



**Vétown™** |

Enabling  
circularity

**Green utilities made easy,  
feasible and affordable**

September 2024

**Green  
Island  
Group.**

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# The concept



# Vétown - in short

## Make community based green economies mushroom

Vétown is a concept for making smaller independent communities all over the world thrive and prosper in the green economy of the future.

It provides:

- **A plug'n'play solution for a circular utility infrastructure** for local communities to secure supply of renewable energy and resources and generate wealth to the community.
- **A digital platform** for engaging, organizing, and enabling community members in the planning, management and operation of the circular utility infrastructure and other community facilities.
- **An progressive financing model** that can gear the initial investment to finance new Vétown projects once the first is established and it starts generating revenue to repay the investment.



# 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.



# Scope

## Ideal size

**approx.  
20.000  
people**

The Vétown solution is designed to provide ecological resilience and economic independence for communities of approx. 20.000 people.

## Scaling

**Vétown  
×  
Vétown**

The expansion of the Vétown concept will be by multiplication instead of upscaling.

This horizontal approach can enable the establishment of many interconnected Vétowns in a region.

## Potential

**1.000  
Vétowns  
globally**









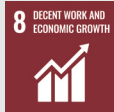








The aim is to have established 1.000 Vétowns globally over a decade from now and hereby have uplifted the lives of 20 million people.

## Cost

**Down to  
EUR 1.500  
per person**

The estimated cost for establishing one Vétown is EUR 30 mill. depending on local conditions – equal to EUR 1.500 per person.

# Impact matrix

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

# The people and mindset behind



# Green Island Group and The Vé

Behind Vétown stands the Danish greentech corporation Green Island Group, who are incubating green solutions for communities around the world.

‘Ve’ is the old Norse notion for the community forum in traditional cultures where important decisions are taken in common.

In Green Island Group, we have adopted the Old Norse Vé notion as a token for creating self-governing sustainable communities of the future – because:

- We believe that truly sustainable solutions must be community based, owned and managed to be successful.
- We are convinced that real green transition can only happen from below, with every-one being engaged in creating a prosperous sustainable future for themselves and the community they live in
- We are based in Denmark, and as such rooted in a Nordic way of living and doing business with a high degree of equality and flat hierarchies.
- We stand on long cooperative business tradition and a collaborative work culture.
- We are part of the strong Danish green tech and Digi tech sectors and combine the best solutions from here with the best from the rest of the World.
- We have head office in Copenhagen – in BLOXHUB co-working space for green urban development and have satellite offices in several countries.

# Vésolutions

At Green Island Group, We have made a digital replica of The Vé – a modern virtual forum for making community members meet to discuss, decide, and plan the vital developments in their community. We call it Véhub.

Likewise, we use »Vé« as a prefix to each of our other solutions. Vétown is combining all of these.

The ancient Vé phenomenon can be found in any traditional culture, whereby our modern Vé concept easily can be adapted to any location around the world and translated into the local language and tradition.



## Green tech



Biogas plant for conversion and recirculation of bio resources.



Climate conditioning units for supplying heating and cooling.



Water purification plant for delivering and recirculating water for specific purposes.



Facilities for generating, storing, and supplying power from renewable sources.

## Software



Digital platform for community creation and development.



Digital project management tool for implementation of decisions.



Digital infrastructure for smart interactive operation of a utility infrastructure.



Digital monetary system and supplementary currency for internal value flows in communities.

# Export of Danish technologies

In addition to being the vehicle for developing and establishing smart circular utility systems – Vétown is a platform for exporting Danish technologies.

When possible the green technologies going into the systems will be provided by from leading Danish green tech companies

And the digital solutions will either be developed by the digital department of Green Island Group or be provided in collaboration with primarily Danish digital tech companies.

# Creation of local employment

The final design and planning for the specific site will be done in close collaboration with local partners, and the civil work on ground will be will be commissioned to local contractors.

# The elements



# Circular utility infrastructure

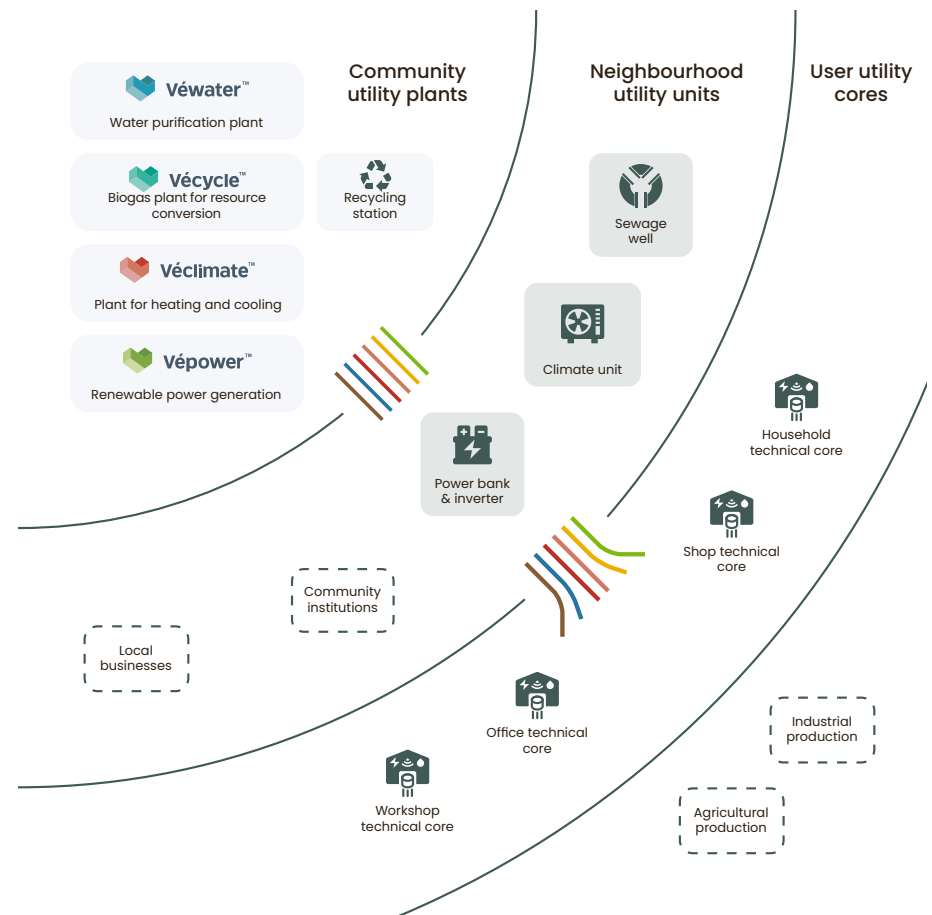
The circular utility infrastructure of Vétown lays the foundation for a well-functioning local economy

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.

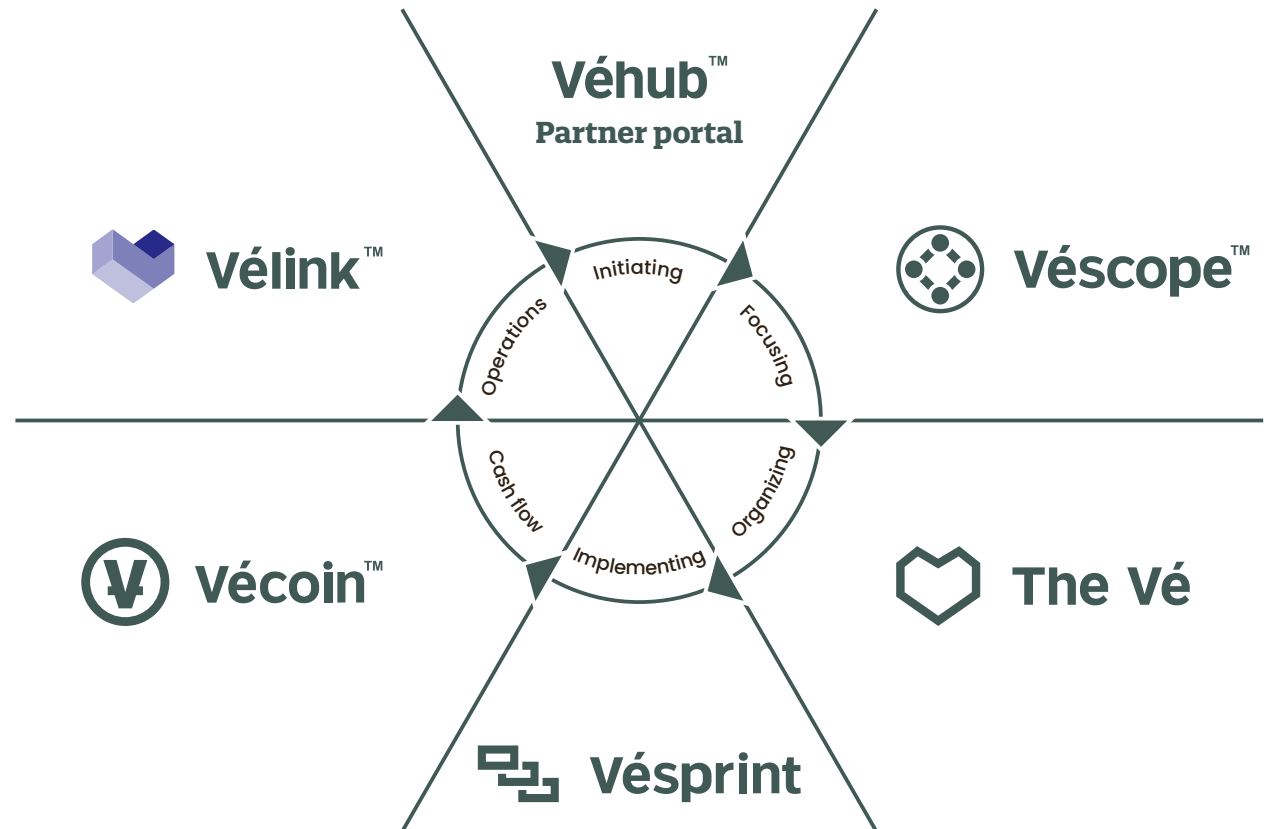
Apart from being hubs for the supply in each neighbourhood, the distributed utility units work as buffers in the grid, securing stability and resilience in the complete system.

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.



# Digital tech suite

- A platform for gathering and organizing the community in owning and managing the circular utility system.
- A project management tool for implementing the Vétown concept.
- A supplementary digital monetary system for internal payment.
- A cloud-based IOT system for operating, monitoring, and optimizing the circular utility system.



# A tangible currency

Vécoin™ serves as the community's utility token and supplementary currency.

**Vécoins can only be used within the community** and never exchanged to any other currency.

A supplementary currency needs a practical use for it to work for the community. This is known as a sink. In Vétown™, the sink is the local utility services.

Having a closed system with one-way exchange and a viable sink **allows for the local economy to begin blossoming**. With no transaction fee between community members, people prefer to spend their money locally and offer their services to fellow community members.

This way, money can circulate in the local economy instead of draining out. And every time a community member deposits new Vécoins in their wallet, more local value is created.

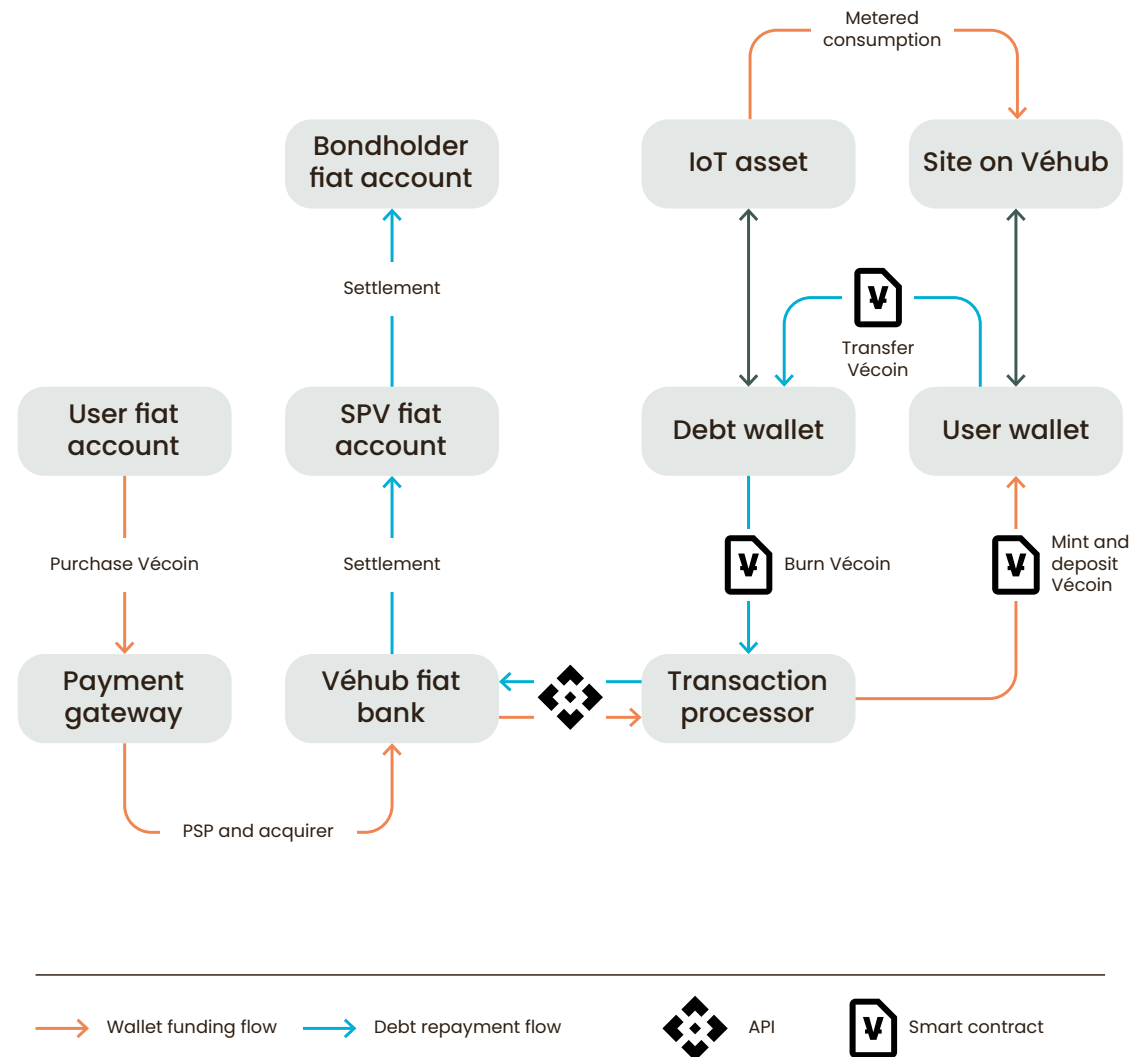


# Financial system

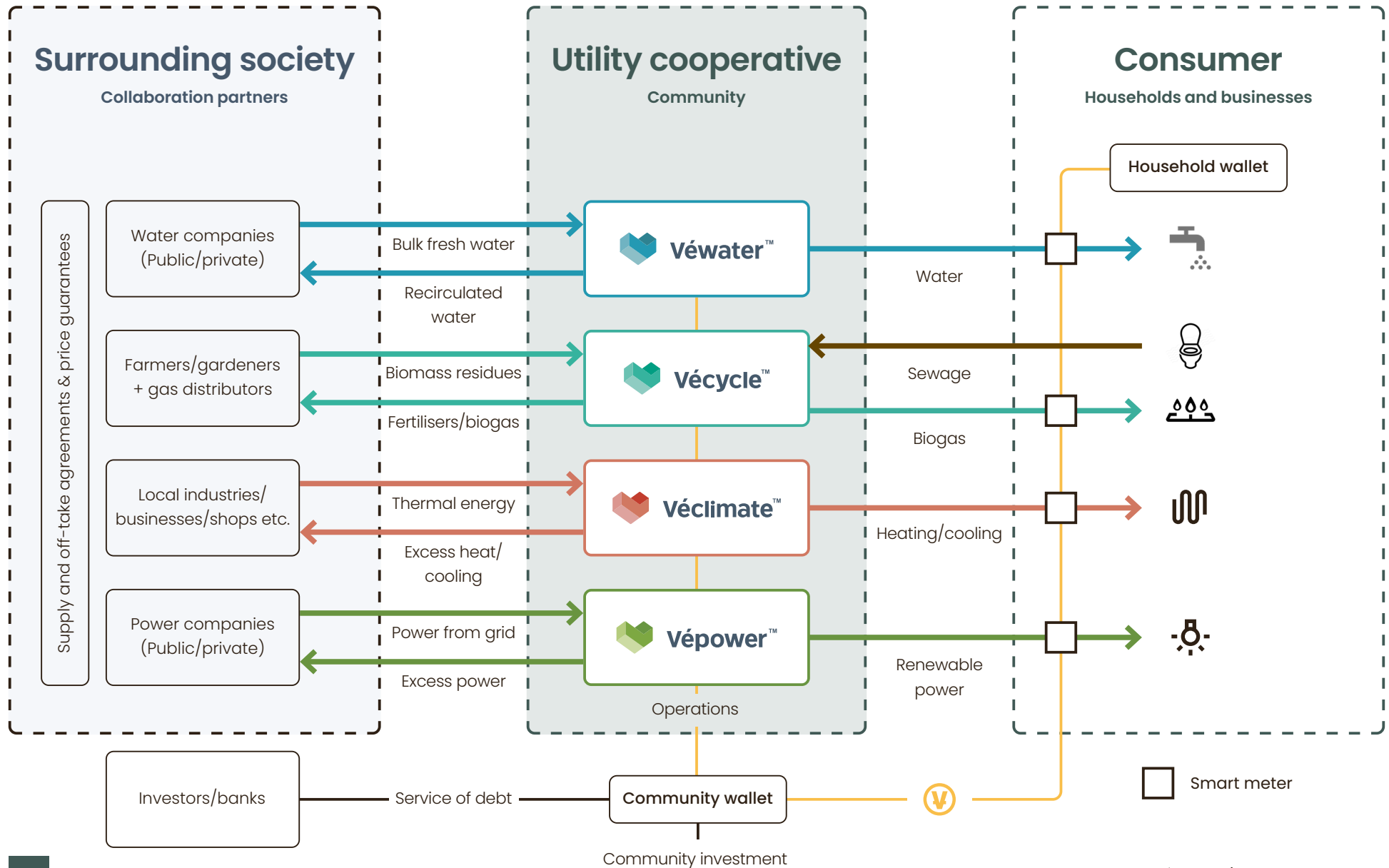
When set up in tight circular supply systems, green fossil-free utility services can be provided at significantly lower prices than in large linear supply systems.

The supplementary digital monetary system - with irrefutable payment rails (illustrated to the left) and utility tokens (Vécoins) for pre - specified use (utility services) secures payment for the provided utility services and repayment of the investment in the established utility facilities.

Together this makes the Vétown circular utility system a safe and attractive investment case.



# Value flowchart



# Realization of Vétown projects



# Project development

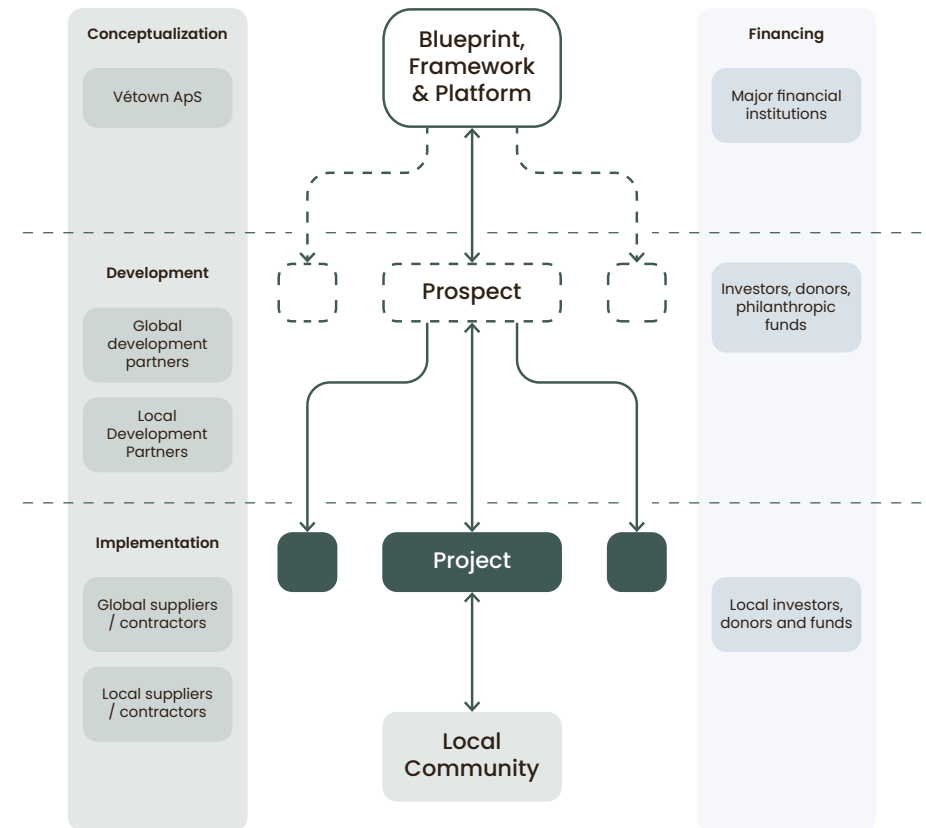
The Vétown initiative is formally organized as a corporate entity – Vétown ApS – as an affiliate to Green Island Group.

Vétown ApS will engage development partners for the development and implementation of the concrete Vétown projects.

The Vétown blueprint, frame and platform enables partners to:

- Develop prospects for various kinds of Vétown projects – eg. for particular regions and types of locations
- Point out potential sites for specific Vétown projects
- Plan and implement these projects in close collaboration with the local community and commissioned suppliers and contractors.

Parallel to the development process, the financing of Vétown projects is facilitated in partnership with various financial stakeholders.



# Project organization

Projects will be organized after a »prosumer« model, whereby the ultimate owners and the governance are the consumers of the utility facilities.

## Utility Cooperative

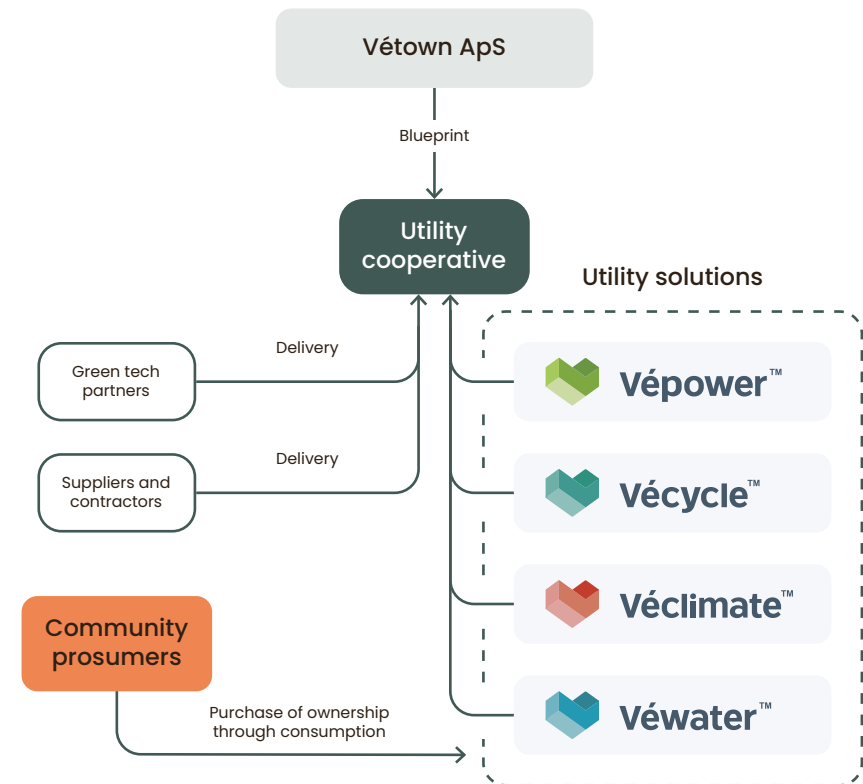
A legal entity should be formed for every project, that initially is owned by the project organization, but transferred to be owned and controlled by the individual utility solutions companies. This Utility Coop is the builder of the combined system. It will manage the initial investment, with necessary securitization awarded to the lender/investors in the project.

## The Individual Utility Solutions

These legal entities will be formed as community members join the project, where each household will have to pay a hock-up fee (according to ability).

## Vétown ApS

A blueprint for the project is generated by Vétown ApS using BIM, according to the needs from partners and local conditions. A tender will be issued, with emphasis on awarding as much as possible to local contractors and suppliers.



Furthermore, extensive knowledge transfer will be organized by Vétown ApS with local skilled and unskilled contractors, from start of project into the operational phase, until operations can be managed by locals with the assistance of the Véhub platform.

# Roll out strategy

To get the exponential roll out model working, we wish to establish a living lab for developing the Vétown concept in detail, that can prove the case convincingly and get all the needed partners engaged in our endeavor.

With the progressive financing model new Vetown projects can spin off from each one completed. Once started we anticipate that Vétown projects will mushroom exponentially year by year.



**With a 1.000 established Vétown projects over a decade – the lives of 20 mill. people will have been uplifted ...**

# Vétown pilot project

Molepolole, Botswana



# 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 in Molepolole town with 80.000 inhabitants located 50 km North West of the capital Gaborone – at a natural scenic plot of 12 hectares, owned by Kwena Heights Pty Ltd.



# Why Botswana?

Botswana is the one of the most stable and well-functioning countries in Africa, as it has:

- A solid and stable economy with diamond mining and trading as the main driver.
- A strong and clear structured governance with low degree of corruption.
- A well organised and high performing public administration.
- A relatively safe business and living environment.

Nevertheless, many parts of the country are still lacking adequate utility facilities

And there is an immense unleashed potential for renewable power generation – especially solar.

This together makes Botswana an ideal place to start up the Vétown endeavour and use it as a bridge-head for a stepwise expansion into the neighbouring Southern African countries.

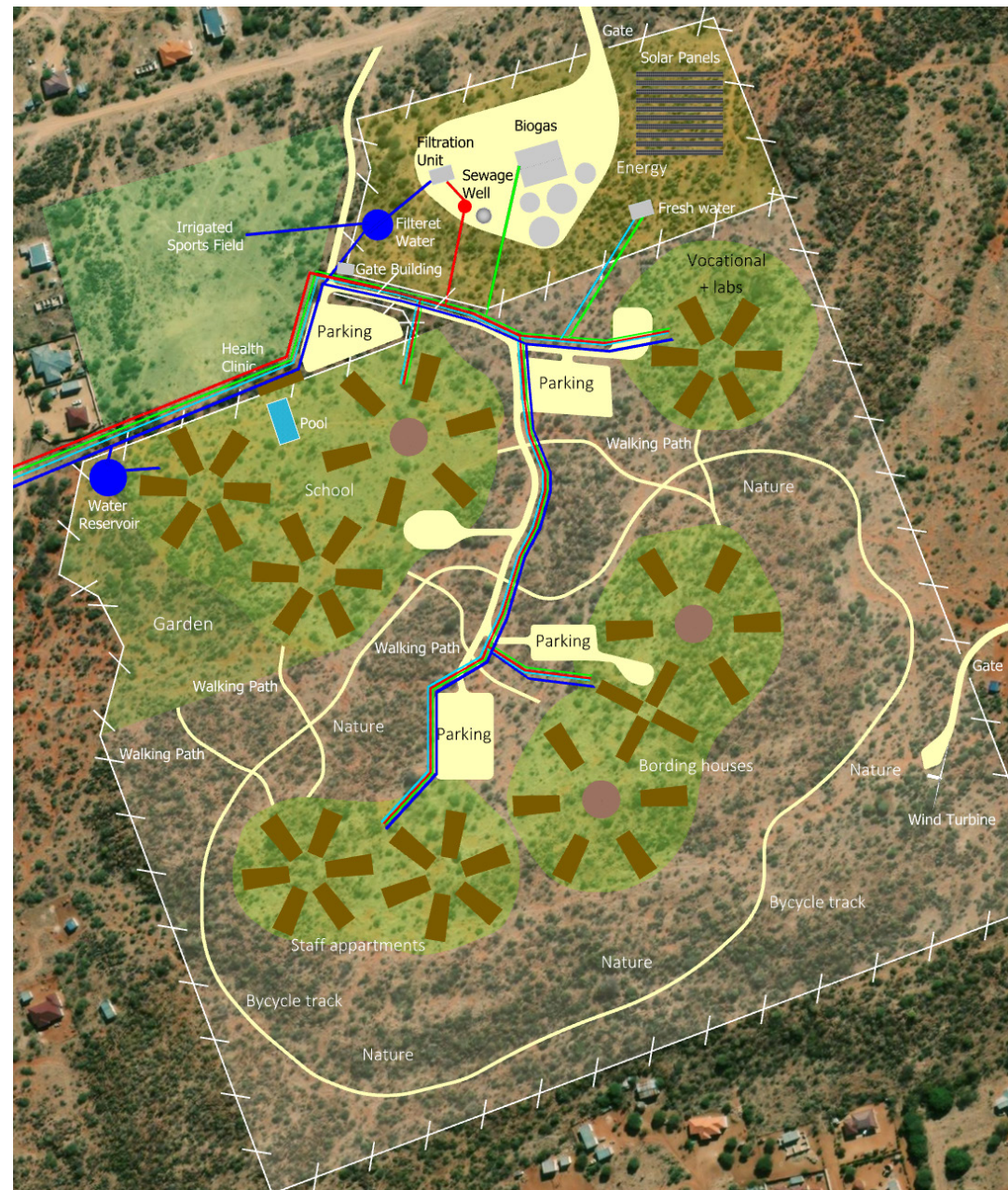
In addition to this, the key partner in the Kwena Heights Vétown project, Bakwhi Kragh is a very experienced businesswoman from Botswana, with an extensive network – from the bottom to the top of the society.

With her effort the project is now solidly anchored in Botswana.

# Why the combined Kwenā 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.
- With vocational training at the school locals can obtain the skills to operate and maintain a Vétown utility system.
- 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 Botswana.

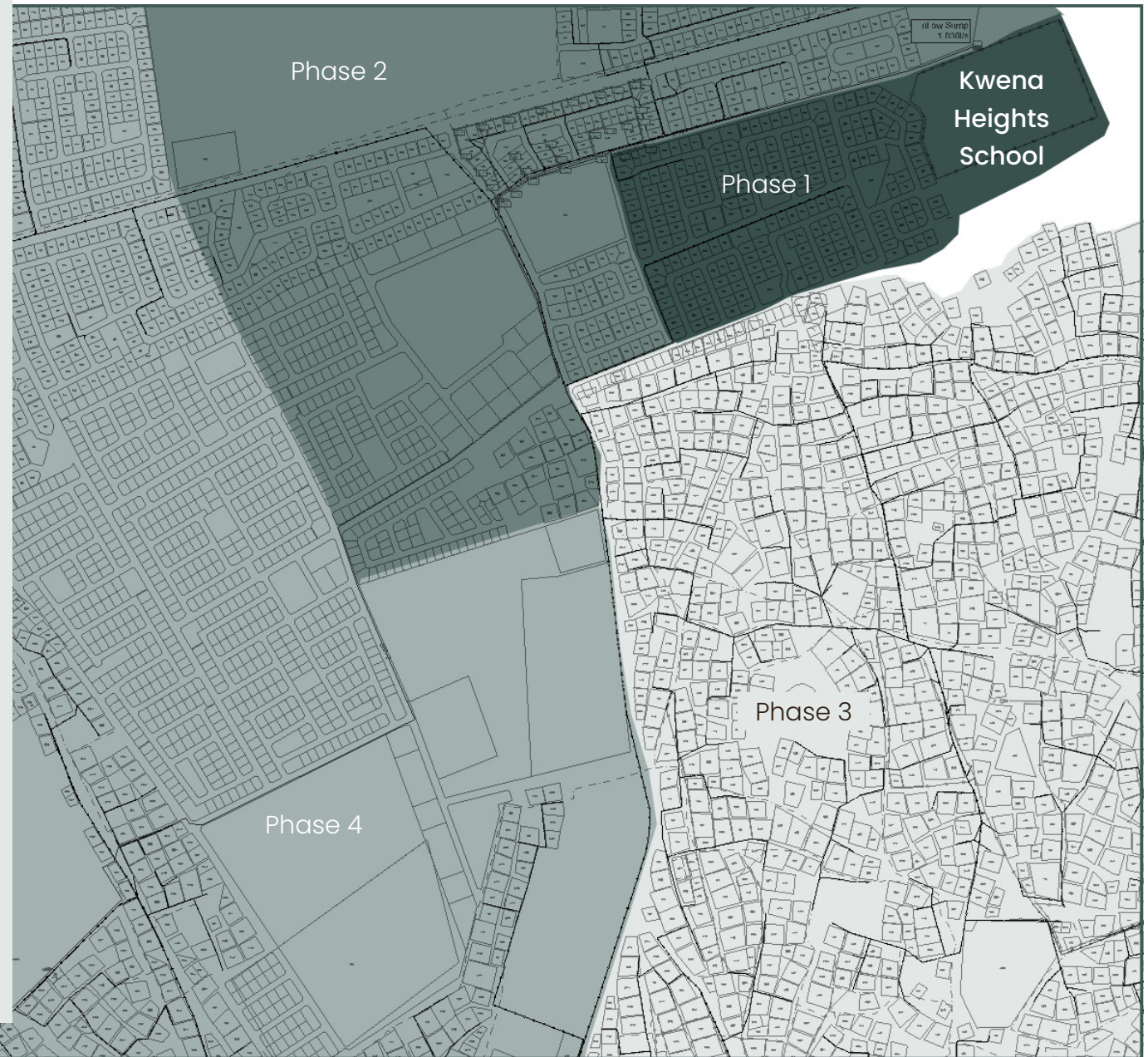


# Gradual expansion to full Vétown

In the initial phase the Vétown utility system at the school will also service 100 neighboring households.

When proven in operation it will gradually be extended to service the whole neighborhood and become a full scale Vétown with 5000 households or 20.000 people connected.

In the outset, the pilot project will not include heating/cooling as it is the most costly element, but it can be added if it proves feasible during the planning phase.



# Economy and organization

Kwena Heights Vétown project



# Business case: Kwenā Heights Vétown Utility Cooperative

## Assumptions KHV Utility Cooperative

Economy	EUR	Payback scenarios*
<b>CAPEX</b>	<b>29.950.000</b>	<b>0% down payment</b> 12,3 years
Water systems	4.500.000	Amount per household € 0
Biogas plant	11.000.000	
Renewable power assets	1.950.000	<b>10% down payment</b> 11,1 years
Utility Grid	12.500.000	Amount per household € 659
<b>Financing cost 10%</b>	<b>2.995.000</b>	
<b>Total investment</b>	<b>32.945.000</b>	<b>20% down payment</b> 9,9 years
		Amount per household € 1.318
<b>OPEX</b>	<b>2.690.000</b>	<b>30% down payment</b> 8,6 years
		Amount per household € 1.977
<b>INCOME – utility services</b>	<b>5.365.772</b>	<b>40% down payment</b> 7,4 years
Water / Sewage	2.312.081	Amount per household € 2.636
Biogas	1.510.067	
Power (incl. Internet)	1.542.282	<b>50% down payment</b> 6,2 years
<b>EBITDA</b>	<b>2.947.584</b>	Amount per household € 3.295

\* If possible, each household should pay a hook-up fee for getting connected to the utility grid. Alternatively it can figure as a pre-payment for the consumption the first year ahead. The up-front down-payment can also be in the form of subsidies to the individual citizen or a general public co-financing of the utility cooperative.

## Figures

Number of households in cooperative	5.000
Water consumption per household	200 l per day
Power consumption per household	3.500 kWh per year
Gas consumption per household	25 kg/month
Average yearly income per household	€ 9.600

## Prices

Tariff for water supply incl. sewage contribution	€ 5,4 m3
Power tariff (Botswana Power Corporation official tariffs 2024)	€ 0,054/kWh
Biogas price (based on sales price for bottled LPG and 65% CH <sub>4</sub> in biogas)	€ 1,0/kg

# Framing of project in place

The project has achieved support from highest level at the Botswana government, with all relevant ministries committed to assist in realising it.

The use of the plot for realising the project is approved by local authorities and supported by local government.

A MOU with the national water company, Water Utilities Corporation (WUC), has been signed expressing the intention of collaborating on making the Vétown concept a model for bringing critical water and sewage infrastructure to all of Botswana.

Botswana Energy Regulatory Agency (BERA) will provide the project with a suitable renewable power producer agreement.

Leading research institutions in Botswana are committed to collaborate with the project.

The UNDP office in Botswana is supporting the project and is aligning it with their engagement in Botswana.

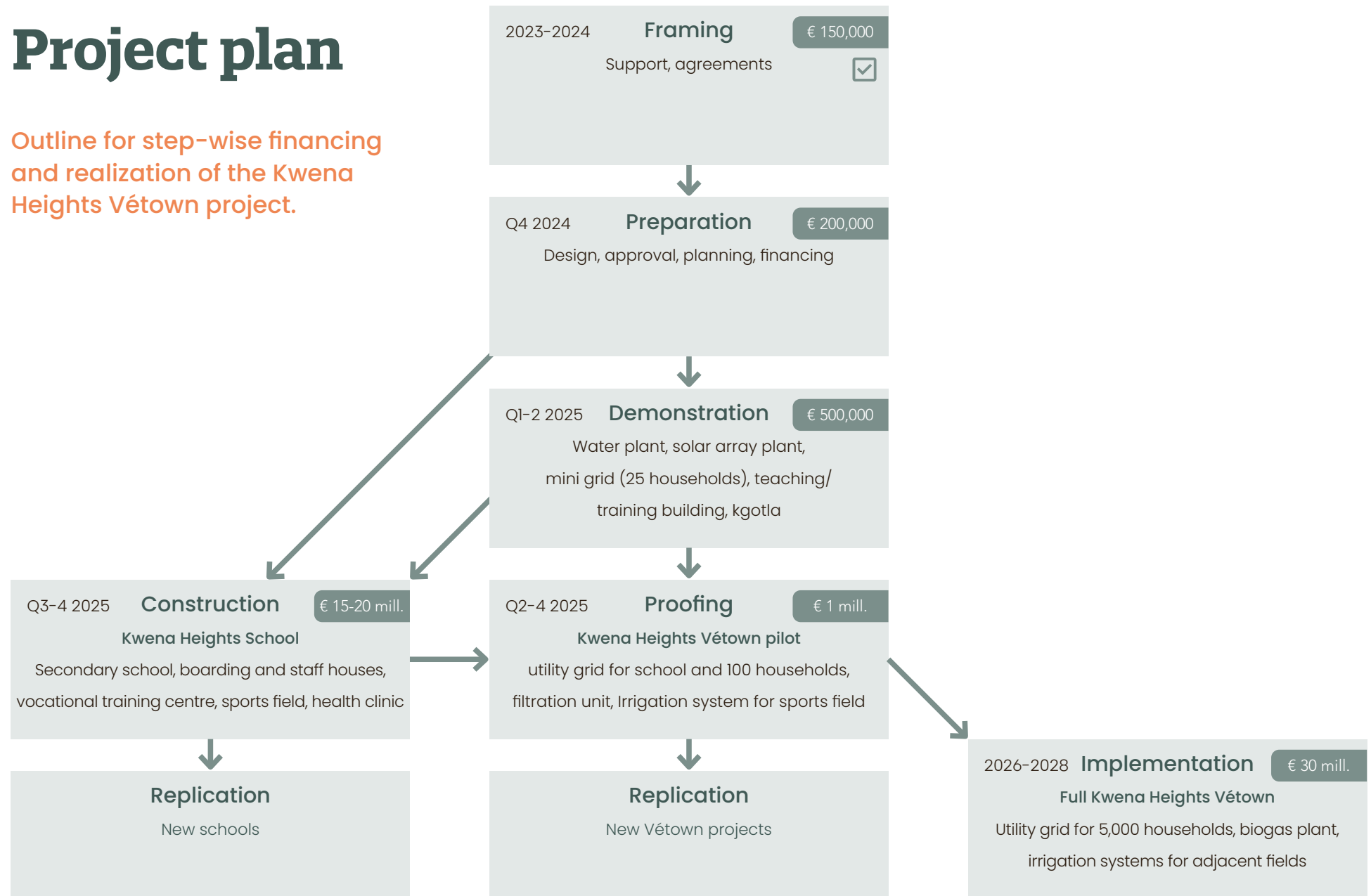
See list of supporting institutions and organisations to the right.

## The following institutions and organizations are supporting the KHV project

- Kweneng District Commissioner (Local DC)
- Kweneng Council (Local Council)
- Bakwena Tribal Administration (Local Chief)
- Boribamo West Village Development Council (local VDC)
- Ministry of Tourism and Environment
- Ministry of Basic Education
- Ministry of Entrepreneurship
- Ministry of Minerals and Energy
- Botswana Energy Regulatory Agency (BERA)
- Botswana Power Corporation (BPC)
- Botswana University of Agriculture and Natural Resources (BUAN)
- University of Botswana (UB)
- UNDP Office in Botswana

# Project plan

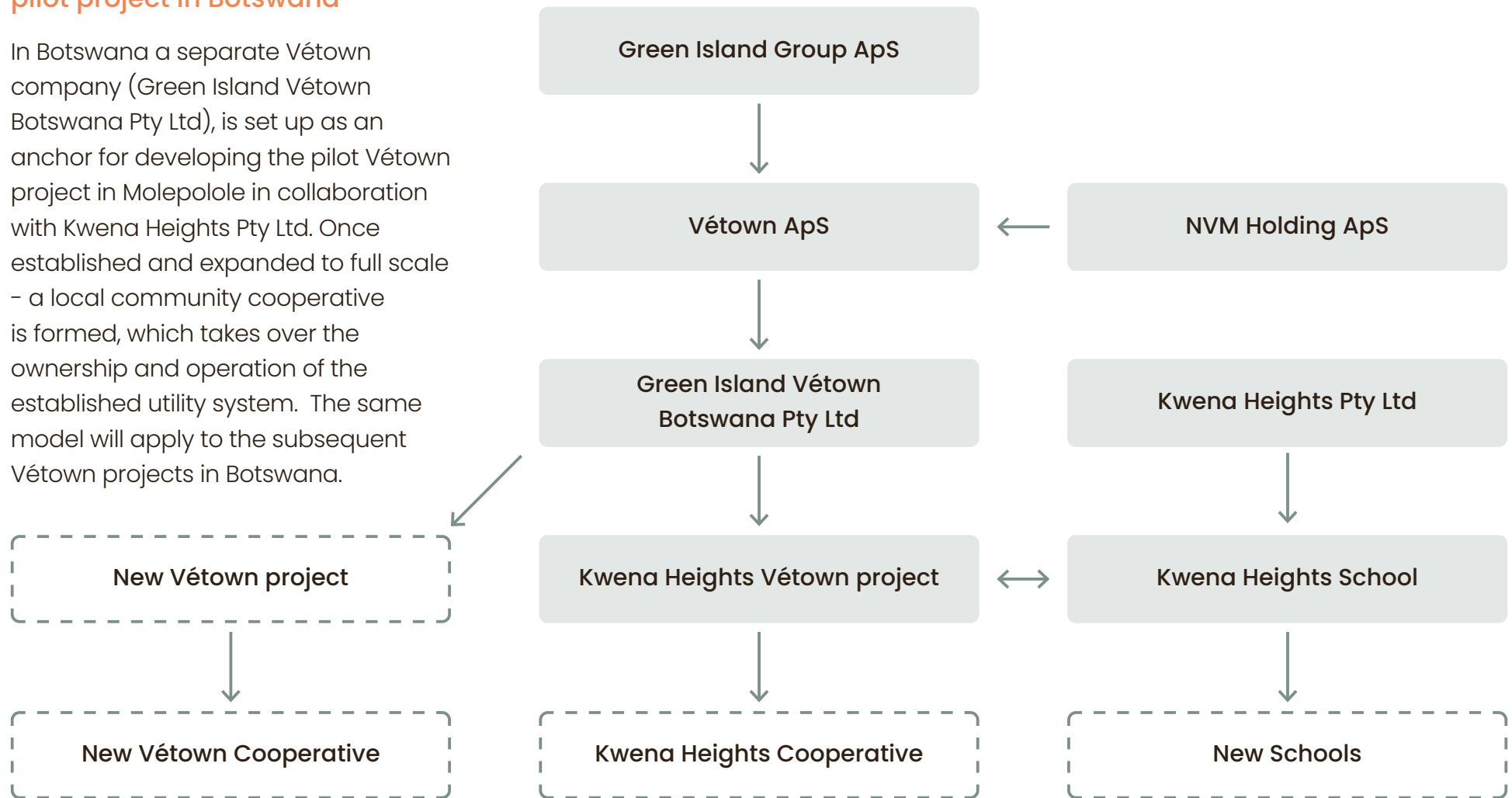
Outline for step-wise financing and realization of the Kwena Heights Vétown project.



# Organization diagram

## Organization for Vétown and pilot project in Botswana

In Botswana a separate Vétown company (Green Island Vétown Botswana Pty Ltd), is set up as an anchor for developing the pilot Vétown project in Molepolole in collaboration with Kwena Heights Pty Ltd. Once established and expanded to full scale – a local community cooperative is formed, which takes over the ownership and operation of the established utility system. The same model will apply to the subsequent Vétown projects in Botswana.



# The key persons behind the project



**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.



**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.



**Vétown™** | Enabling  
circularity

## Contact

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