Implementation and operation of water kiosks – PoA

Key Project Information

The mission of this planned program of activities ("PoA") named *"Implementation and operation of water kiosks"* is the installation and operation of Solar-PV powered Reverse Osmosis water kiosks worldwide to provide safe drinking water and displace water boiling using non-renewable biomass and/ or fossil-fuel as means of water purification.

These activities shall be supported by carbon funding for the reduction of greenhouse gases for which registration under the Gold Standard is addressed. This project description has the purpose to inform stakeholders in the context of design consultation and the local stakeholder consultation. These consultations are part of the certification procedure according to the criteria of the Gold Standard, a foundation in Switzerland that certifies projects saving greenhouse gas emissions, according to high environmental and social standards.

1. Project Description and Design

The PoA shall consists of the construction and operation of several water kiosks as similar project activities (voluntary Project Activities ["VPAs"]). Water kiosks using solar-PV powered Reverse Osmosis technology as proven mature technology to deliver safe, reliable and affordable drinking water. They are specifically designed to operate in harsh rural environments and require no grid connection or backup diesel generators. These water kiosks are able to provide drinking water that meet WHO water standards.
As public 24/7 water ATM, equipped with taps or as bottling station the water kiosks will provide up to 20.000 litres of drinking water per day in 20 litres re-filled bottles to the end users. The technology is scalable coming in a variety of different capacity sizes depending on the needs of communities or institutions.

Schematic applications of a WaterKiosk®

The proposed PoA aims to increase the access to safe drinking water in different countries. Ground water reservoir are being negatively affected by rising salinity levels due to saltwater infiltration as a direct result of climate change. If accessible, tap water is often both saline and badly contaminated with bacteria and poses a great threat to the populations. Solar-PV powered RO water kiosks will provide residents access to water at the source. Besides producing safe drinking water, some water kiosks may include an aquaponics system as well, that combines fish farming and fruit and vegetable farming by a controlled water circulation between them. Finally, wastewater of water kiosks could also provide sanitation water needed for public toilets of the host communities. Such a diverse supply of water maximizes the social impact and circular economy character of the projects.

WaterKiosk® in Burani/ Kenia

a. Methodology

The VPA applies the small scale methodology AMS-III.AV "Low greenhouse gas emitting safe drinking water production systems", Version 08.0.

Typical project(s)	Project activities that introduce low GHG emitting water purification systems to provide safe drinking water and displace water boiling using non-renewable biomass or fossil fuels
Type of GHG emissions mitigation action	Displacement of a more-GHG-intensive output

b. Community Services Activity (CSA)

As a Community Services Activity the PoA leads to climate change mitigation and adaptation by improving access to services at the household or community level as defined by the Gold Standard Foundation.

Eligibility Criteria of CSA

(a) Types of project: Community Services Activity: Water, sanitation and hygiene (WASH)

(b) Project area and boundary: Republic of Kenya.

Project scale: Microscale Project.

(c) Legal ownership: atmosfair gGmbH has the legal ownership on the verified emission reduction based on the founding contract between atmosfair gGmbH and the project partner. The relevant part of the contract will be provided.

c. Project participants as of now:

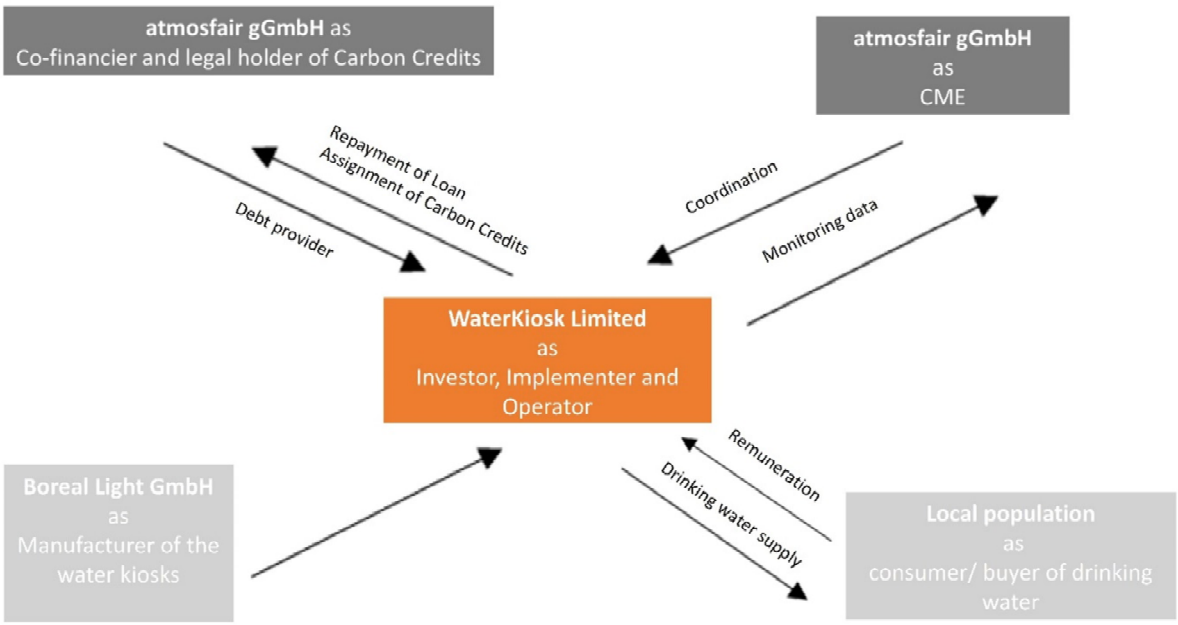
WaterKiosk Limited: Samuel Kinyanjui [kinyanjui@winture.de]

Boreal Light GmbH: Hamed Beheshti [beheshti@boreallight.com]

atmosfair gGmbH: Kevin Moeller [moeller@atmosfair.de]

d. Tentative organisational structure:

WaterKiosk Limited will be the implementer of WaterKiosks® and will be responsible for the operation and maintenance. The German company Boreal Light GmbH will be the manufacturer of the solar water desalination machines and responsible for spare parts and guarantees. atmosfair gGmbH, a non-profit company from Germany, will provide co-funding and coordinate the activities relevant for the Gold Standard certification process. The following diagram represents the currently planned management structure of the PoA applicable for VPA1 "Implementation and Operation of water kiosks in Kenia". This structure may still be amended and adapted for each VPA.



e. Terms of VPA inclusions to the PoA

(1) Each VPA is located in one country ("PoA boundary");

(2) No VPA was a registered/ deregistered nor included in other PoAs;

(3) Any VPA under this PoA will consists of WaterKiosks with annual emission reductions limited to a maximum of 10,000 tonnes of CO_2eq in each and every year of the crediting period ("microscale threshold");

(4) The local stakeholder consultation will be conducted for each VPA;

(5) Any VPA start date shall not be before the PoA starting date; and

(6) The Coordinating Managing Entity and the project activity operator shall confirm that in case of public funding, there is no diversion of Official Development Assistance.

2. Project's social, economic and environmental benefits and impacts

Generally, the access to safe drinking water in many parts of the world is limited. If households have access to water, the water is often badly contaminated with chloride, fluoride, calcium, sodium, nitrate, bacteria and salt. This poses a great threat to the population. This PoA will support countries with limited access to safe drinking water worldwide to offer access to hygiene drinking water at an affordable price to its population.

This PoA will contribute to the following Sustainable Development Goals:

- SDG 6: Clean water and sanitation
  Target 6.1. By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
  Indicator 6.1.1. Proportion of population using safely managed drinking water services

  → The PoA ensures easy and affordable access to clean and safe drinking water to families;

- SDG 8: Decent work and economic growth
  Target 8.5. By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
  Indicator 8.5.2. Unemployment rate, by sex, age and persons with disabilities

  → There is the creation of 2 permanent jobs per WaterKiosk and – if the WaterKiosk includes an aquaponics system - up to 10 casual jobs for fish- and fruit or vegetable farming

- SDG 13: Climate Action
  Target 13.2. Integrate climate change measures into national policies, strategies and planning.
  Indicator: GHG emissions saved annually through the project as contribution to a low greenhouse gas emission development path

→ By displacing water boiling using non-renewable biomass and/or fossil-fuel as means of water purification with Solar-PV powered Reverse Osmosis water kiosks, the VPA reduces GHG emissions and thus, contributes to combat climate change.

Ex-ante estimates for annual average of emission reductions for the first 5 years of Crediting Period 1: 3,997 tCO_{2e}.

3. The project's tentative timetable

12th May 2020: Start of Design Consultation
June/July 2020: Local Stakeholder Consultation Meeting
July 2020: Start of Stakeholder Feedback Round
July/August 2020: Commissioning of the first part of project activity