DATE HAVE BEEN:

1. **2016: Renewable Energy** – Project for high schools
2. **2017: Wind Energy** – design a model, video or poster to showcase the value of wind energy
3. **2018: Solar Power** – create a poster or a model to showcase solar power in the categories health & wellness, greentech or open category
4. **2019: Renewable Energy Mural** – Use your imagination to create a mural that shows how renewable energy can empower your community.

The AREC 2017 took place during the 4th term of Western Cape 'school calendar and encouraged Grade 9, 10 and 11 learners to submit their understanding of wind energy as a model, video or poster. The competition was followed by a career expo, which was an official side event to Windaba conference, the annual wind energy conference hosted at the Cape Town International Convention Centre (CTICC).

In 2018, for the first time, AREC was opened up to junior schools. The challenge welcomed entries from Grade 6, 7, 9, 10 and 11 learners to create or design a consumer product using solar PV. The slogan for AREC 2018 "Use your imagination to power up your community!"

As part of the preparatory interventions the EnergyDrive Bus, sponsored by the South African Wind Energy Association (SAWEA), visited 2 schools and showed 120 learners from Atlantis School of Skills and Robinvale High School renewable energy solutions as part of their awareness campaign. This event had notable impact with one

of the AREC entrants choosing to build a solar powered oven, inspired by the EnergyDrive information.

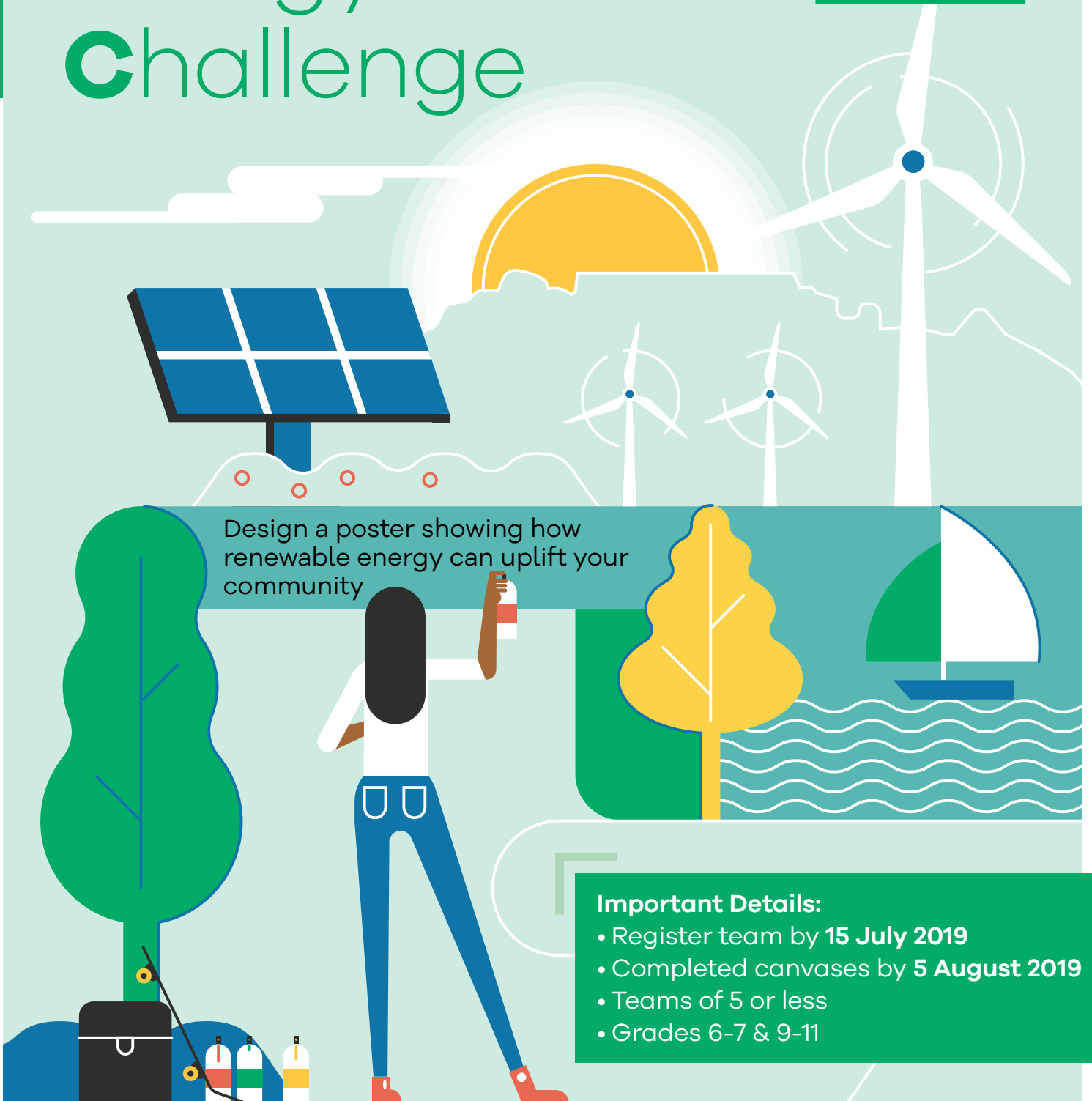
To participate in the challenge learners needed to submit their understanding of solar energy and to make a poster or build a model/ prototype of a solar powered product. Teams consisted of a maximum of five learners. Learners presented their work as a group to a panel of judges at the SAREBI office in Atlantis on 6 September 2018.

"We hope that the Atlantis Renewable Energy Challenge will encourage and equip learners to find sustainable careers in the green economy. In so doing, it is our hope that they will transform their community and the planet."

Ursula Wellman, Skills and Stakeholder Manager, GreenCape

Atlantis Renewable Energy Challenge

IN 2019 USE YOUR
IMAGINATION &
ARTISTIC FLAIR TO
EMPOWER YOUR
COMMUNITY



Design a poster showing how renewable energy can uplift your community

Important Details:

- Register team by **15 July 2019**
- Completed canvases by **5 August 2019**
- Teams of 5 or less
- Grades 6-7 & 9-11



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The panel of judges included two GreenCape Energy Sector Analysts, an official from the ASEZ office one Implementation Manager from SAREBI, the Director for Sustainable Energy Markets for the City of Cape Town and two faculty members from the Centre for Renewable and Sustainable Energy Studies.

In 2019, AREC again strove to increase inclusivity. AREC 2018 was successful in bring junior school learners into the competition. In 2019, the AREC theme called for a mural that encouraged

learners to “use their imagination to empower their community”. In so doing, the competition opened itself up to those learners with talent and promise in fields outside of engineering and the sciences.

In addition to this, AREC 2019 included a roadshow prior to the competition in which GreenCape visited participating schools to notify them and encourage them to take part in the competition. This included showing the learners a short video about the type of opportunities in the green economy.

Consequently, there was a record participation in AREC 2019 and in the subsequent Atlantis Career expo. Another key finding from the AREC 2019 was that participation was greatly improved by reducing the required resource inputs of the participating learners and schools.

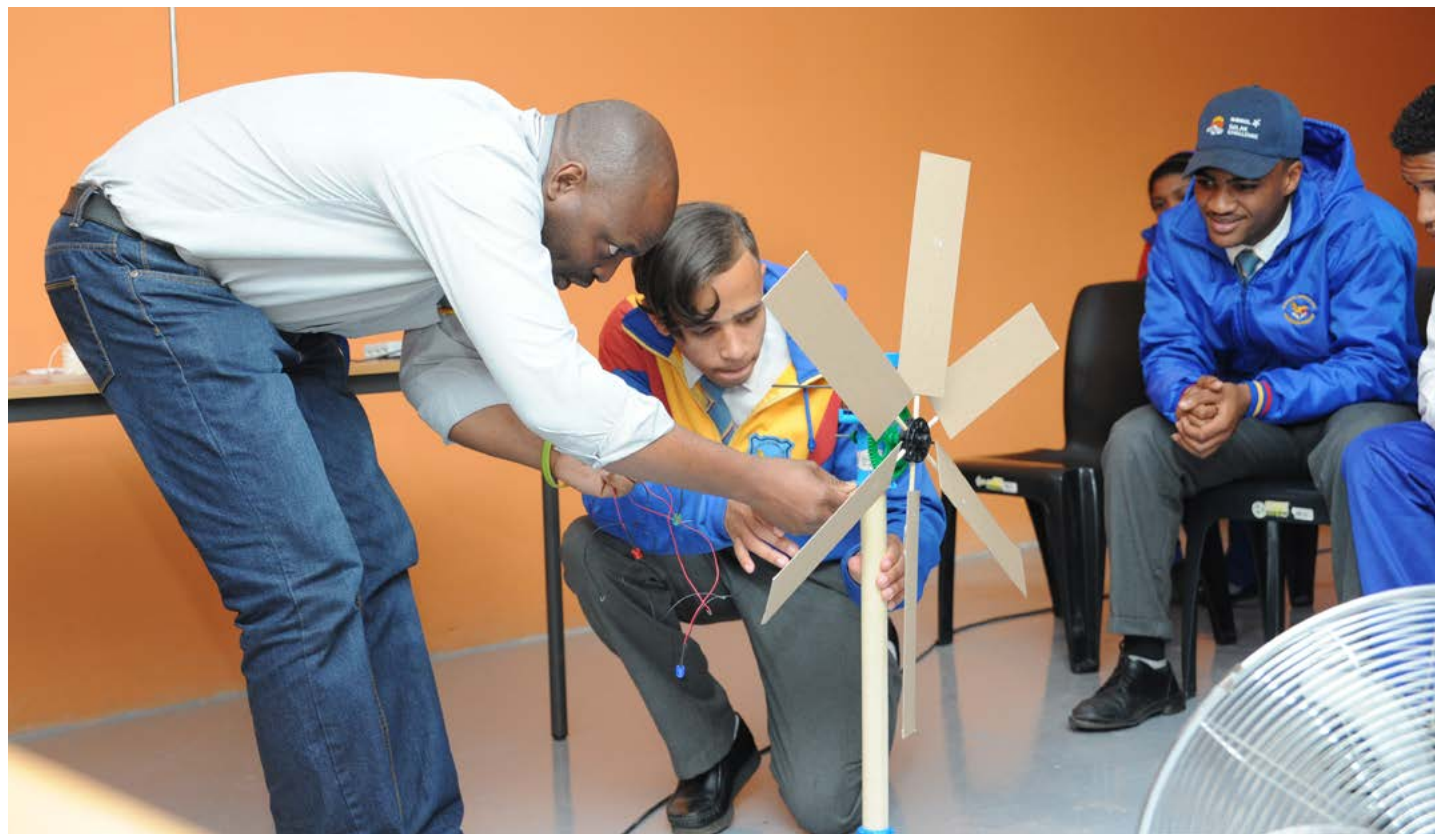
How AREC and the Atlantis Career Expo continue to grow and develop

In 2016 AREC was opened to learners from just three high schools. Since then it has grown year on year to include more learners and schools. In 2019, 14 schools from Atlantis took part, which included four high schools and ten junior schools.

Table 1 (page 8) shows the year on year growth of the AREC, both in terms of increased number of participants and in the inclusion of both high school and junior school learners.

“Seeing so many young girls involved in the AREC, and in renewable energy, has been incredibly encouraging, especially given that we celebrate Women’s Month in August. Our country needs more female engineers and scientists at all levels. I really hope to see young female professionals take up jobs in Atlantis and help to build to the Atlantis community.”

Lindiwe van Staden, AREC Project Manager, GreenCape



AREC 2017 entrants demonstrate their models to the judges



Table 1: Number of participants in the AREC over the past four years

Year	Junior school participants	High school participants	Total
2016	0	20	20
2017	0	42	42
2018	40	20	60
2019	303	86	389

The AREC helps to build economic resilience in Atlantis in 4 ways:

1 Empowering individuals through **skills development and career guidance support**;

The AREC exposes learners to the world of renewable energy and, more broadly, the green economy and green tech manufacturing. In conjunction with the Atlantis Career Expo, AREC equips learners across disciplines and with differing talents in engineering, science and the arts to potentially take up the opportunities that exist in Atlantis through the active investment promotion that is taking place and, more importantly through the emerging opportunities of the Atlantis SEZ.

2 Encouraging **creativity and innovation to support the community of Atlantis**;

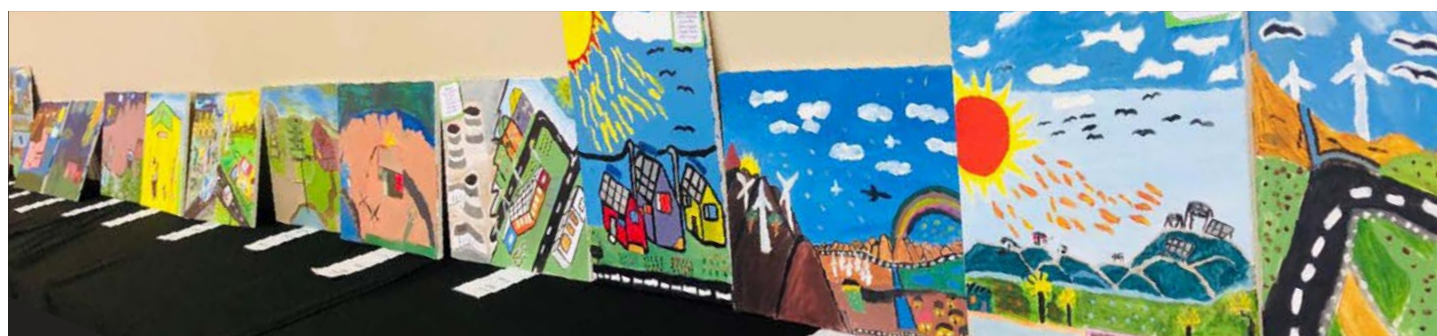
AREC encourages freedom of creativity and, in so doing, stimulates innovation. Rather than being 'taught the correct answer', learners are being taught to brain storm and problem solve their own ideas.

3 Promoting **team work and problem solving**

AREC **supports the growth of partnerships and enterprise development** in Atlantis through encouraging team work and problem solving with the anticipated outcome that the youth will be able to tap into the benefits that stem from the economic opportunities of the ASEZ.

4 Casting a **vision for the future** aligned with a **changing global economy**

The learners and teachers of Atlantis are encouraged to consider and respond pro-actively to the changing drivers in their own local and regional economies, in the face of technological change and the global response to climate change.



For more information and support contact GreenCape's skills development desk: info@greencape.co.za or call (021) 811 0250. Additional resources on improving skills development are available from: www.greencape.co.za/content/focusarea/skills-development