



WHITE PAPER

Zero Carbon Water for Food

Partner Introduction

Across the world, more communities are being effected by extreme floods, droughts and fires. Two UK Companies are launching a new partnership to enhance climate resilience with the sustainable storage of surface water for agricultural and community use.

The Partners



Water Powered Technologies Ltd. (WPT) is an award winning UK water systems R&D company with a range of patented water pumping products. Their systems can help single farmers to entire regions, pump and store flood water - for use when drought returns.

WPT's systems will always be less expensive to operate than diesel or electric pumping systems and are able to move from 30,000 litres to 30 million litres of water per day.



Seedlink is a rapidly growing service provider helping small and large commercial farmers across Africa grow more food and use resources more sustainably, improving yields and increasing transparency for food buyers.

Market analysis is performed to understand agricultural supply and then Seedlink uses a mobile platform to co-ordinate agents which gather rural farmer supply and fulfil urban buyer demand.



New Fund

The partnership is launching a new fund which will install very large water pumping systems to support large and small farmers to grow more food as well as local and international food buyers to protect crop yields from climate change as well as reduce carbon pollution.

The Irrigation Solution

We all know how irrigation can help productivity and profitability, but using diesel fuelled pumps is costly and constantly pumping out ground water is contributing to a major water crisis. Over abstraction without limits is damaging aquifers locally and across entire regions.

By reducing costs of surface water irrigation with zero fossil fuel costs, commodity supply chains can instantly benefit by supporting food growers with doubling or trebling production in the case of some crops. And this method protects the environment for future generations.

Dirty Diesel is not the only scalable option!

From Asia's plantation sector to larger African sugar farmers, most operate diesel pumps, using millions of dollars in fuel, spending millions on service and labour costs and also putting millions of tonnes of CO₂ in to the atmosphere every year.



So if we use surface water from rivers and streams, aren't we stealing it from downstream consumers?

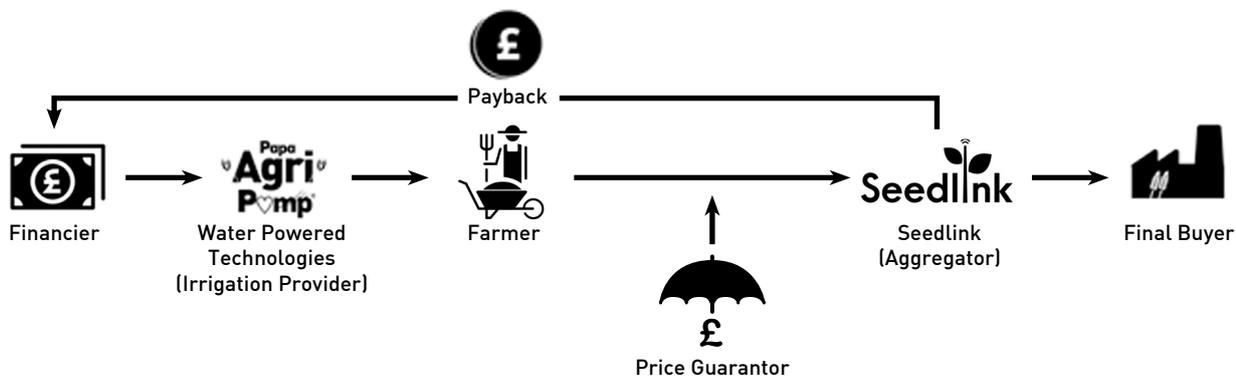
No, for the following reasons...

By using a Zero Energy Water System to 'Pump & Store' available surface water, we are capturing water in times of plenty, which would otherwise be wasted, eventually flowing into the sea. This water is stored in tanks or lagoons and used in times of need, such as drought or low river flows. The advantages of this method are:

- Hydro rams use surface water to power the pump, delivering 10-30% to the storage tanks and returning 70-90% of the water back to the water source, wasting nothing.
- Taking the water during wet periods can alleviate flooding.
- Using the stored water during drought can reduce the need to draw water from stressed rivers or having to buy public water.
- Stored water can be delivered by gravity to where it is needed and livestock can be kept from watercourses and therefore, reduces pollution.

A Sustainable Irrigation and Sourcing Partnership

WPT and Seedlink have created a partnership to work with large commodity buying multinationals as well as smallholders to provide low carbon irrigation. WPT and Seedlink are looking for blue/green infrastructure financing solutions for their zero carbon irrigation systems and commodity buying partners to join their sustainable sourcing partnerships.



Water Powered Technologies - Sustainable Irrigation Leadership

With over 1000 water systems in operation over 25 countries (many installed for over a decade with no running costs), WPT has proven it can survey, plan and install irrigation projects. Working with local partners around the world, projects have been successfully implemented for a much lower cost than the International Aid Funded Sector are used to. This offers farmers of every size, a practical hedge against climate risk which has frequently been reported by owners to be essentially 'priceless'.

Seedlink - Sourcing Leadership

Seedlink act as the aggregator of commodity growing instructions from multi-national buyers to continent-wide large and small local farming groups, making sure the crop selection balances sustainability challenges and offers transparent sourcing for the buyers.

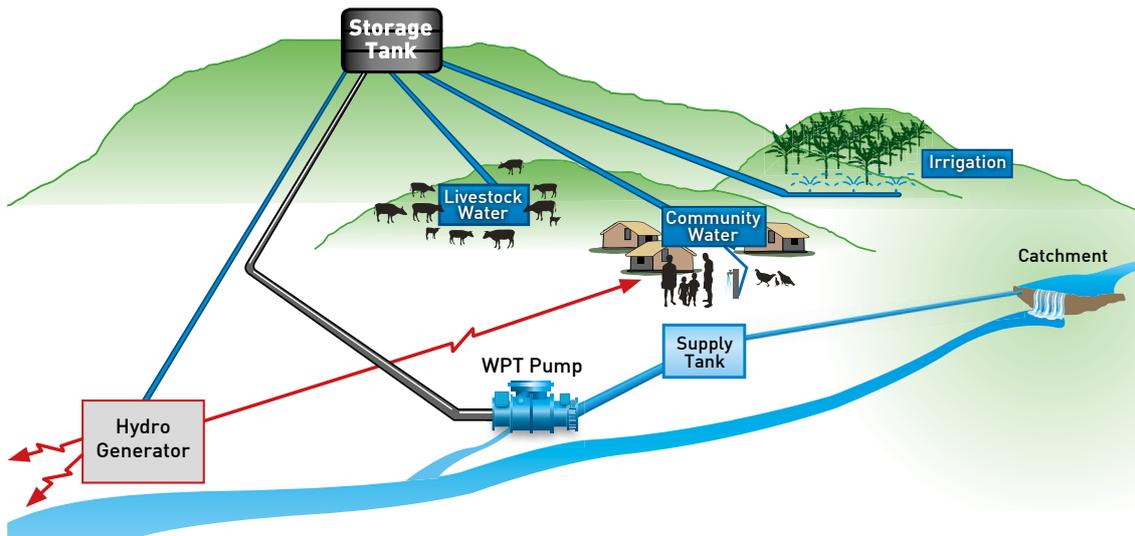
Sustainable Irrigation and Sourcing Partnership

The challenge each food commodity purchaser is facing is to access water without high operating costs, plus the need to de-carbonise its supply chain. By using WPT's equipment, supply chains become more climate resilient. Productivity is protected or even enhanced with secure and knowledgeable sourcing services supplied by Seedlink.

Zero Carbon Irrigation Partnership

WPT and Seedlink are working together to draw in blue/green infrastructure investors and food commodity buyers to provide funds to install zero carbon irrigation systems. The partnership also provides food/commodity off-take agreements and guaranteed minimum prices to help support farmers and increase production.

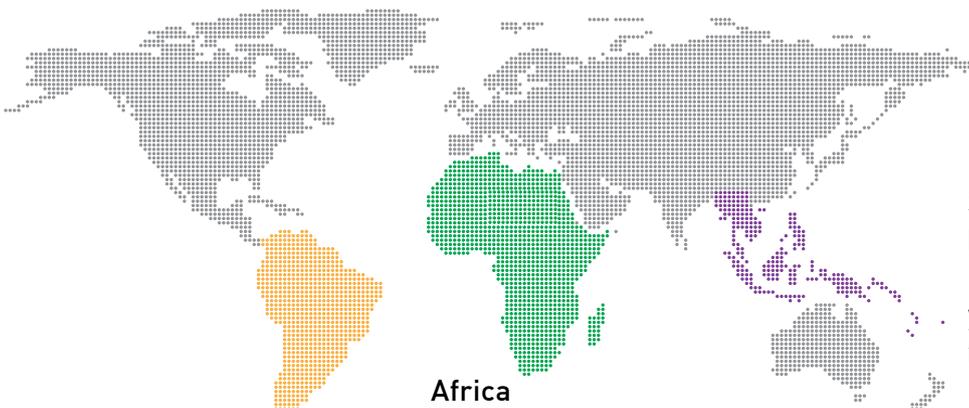
Large Scale Zero Carbon Water Delivery Solutions



- Funders have several possible revenue streams:
- Water transfer fees from agricultural users, large and small
 - Pumped Hydro revenue
 - Utility Water revenue to support UN SDGs (Sustainable Development Goals)

Focus

WPT and Seedlink have proven there is demand across Latin America, South East Asia and Africa for Zero Carbon Irrigation, plus greater engagement with food commodity buyers.



Latin America
Focus on Sugar, Coffee and Fruit.

Africa
Focus on fruits and cash crops (e.g. Chillies) to build local incomes.

South East Asia
Focus is on Palm Oil and Coconut where yields are under threat from extended dry periods and high yields mean less rainforest needs to be destroyed to support higher yields.

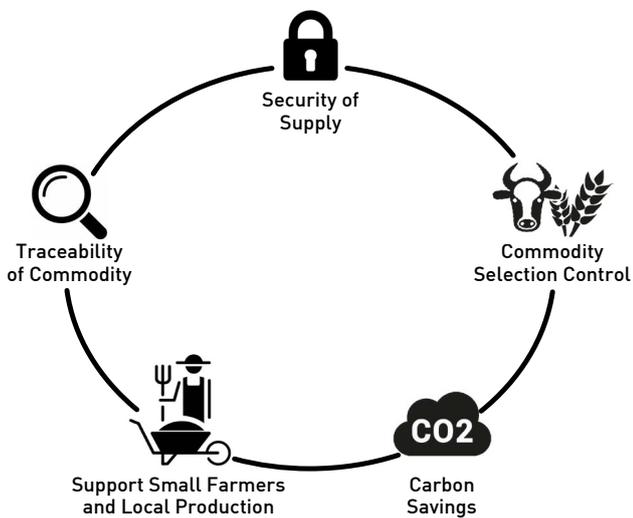
Join us

Climate change has added to the pressures to grow more food, whether by large plantations or smaller commercial growers. To enable this, in a sustainable and carbon neutral way, the Zero Carbon Irrigation Partnership invites infrastructure funders and food buyers to join or support our project.

Who Wins?

Make sure the community wins.

Higher and more consistent productivity across a wider range of crops means more investment for higher local value added through an irrigation led 'farm upgrade plan'.



Food commodity buyers win by being part of the the Zero Carbon Irrigation Partnership and having 5 significant 'added value' factors which were not possible when they simply sourced from anonymous middlemen and commodity traders.

Investors win by having access to an award winning scalable suite of patented water transfer technologies which will always be less expensive to diesel or electric irrigation to install, operate and expand in the face of climate change.

Power in MWh (Pumped Hydro)
Additional water to cover extra capex for hydro turbine.

Performance Additional water to cover extra capex.
Use Venturo to store more water.

Standard Charge Paid for water pumped during irrigation season.
Less than fossil fuel costs / labour and service.

Take or Pay Covers cost of system capex. Paid whatever happens.
Matches fossil fuel pump system capex (Depreciation / infrastructure).

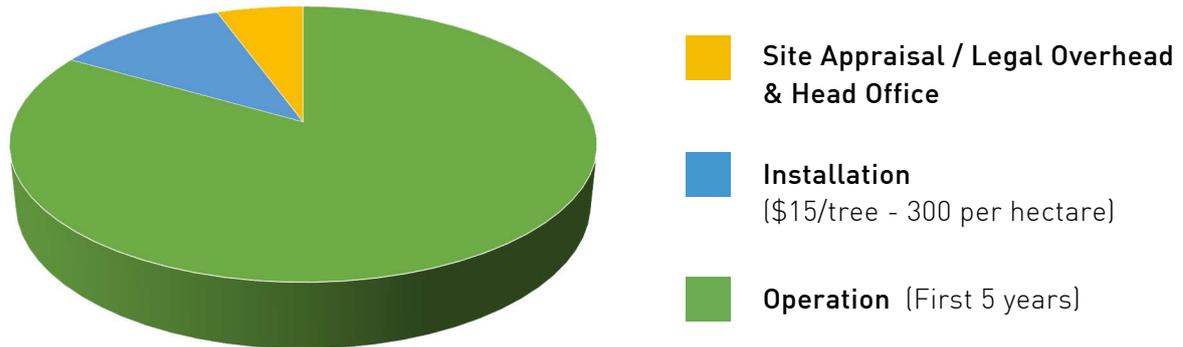


The environment wins with the benefits of greater productivity through higher density of plantings, facilitated by irrigation. This leads to less deforesting, protecting environmental assets for the local community and wildlife.

A Case Study

Establishing new plantations with higher densities is seen as especially attractive as with a tripling of productivity, only 10,000 hectares would be needed compared to 30,000 hectares before, so reducing the amount of land utilised for plantations.

Climate Change Ready Coconut Plantation Capex
(hybridised with irrigation) covering 10,000 hectares



What is on offer for the investor?

Once 10,000 hectares of fully irrigated hybrid coconut plantation is in operation this could generate as much as \$195 million in revenue (assuming \$19500/copra/hectare) - paying back the initial investment of circa £50 million, growing salaries for local employees and creating added value to local supply chains. However, the risk around such substantial upfront capex needed is reduced by Zero Cost Irrigation Systems, therefore helping achieve maximum productivity for all stakeholders once each plantation is operational.

Studies focus mainly on covering the dry periods which are very pronounced (and feared) in India and Sri Lanka, but less so in wetter Philippines and Indonesia. Results indicate that covering dry periods with sufficient water may increase yields by as much as 50%. The issue appears to relate to the stunting of the immature coconut flowers during a dry spell, which leads to low yields even if sufficient water is available at a later stage of development

Contact: