

RWANDA

GREEN LIGHTING

In Rwanda

Only 46.1 of the total population has access to electricity, because our hydroelectric power production is limited to 57 MW.

In Cities

Average electricity consumption per household is 2KW/day. One street light consume 2.5KW/day and serve two house-holds. Compare 4KW to 2.5KW?

In Rural Areas

Average electricity consumption per household is 1.5KW/day. 20 street lights can serve one house-hold. Compare 50KW to 1.5KW?

Globally

Climate change is everywhere. Emission of greenhouse gases is increasing at alarming rate.

Solution

Transforming greenhouse gases emitted in the air into green, sustainable energy TO supplement existing hydro-energy production.

Designing low embodied energy streetlights to consume established energy source.

Distributing new established energy source in off-grid area to serve streetlights and population living in that area.

Building resilience cities by removing greenhouse gases emitted in the air.

How It Works

Using DAC(Direct Air Capturing) technology to capture gases.

Reacting hydroxide with captured gases specifically CO₂ which is most reactive.

Dehydrate the solution obtained to remove water and non-reactive gases to get Na₂CO₃

Undergoes Na₂CO₃ into electrolysis process to get Direct current to be amplified and serve people and streetlight.

This can be one streetlight composed with in-built energy source, chain of streetlights or a system of energy source to serve streetlights & house-holds.

Why now?

Greenhouse gases will keep on increasing at a very big rate no matter what actions we take rather than removing it in the air.

Rwandan Populations density is increasing and energy production is almost constant.

We need to stop importing everything. Made in Rwanda can not be practised in textile, cars or coffee only we need to go beyond that.

Na₂CO₃ solution used can be recycled, stored or transferred to another place.

This is a call to action that can help to achieve 7, 11 and 13 sustainable development goals at the same time