

# WATERBOX

## PROJECT TITLE:

**WATERBOX**

## COUNTRY :

Burkina-Faso

## AN INCUBATION PROJECT SUPPORTED BY :



<http://www.lms-water.com>

## VERBATIM OF THE PROJECT LEADER:

« Chemical-free drinking water treatment is an opportunity for small cities and isolated sites in Africa »

## GEOGRAPHICAL LOCATION:

Boromo is a city of about 30,000 inhabitants, located halfway between Ouagadougou (Capital of Ouagadougou) and the country's second largest city of the country called Bobo-Dioulasso.

## SCALE OF INTERVENTION:

Local

## CONTEXT AND ISSUES OF THE TERRITORY:

Boromo is supplied with drinking water by a treatment plant managed by ONEA (National office of water and sanitation), using water from the Mouhoun River.

The current treatment capacity of around 500 m<sup>3</sup>/day is insufficient to ensure satisfactory coverage of the drinking water needs of the entire population. In addition, there is a demographic dynamic linked to the city's location on a busy trade road, as well as, more recently, the influx of displaced populations from the northern part of the country and from border areas subject to strong insecurity.



**GOAL(S) OF THE PROJECT :**

WATERBOX project is the winner of the Fasesp call for projects "Innovative solutions for sustainable cities in Africa" from DG Treasury. LMS World Water Treatment proposed an innovative treatment system without chemicals.

Indeed, conventional treatment systems use chemical inputs (coagulants, flocculants, chlorine, etc.) that operators often have difficulties in supplying for all kinds of logistical, financial or organisational reasons, particularly in secondary cities far from logistical centres.

The proposed system uses electrocoagulation, capable of generating coagulants in situ from iron and aluminum materials that are easy to find locally.

Filtration is provided by ceramic membranes at 0.1 micron.

Energy is supplied by a 23 kWc photovoltaic generator with a 72 kWh battery storage, with the possibility of switching to the national grid during night.

We have designed a 12 m3/h demonstrator, capable of treating approximately 250 m3/day, which is a 50% increase in the existing capacity.

The station is installed in container40' that is easy to set up and connect. The operation is automated according to the analysis of the turbidity of the raw water at the inlet. A communication module allows remote monitoring of all the station's operating parameters, both for water production and energy production.



ONEA treatment plant in Boromo



Waterbox electrocoagulation reactor



Installation of a raw water tank



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Quality of treated water

**ODD TARGETED BY THE PROJECT :**



## PROJECT ISSUES :

Drinking water - reduction of chemical inputs - autonomous energy

## SECTORS CONCERNED :

Drinking water supply - decarbonised energy

## EXPECTED RESULTS :

- Drinking water production capacity is increased
- The quality of the water produced meets or exceeds WHO standards
- Equipment and technology are appropriate for ONEA
- System management is facilitated by the absence of consumables
- The cost price of the water produced is lower than that of other ONEA plants

## STAKEHOLDERS OF THE PROJECT :

### Actors involved :

#### Project operator(s) :

LMS World Water Treatment (France)  
ONEA (Burkina-Faso)

#### Technical partner(s):

#### Financial partner(s):

DG Trésor (Fasep)

## ESTIMATED COST OF THE PROJECT :

570,000 €

## SHORT-TERM ACTIONS (3 YEARS):

- Monitoring the quality and proper functioning of the unit, in particular through remote monitoring
- Supporting the ONEA operator in the methodology for running the station and preventive maintenance actions

## LONG TERM ACTIONS (10 YEARS):

Development program aimed to replicate the technical solution demonstrated throughout the sub-region and more generally in Africa.