

Kwena Heights Vétown project

A living & learning lab for building
future green communities



Kwena Heights School



Vétown™

Who are we?



Bakhwi L. Kragh

Director, Kwena Heights School

- **Board, Parasport Denmark**
Disability Sports Development in developing countries. Training, auditing, monitoring & evaluation of various projects.
- **Co-founder & Superintendant of Heights Schools**
Administration and management of 5 schools, including development of school curriculum and financial record keeping system and marketing. Part of developing a friskole in Odense.
- **Lecturer, Boston University**
Development & preparation of teaching methods and materials, and teaching in business management and language.



Niels Mikkelsen

CEO Vétown ApS

- **Consultant, Green innovation / Circular Economy expert**
Advised businesses in transition to circular business models – initiated / managed innovation projects on circular economy.
- **Co-founder Green Tech start up – water treatment/ recirculation**
Developed key element for a circular utility system.
- **Developer of Vétown concept**
The platform for establishing circular cities – physical + digital infrastructure.

Living & learning lab for building future green communities

Kwena Heights Vétown is a combination of a planned new boarding school which focuses on fostering the talents to fulfill the 17 UN sustainability goals (SDG) and a state-of-the-art green utility system for the school.

By combining the two elements the needed utility facilities for running the school can become a real time learning lab for teaching the skills to build the future green communities of Botswana and abroad – and a real scale living lab for developing the Vétown concept in detail.

It is to be established on plot 32039 in Garanta ward in Molepolole Village, Botswana.



A man in a blue jumpsuit is working on a large array of solar panels mounted on a roof. The panels are blue with white grid lines. The man is standing on a dirt ground, leaning over the panels. In the background, there are trees and a building with a corrugated metal roof. The sky is clear and blue.

Making underserved communities take lead in the green transition

Instead of being an uncertainty, the urgent green transition can become an opportunity.

While communities in the developed parts of the world are stuck with large centralized infrastructure based on the linear thinking of yesterday, the Vétown concept gives the underserved communities of today the chance to leapfrog forward to become the progressive circular communities of tomorrow.

Impact matrix

Objective	Challenge	Output	Outcome	SDG's addressed
<p>O1</p> <p>Build resilient green societies worldwide to uplift underserved communities.</p>	<p>C1</p> <p>Lack of access to basic facilities for upholding decent human life.</p>	<p>Circular infrastructure for waste management and energy and fertilizer supply.</p>	<p>Ecological resilient societies generating surplus of resources and energy = revenue for community.</p>	<p>Directly:</p>  <p>Indirectly:</p> 
<p>O2</p> <p>Provide platform for community participation and human development & growth.</p>	<p>C2</p> <p>Lack of access to participate in economic life/ lack of livelihood opportunities.</p>	<p>Digital platform for local economy / ownership and management of infrastructure.</p>	<p>Strong independent local economies with citizen collaboration, engagement, and innovation.</p>	<p>Directly:</p>  <p>Indirectly:</p> 
<p>O3</p> <p>Execute exponential financial model for gearing investment and maximizing impact of available development capital and investment capital.</p>	<p>C3</p> <p>Lack of access to development capital.</p>	<p>Exponential financing model – for repayment and reinvestment.</p>	<p>Multiplied investments and impact of initial and generated capital.</p>	<p>Directly:</p>  <p>Goal 17 – Partnerships is the vehicle.</p>

Why the combined Kwena Heights Vétown project?

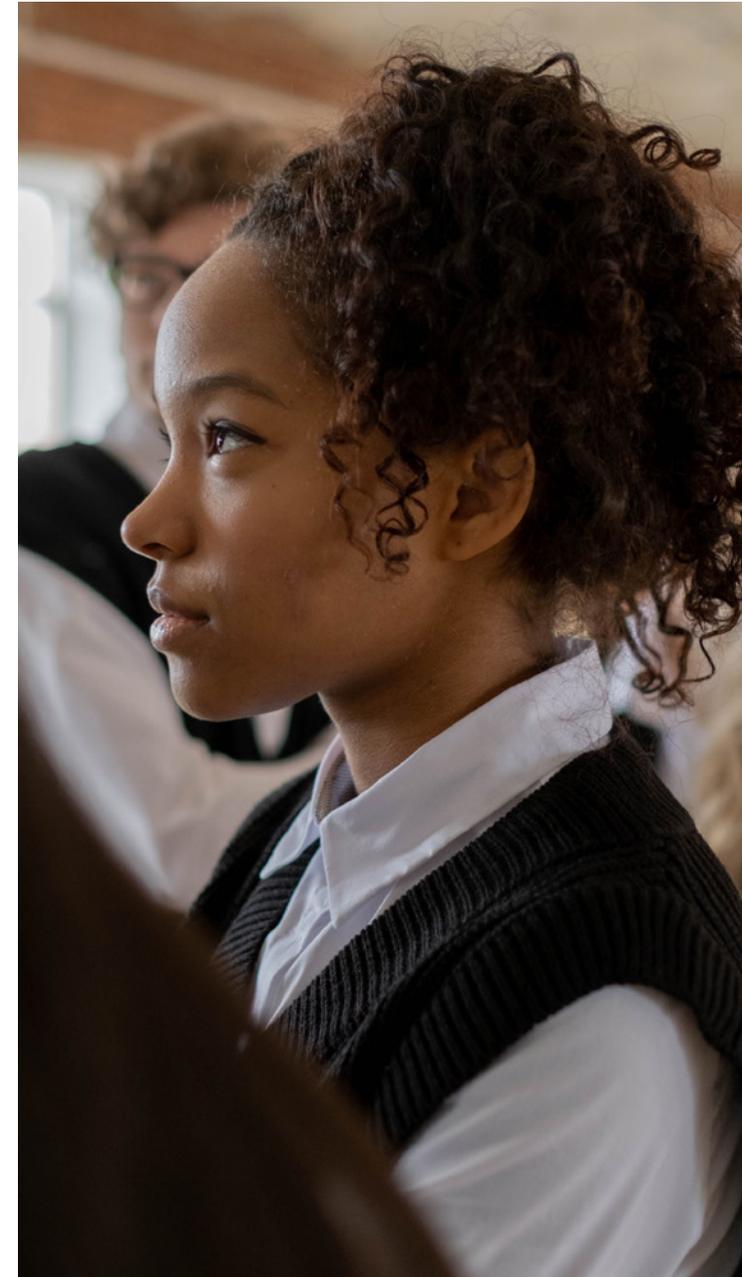
Walk the talk – be green now

- The school will have its own utility services, operating 100% green.
- The school will serve as a live learning lab for building and running future green communities.
- Vétown will become the support system for the utilities to be operational.
- The school will be a real-world showcase for engaging development partners and investors/donors behind a worldwide roll-out.
- It will contribute to realisation of Botswana's national green strategy.
- It will create employment for Batswana.



Why Kwena Heights School?

- Educate future green change leaders – to address climate and environment challenges.
- Create global impact – contribute to fulfill the UN sustainability goals.
- Attract talent and investment – from Africa and international community.
- Fosterer collaboration – within African countries and with international organisations.
- Promote green innovation – meet industry demand for green technologies and practices.
- Give equal access to quality education – regardless of gender, origin or location.
- Empower individuals with disabilities – unleash new human potential.
- Contribute to community development– break cycles of poverty and provide life opportunities in Molepolole.
- Based in Botswana due to safe and well governed environment.
- Placed in Molepolole – for tranquillity and focus – away from the buzz in Gaborone.



Outline Kwena Heights Learning lab

The main department of Kwena Heights will be a secondary school for students between ages of 16 to 19.

It will cater for:

- Both boarding and day students from Botswana and globally.
- Students with disabilities by building the school with accessibility everywhere.
- Underprivileged students from Kweneng District.

In addition to the main department a center for vocational training will be established to qualify locals for positions within:

- Operation and servicing of green tech facilities.
- Climate farming with use of organic fertilizers.
- Digital development – with emphasis on smart community solutions.



Core learning goals for Kwena Heights

Ecological Balance: To be sustainable and regenerative, communities must establish ecological balance with their environments, ensuring that natural resources are replenished after use and remain healthy and enduring for future use.

Community Cooperation: To be inclusive and empowering, communities must foster cooperation among their people, organizations, institutions, etc., ensuring that social capital is diversified, vitalized, and mobilized for community development that benefits all.

Green Entrepreneurship: To be innovative and plentiful, communities must incubate environmentally responsible, socially conscious 'green' entrepreneurs (economic and social), ensuring that economic development and social services provide basic necessities, appropriate amenities, and public goods for everyone.



Outline Vétown Living Lab

Vétown Living Lab will initially include; anaerobic digestion of waste, solar arrays and small wind-turbines. These systems will provide:

- Sewage treatment, turning sewage and other organic waste into energy and fertilizers.
- Steady supply of cheap green power to the school and surrounding community.

The green utility facilities will be owned by the school, and as other members of the community join the utility systems, they will also become owners.

The financing will be secured through a small downpayment and debt. The debt is securitized by title reservations against the hardware. The debt will be serviced through the member-owner's payments (cooperatives) of their utility services, making it a true community development project.



Circular utility infrastructure

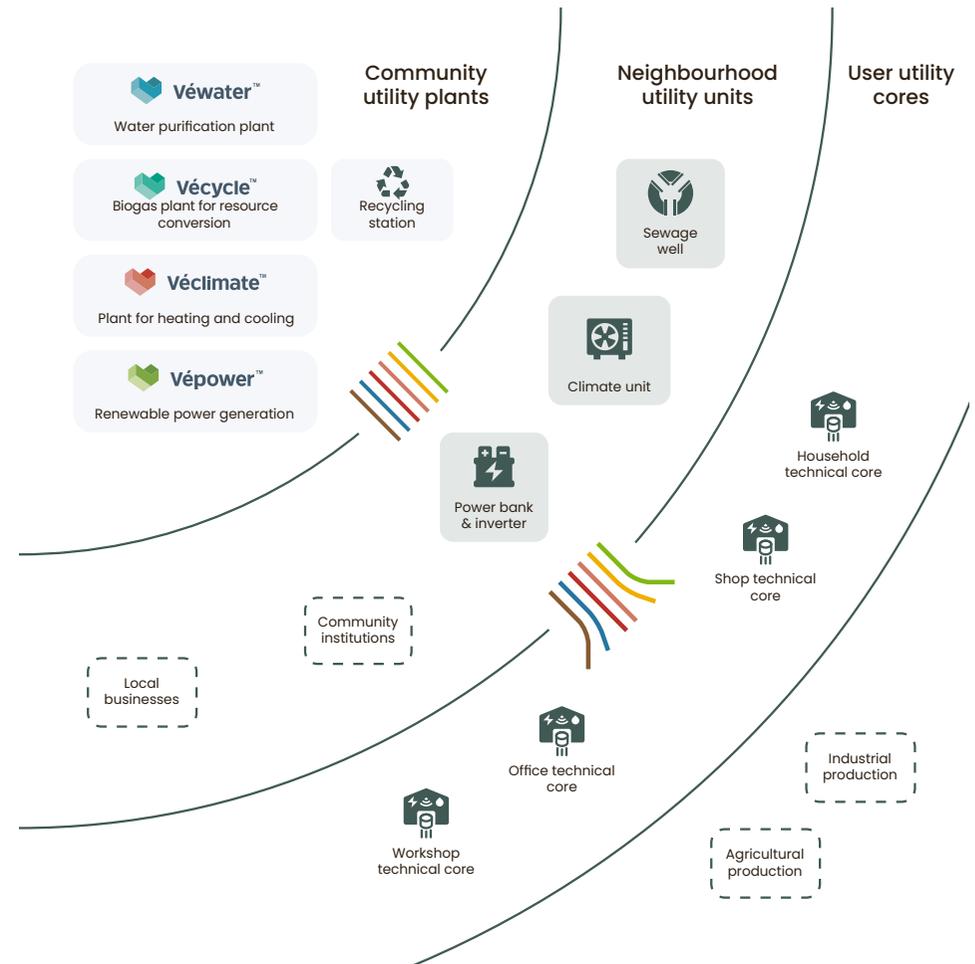
The circular utility infrastructure of Vétown lays the foundation for a well-functioning local economy

As illustrated it is structured in 3 levels of functions and facilities

The 3 levels are tightly connected in the overall supply grid, and the complete infrastructure is live monitored, operated and optimized by the Velink platform.

Apart from being hubs for the supply in each neighbourhood, the distributed utility units work as buffers in the grid, securing stability and resilience in the complete system.

Based on volume estimates and flow analyses this integrated circular system will work optimally for communities with approximately 20.000 inhabitants. If applied in larger communities, a Vétown will be set up in each district, instead of making one large.



Contact

Bakhwi Kragh

Director, Kwena Heights School

bk@greenisland.dk

+267 77 908 218 / +45 71708151

Niels Mikkelsen

CEO Vétown ApS

nm@greenisland.dk

+45 81215109



Kwena Heights School

