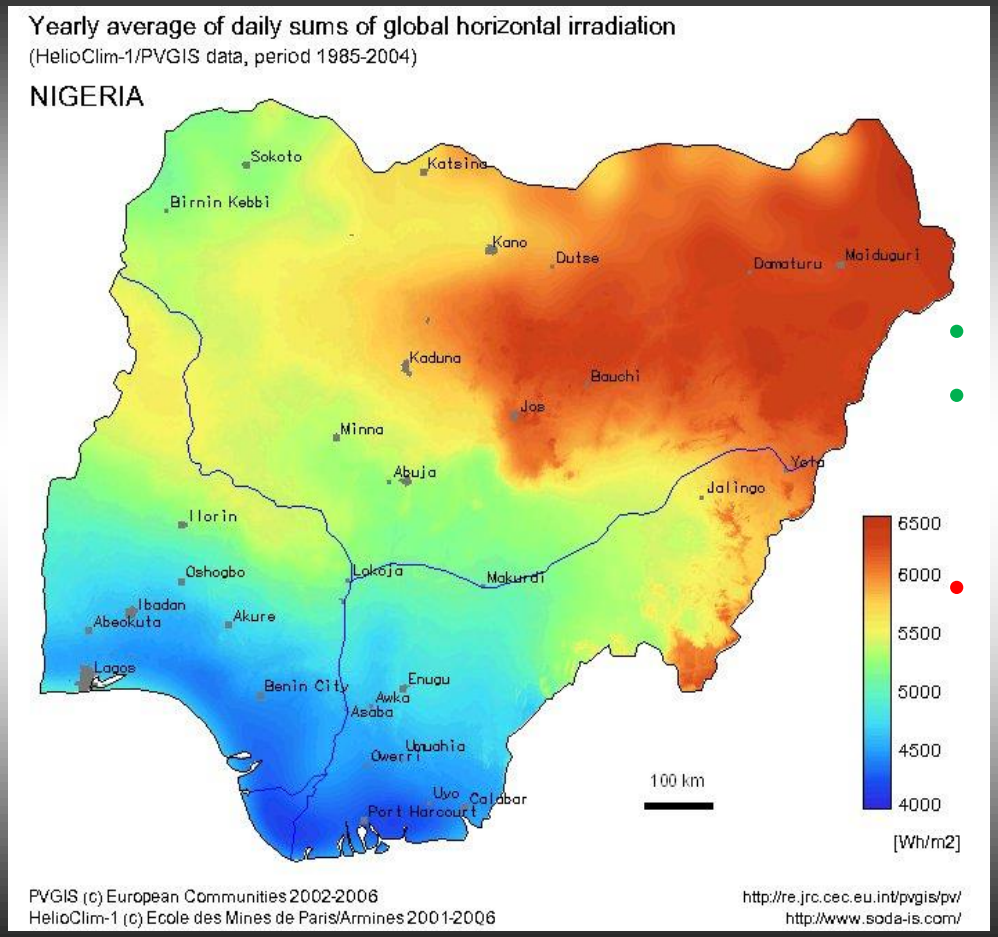
RUBITEC AGROSOLAR

PAYGROW (off grid solar pumps)

Bolade A. Soremekun

Solar radiation in Nigeria



- average 300 days of radiant energy
- blessed with solar intensities of between 4kWh/m2/ - 6.5kWh/m2 per day
- power demand is reported to grow at a rate of 8.2% annually

Farmers Rely on Rain fed Agriculture

- Food insecurity is peaking all across Africa. farmers have suffered two years of poor rainy seasons and depressed crop yields.
- Many farmers spent months waiting for the rain to fall, while watching crops dry up. This story is common among the 96 percent of smallholder farmers in Sub-Saharan Africa who rely on rain-fed agriculture.

Productive Use Energy

The concept of "productive use energy"

- Is about how we can use access to energy to drive income-generating activities, particularly for the rural poor, who are least likely to be connected to the grid.
- We want to make AgTech stronger, better, faster.
- The BIG question remains how do we scale solar irrigation in Nigeria.

PULSE: Productive Use Leveraging Solar Energy

- Next frontier for Off Grid Solar (OGS)
- The spectrum of PULSE use cases is diverse and encompasses activities that can be mechanized across agriculture, industry, and commerce.
- Solar energy sources can power a myriad of different “productive” activities, and appliances.
- For agriculture: water pumps and processing machines,
- For tradespeople: sewing machines, carpentry tools, retail outlets, refrigerators
- Our Minigrid experience

According to WB:

It is estimated that the serviceable market for solar water pumps in sub-Saharan Africa will increase from USD 456 million today to USD 1.63 billion by 2030.

RUBITEC AGROSOLAR

- At Rubitec AgroSolar, we believe that getting the right technology into the hands of smallholder farmers empowers them to take control of their environments.
- Rubitec AgroSolar will help farmers access all the water they need. So that they can grow more crops for financial freedom and feeding.
- We want irrigation to impact their lives so they can “farm without fear.”

Micro-Irrigation Systems

- **Features**

Easy to Install: Systems are easy to install and require a minimal amount of basic tools

Low Pressure: Systems can operate on low pressure (3m minimum head required)

Mobile: System can easily be moved for crop rotation or to a different farm Expansion: The system's plug and play functionality allows for easy expansion

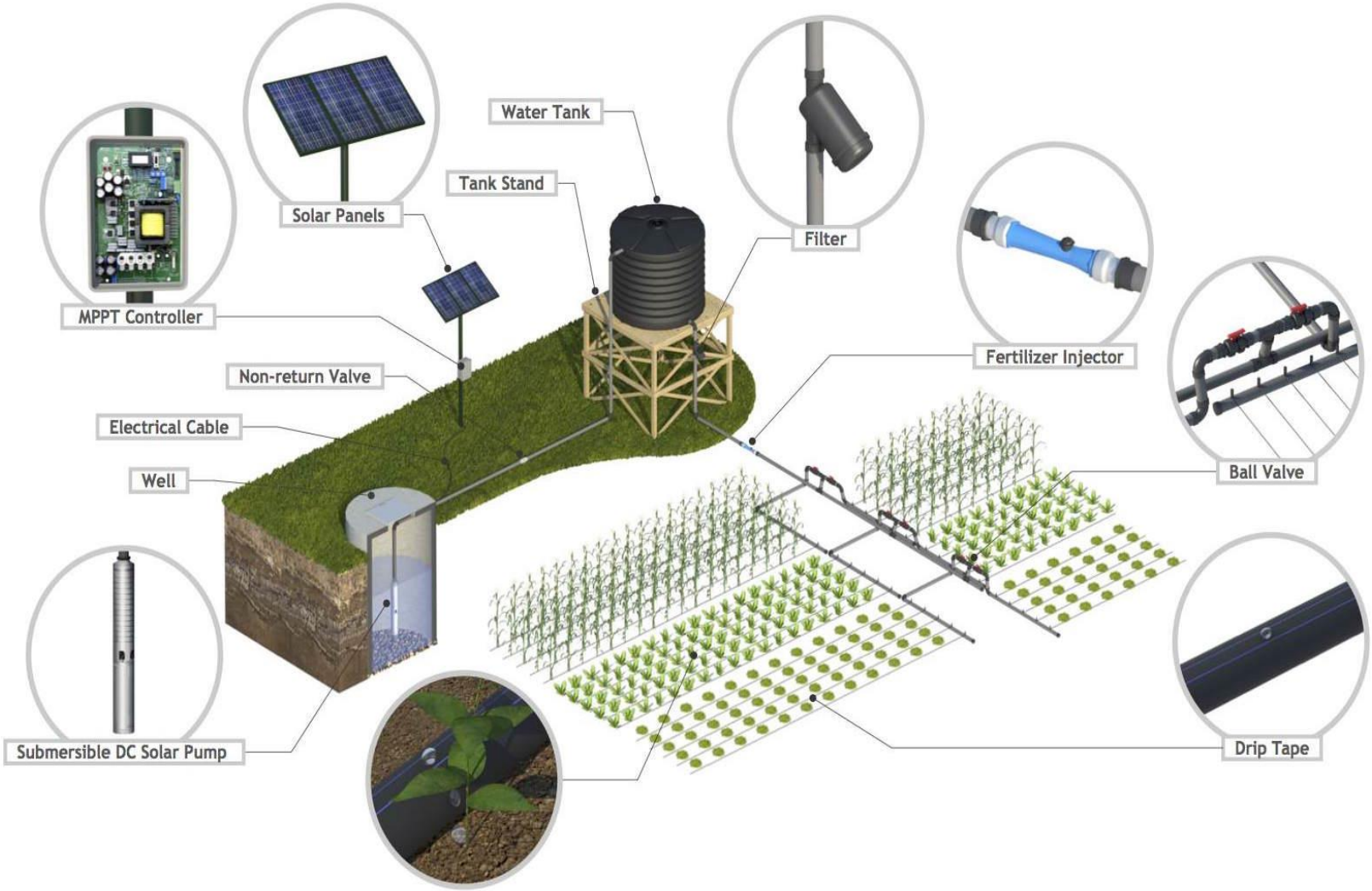
- **Micro-Irrigation Systems**

Drip Irrigation Kit: The drip irrigation system increases both water use efficiency of up to 90% and yields up to 300% when compared to traditional furrow irrigation methods. The system also guides water directly to the root of the plant, helping to reduce pests, weeds and harmful fungi growth caused by water on the surface of the crops.

- **Mist Irrigation Kit**

The mist irrigation system includes mist tape with laser-drilled micro-pores. The system spreads a mist over the crops, simulating rain. One line of mist tape can irrigate two beds of crops and is ideal for leafy ground produce.

Solar water irrigation Concept



CARBON TRUST

Existing

Solar pumps for irrigation

Objective

Upscale the Reach of proven "Solar Pumping for agriculture Model" for reducing dependence on diesel & unreliable grid electricity in Rural areas.

Description

- Increase the Reach of the proven Solar Pumps along with technology partner , in implementing installation of solar pumps through local partners / entrepreneurs promotional activity
- Training to local partners / installers.
- Work in close concert with international agencies to bring in best practices, viable financial modelling, dovetailing Govt schemes and subsidies.

Delivery Partners & Co-funders

- Will build on existing successes of other models & programmes, and work with local entrepreneurs in India and Sub Saharan African countries.
- Programme would bring together stake-holders in Nigeria. Would include ministry of Agriculture, Farmers associations , International donors, capacity support organisations, marketing agencies, research and evaluation specialists.

Activities

- Closely working with Ministry of Agriculture, Agricultural associations,
- Run a pilot to gain more insight.
- Study and replicate deployment of successful models already demonstrated, based on lessons already learnt in other countries.
- Engagement of relevant stakeholders in Nigeria to work together for success .

Rationale

- Solar Pumps usage is well established. The problem is reaching the remote areas and scale-up.
- Currently farmers continue to run pumps on diesel generators., because electricity is not available or unreliable.
- In addition to promoting entrepreneurs, training of technical personnel for after sales service will see a proliferation of solar pump usage.

Cost	A	Already demonstrated in Kenya and India. ISA envisaging scale up program.
Additionality	A	Can be coupled with small battery systems to meet other needs. Gap is there in connecting the dots. Replicability.
Impact	G	Capable of achieving large fuel savings and improve yields substantially. In addition cash crops which were hithertofore not grown, will now be possible.. Replaces diesel genrators. Climate Change impact.
Likelihood of success	A	Near certainty, since it has already been well proven and demonstrated in other countries.

End-to-End Solution

- **Equipment**: Rubitec's solar-powered water pumps will replace expensive and polluting petrol, diesel and / or grid connected electric pumps with an efficient, clean and reliable solar-powered solution.

- **Services:** Rubitec will offer an array of services including: system design, installation, after-sales support, agronomy support, and training. Rubitec's services will help to ensure farmers sustain higher yields and realize long-term profitability.
- **Finance**: A *Pay-As-You-Grow* financing platform will be available for Rubitec's products and services.
- Our *Pay-As-You-Grow* platform will help to ensure that even capital-constrained farmers can access the equipment and services they need to succeed.


Thanks for listening
Bolade A Soremekun
08034499670
bolades@rubitecsolar.com

SOLAR IRRIGATION PILOT PROJECT

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RUBITEC SOLAR
Solar 4 all

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