



CONFERENCE THEME: SUSTAINABLE CAMPUS OF THE FUTURE

PRESENTER'S THEME: SUSTAINABLE CAMPUS OF THE FUTURE
THROUGH THE LENS OF RENEWABLE ENERGY:
A CASE STUDY OF GERT SIBANDE TVET COLLEGE

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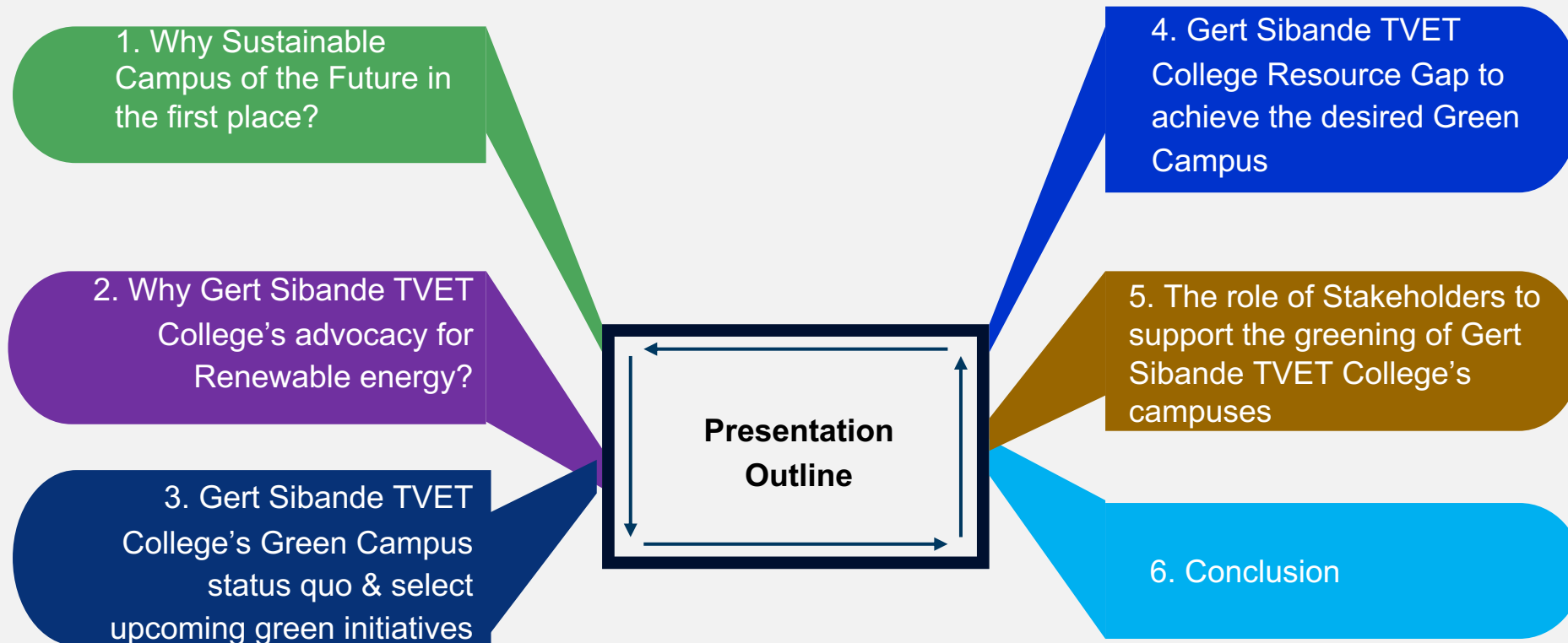
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PRESENTATION OUTLINE



Why Sustainable Campus of the Future in the first place?

01

- To support the realisation of Sustainable Development Goal (SDG) number 7 which advocates for access to affordable, reliable, sustainable and modern energy for all.

02

To support the attainment of South African National Development Plan (NDP) vision 2030 on the realisation of a carbon free environment by 2030.

03

- To support the achievement of the following objectives outlined in the White Paper on the Energy Policy, December 1998: (i) increase access to affordable energy(ii) manage energy related environmental impacts – by moving from “Dirty energy” to “Clean energy” (iii) stimulate economic development – through sustainable energy supply and growth of the green sector (South African Energy Sector Report 2021)

04

- To support government's decision to Just Transition most Coal Power Stations to green energy compliant.



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Why Gert Sibande TVET College's (GSTC) advocacy for Green Campuses through Renewable Energy?

The growing nature of demand for renewable energy by industry (22%) and households (12%) in 2021 (South African Energy Sector Report, 2021).

To meet the mandate of the TVET sector of training students in relevant renewable energy Programme Qualification Mix (PQM) (Strategic Plan for DHET, 2022).

- To supply industry with key renewable energy skills set in high demand (NDR, 2022).
- Target campuses for establishment of renewable energy workshops and hubs

To enhance energy management by use of renewable energy technologies like Internet of Things (IoT) to help GSC campuses to go green.



Gert Sibande TVET College's Green Campus status quo

Renewable Energy Curriculum

1. Balfour Campus: Solar Photovoltaic Service Technician
2. Evander Campus: Solar Photovoltaic Service Technician
3. Standerton Campus: Photovoltaic Service Technician

Funding proposals to conduct feasibility researches related to Green Energy for GS

1. Feasibility study to establish solar plant for Gert Sibande TVET College
1. Feasibility study to establish a biogas plant for Gert Sibande TVET College

Energy Management initiatives

1. Use of LED lights
2. Use of timed geysers heating systems for student residence on campuses
3. Regulated heating systems during winter



Gert Sibande TVET College's select Green Campus forthcoming initiatives

Replacement of "Dirty energy"-Fossil with "Clean Energy" - Renewable

1. Plans to install solar across all seven college campuses
2. Plans to establish renewable energy hubs and labs

Smart Green initiative on campus

1. Interactive energy consumption data boards – to show energy consumption in real time
2. Green technology expos that feature green technologies that benefit campus life
3. Hackathons that share tips from experts on how to use green technology
4. Introducing diverse renewable energy qualification mix
5. Establishment of a green energy committee

Improved Energy Management on campus

1. Monitoring of energy consumption remotely
2. Optimising charging
3. Prevent energy waste with smart sensors
4. Controlling appliances with a smart approach
5. Getting statistics on usage patterns & opportunities for energy conservation



Gert Sibande TVET College Resource Gap to achieve the desired Green Campus

Lack of Funding

- To establish feasible Solar farm, Wind farm, Bio-energy, Geothermal facilities – for practical learning, support our campuses with green energy as well as commercialisation of green energy.
- To build green modern technical labs for provision of renewable energy programme mix.

Lack of other resources capability (Human resource, placement partnerships & green energy

curricula)

1. Lack of expertise to deliver modules on the renewable energy qualifications
2. Limited renewable energy programme qualification mix
3. Lack of partnerships for learner and staff work placement opportunities



The role of Stakeholders to support the Greening of GSTC Campuses

In our quest to create a green campuses for Gert Sibande TVET College, supply relevant and employable graduates to the labour market, the College invite partners with alike mind-set in the areas identified below:

FUNDING

1. To establish feasible Solar plant, Wind plant, Bio-energy, Geothermal facilities – for practical learning, support our campuses with green energy
2. To assist with funding to build green modern technical labs for provision of renewable energy programme mix
3. To assist with funding for renewable energy skills development.

01

OTHER SUPPORT

1. Support with industry expertise to deliver modules on the renewable energy qualifications
2. Support with development and implementation of diverse yet relevant renewable energy programme qualification mix
3. Support with partnerships for learner and staff work placement opportunities

02

Conclusion

In order for TVET education and skills development to remain impactful on employment, entrepreneurship and productivity it must remain agile in the face of energy mix change by continuously engaging with stakeholders who are burdened with the realisation of a Sustainable Campus of the Future.

It is vital to underscore that at the core of stakeholder engagement in pursuit of a Sustainable Campus of the Future should be the three pillars of sustainability namely: (i) Environment - Planet (ii) Social – People and (iii) Economy - Profit.





Thank you!



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