

Sustainable Cities Initiative for Senegal

Promotion of renewable energy, energy efficiency and integrated management of waste in industrial parks

MENUISERIES
SCHULLER

Company Overview

Company name : SCHULLER METAL
Date of creation : June 23 2016
Activity sector : Building Envelope (Aluminium & Façade)
Number of employee : 45 permanent
Location : Sébikhotane
Project Cost : 121 074 516 FCFA



Solution proposed

Construction of an ecological building in Sébikhotane to house the factory. The Sébikhotane site consists of offices and a production shed. The buildings will be constructed of BTC compressed earth bricks, and part of the roof will be made of translucent sheet metal to optimize natural lighting. A 30kWp solar power plant will enslave the plant.

RECP Actions

Solar Energy
Waste management

Energy efficiency
Co pop profit

Investments approved : 124 374 516 F CFA or 189 884, 76 EURO

Company's engagement rate : 50%

Material Investment :

- A bioclimatic building made of BTC (compressed earth bricks);
- A 30.38 KWp solar power plant;
- 58 wind extractors with a minimum flow rate of 750 m³/h,
- 8 inverter air conditioners

Intangible Investments :

A system for metering self-consumed energy, consumption monitoring and alert system on production, calculation and reporting of monthly CO₂ emissions over 1 year.

Pilot Project

SCHÜLLER is a façade builder specialising in the design, customisation and installation of structures for the building envelope. The company designs solutions for new buildings and renovations. It is present in all markets (single-family homes, multi-family housing, tourism & leisure, offices and shops). SCHÜLLER focuses on sustainability by choosing materials and manufacturing processes with the lowest environmental impact



Observation

- Cramped workspace
- Absence of a storage room for finished products
- Difficult access to wide-body aircraft

Project's Impact

- The significant decrease in the supply of conventional energy (at least 40%);
- A strategic position reducing production costs and delivery times;
- A better image of the company with ISO 14001 certification;
- Reduction of CO₂eq emissions by 33.2 Tons/year.
- Return on investment : 2 years and 8 months

Certification ISO 14001



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET



THE WORLD BANK



Bureau de Mise à Niveau



RECP net



+221 33 869 77 70



137 Sotrac Mermoz
BP 16 595 Dakar - FANN



www.bmn.sn

Sustainable Cities Initiative for Senegal

Promotion of renewable energy, energy efficiency and integrated management of waste in industrial parks



Company Overview

Company name : Industrie des Boissons du Sénégal (IBS)
Date of creation : 01/10/2012
Activity sector : Production of juices and fizzy drinks
Number of employee : 320 permanent
Location : Diamniadio
Project Cost : 201 615 200 FCFA



Pilot Project

The company (IBS) specialises in the production and marketing of soft drinks and still drinks. The company's products are Coca-Cola and Coca-Cola Zero, Fanta, Sprite and Sprite Zero, Schweppes (Tonic, Citrus, Lemon and Soda water), Minute Maid.



Observation

IBS is supplied with electricity by Senelec. It has diesel boilers and an emergency power generator.

Solution proposed

IBS is committed to an ambitious and visible approach to gradually decarbonize its factories by reducing its energy dependence by 25-30%.
A 956 KWp self-consumption solar power plant.



RECP Actions

Solar Energy
Waste management

Energy efficiency
Co pop profit

Investments approved : 201 615 200 F CFA or 307 809, 47 EURO

Company's engagement rate : 50%

Material Investment :

-A photovoltaic roof system with a total peak power of 956 KW for self-consumption;

Intangible Investments :

-Project management support
-Certification : ISO 14001



Project's Impact

- Reduction of energy dependence with a self-production rate of 25-30% linked to the installation of photovoltaic solar energy;
- Improvement of the integration rate from 15% to 19%;
- Reduction of CO2 emissions
- Creation of 5 green jobs created
- Return on investment : 10years and 5 months

Certification ISO 14001



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET



THE WORLD BANK



Bureau de Mise à Niveau



RECP net



+221 33 869 77 70



137 Sotrac Mermoz
BP 16 595 Dakar - FANN



www.bmn.sn

Sustainable Cities Initiative for Senegal

Promotion of renewable energy, energy efficiency and integrated management of waste in industrial parks



Company Overview

Company name : NMA SANDERS
Date of creation : March 13 1996
Activity sector : Manufacturing of human and animal nutrition products (animal feed, poultry, wheat flour, pasta)
Number of employees : 291 permanent
Location : Dakar
Project Cost : 172 705 984 FCFA



Pilot Project

Created on March 13, 1996, the NMA (Nouvelle Minoterie Africaine) operates in the agri-food sector and specializes in human and animal nutrition products. The NMA offers a wide range of products, the main ones being:

- Soft wheat flour
- KHONTE livestock feed,
- Poultry and fish feed, and
- PASTAMI pasta.

Observation

-The average cos phi in all three sites is less than 0.9. NMA does not register any bonuses and risks paying penalties without action

-The Pikine site has two steam boilers: one of 2 t/h (1,360 kW) of the Secat brand dating from 2007 and the other of 2.5 t/h (1,760 kW) of the Babcock brand dating from 2019. The steam circuits are not completely insulated, causing significant heat loss.

-Excessive energy consumption of the two presses with powers of 200 and 160 kW respectively as well as the 160 kW shredder (82% of the annual bill)

The boilers are fed with softened city water. This water contains a high limestone content. Indeed, in the long run, limescale will settle inside the pipes and will reduce their diameter and reduce the efficiency of the boilers

Solution proposed

-The installation of a 1612.5 kVa compensation battery to avoid penalties and improve the power factor at the three sites. An annual bonus of 62 million FCFA is expected on the 3 sites.

-The insulation of the steam pipes will improve the boiler room by reducing heat loss as well as fuel purchases (15t CO2eq avoided per year, i.e. a gain of 2 million).

-Replacement of the motors of the two presses and the crusher with IE4 high efficiency motors.

The installation of a reverse osmosis type softener to stop the deposit of limescale in the boiler's heating body, maintain its maximum efficiency and achieve energy savings. A saving of 8 cubic metres of fuel is expected and 21 tCO2eq/year.

RECP Actions

Solar Energy
Waste management

Energy efficiency
Co pop profit

Investments approved : 172 705 984 F CFA or 263 673,26 EURO

Company's engagement rate : 60%

Material Investment :

Insulation of the steam circuit, water treatment by reverse osmosis, installation of high-efficiency IE4 class motors, Installation of a compensation battery on the PIKINE, POTOU and PASTAMI sites.

Intangible Investments : Implementation of an energy management system.



Project's Impact

- A saving of 9.67% on the annual electricity bill and 4% on fuel.
- Financial gain on energy savings 46,567,055 FCFA /year
- Conventional energy avoided: 132.3 MWh per year
- Amount of CO2eq avoided: 122.1 TCO2 avoided per year
- Amount of Persistent Organic Pollutants avoided: 0.22 micrograms
- 2 green jobs created
- Return on investment: 4 years and 8 months



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET



THE WORLD BANK



Bureau de Mise à Niveau



RECP net



+221 33 869 77 70



137 Sotrac Mermoz
BP 16 595 Dakar - FANN



www.bmn.sn

Sustainable Cities Initiative for Senegal

Promotion of renewable energy, energy efficiency and integrated management of waste in industrial parks



Company Overview

Company name : Eiffage Sénégal / Diamniadio profit centre construction site

Date of creation : 1926

Activity sector : Public Works & Buildings

Number of employee : 3200 employees in 2023

Location : Diamniadio

Project Cost : 88 154 267 FCFA



Solution proposed

■ Self-consumption solar power plant

-A modular 33.6 kWp solar power plant with an average production of 28,948 kWh/year. This represents 25% of the total consumption of the workshop and generates a financial saving of 2,894,800 CFA francs/year,

■ Recycling of router residues

Installation of a router bottom retrieval system.

This technology provides a solution in terms of respect for the environment because it makes it possible to recover reusable aggregates to make concrete again and avoid spills on the ground.

RECP Actions

Solar Energy
Waste management

Energy efficiency
Co pop profit

Investments approved : 88 154 267 F CFA or 134 586, 67 EURO

Company's engagement rate : 45%

Material Investment :

- Concrete residue recycling machine.
32 kWp modular solar power plant

Intangible Investments :

-Project management support



Pilot Projct

Eiffage Diamniadio is a construction company whose activities focus on: Construction and Rehabilitation of Buildings, Civil and Hydraulic Works, Industrial Civil Engineering, Electricity, Infrastructure and Road Works, Sanitation Works, Maritime and River Works, Hydro-Agricultural Developments. With a strong presence on the Senegalese market, it produces concrete for the construction of bridges, roads and buildings.

Observation

-Low cos phi with an annual average of 0.6; lack of sub-meters; Subscribed power greater than demand.

-Before, the trucks were cleaned without a recovery system, the water containing cement, the adjutant was dumped on bidim and dried, which led to soil pollution.

Project's Impact

Estimated annual production of 51MWh

-Reduction of CO2 emissions by 52,244 tons per year
Recycling of concrete and spinning top scrap which will recover: (i)5,369 tonnes of basalts (ii)10 tonnes of admixtures (iii)1006 tonnes of sand, (iv)8,528 m3 of water

-Creation of 2 green jobs.

-Return on investment : 4 years and 5 months



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET



THE WORLD BANK



Bureau de Mise à Niveau



RECP net



+221 33 869 77 70



137 Sotrac Mermoz
BP 16 595 Dakar - FANN



www.bmn.sn



Bureau de Mise à Niveau



ENVIRONMENT & ENERGY EFFICIENCY COMPONENTS

GREEN LINE AFD/SGBS

GLOBAL BUSINESS SARL

The company operates in the agriculture, market gardening and horticulture sectors. The production site is in Missirah (Bira village) in the Tambacounda region on a total area of 2500 ha along the Gambia River over 13 km. With the availability of water, Global Business will make a gradual transition from fuel-pumped to self-consumption solar irrigation.



EEA investments from diagnostics

- 486 kWp modular photovoltaic power plant with a tracker guaranteed for 10 years
- Investment : **50 million F CFA + annual leasing amounting 81 millions over 10 years**

Impacts du projet

- A saving of 56.3 cubic metres of diesel per year, i.e. a self-production rate of 56%
- A total annual saving of 114,986,021 CFA francs/year
- A reduction of 393 tonnes of CO2eq per year



"Ensemble, valorisons les ressources du Sénégal Oriental"
T^h : 77 543 15 06 / 70 887 87 62
globalbusinessagrosylvo@gmail.com



RECP net



+221 33 869 77 70



137 Sotrac Mermoz - BP 16 595 Dakar - FANN



www.bmn.sn



Bureau de Mise à Niveau



ENVIRONMENT & ENERGY EFFICIENCY COMPONENTS

GREEN LINE AFD/SGBS

Hotel KADIANDOUMAGNE

Located at the Boudody pier in Ziguinchor, in the south of Senegal, this 3-star palace, with its feet in the water, knows how to welcome and accommodate the customer in the spirit of the famous Kassoumay.



EEA investments from diagnostics

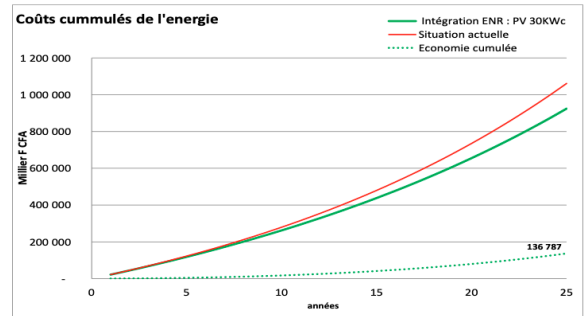
- Installation of a 30 kWp photovoltaic solar power plant,
- Solar thermal system for the production of hot water.
- The installation of a mini sanitation plant.

- Investment : **600 Millions**
- **EEE** Investment : **167 Millions F CFA**

Impact of the projet

- Reduction of the hotel's dependence on fossil fuels
- Security of electricity supply
- 30% reduction in electricity consumption 57000 kWh/year

Coûts cummés de l'energie



RECP net



AFD
AGENCE FRANÇAISE
DE DEVELOPPEMENT



+221 33 869 77 70



137 Sotrac Mermoz - BP 16 595 Dakar - FANN



www.bmn.sn



Bureau de Mise à Niveau



ENVIRONMENT & ENERGY EFFICIENCY COMPONENTS GREEN LINE AFD/SGBS

AIR LIQUIDE

The company produces and markets a wide range of products and services which are classified into five activities: Industrial Gases, Gases, Medical Materials and Consumables, Welding and Cutting, Hygiene & Fire Protection

Environmental Impact

The avoided CO2 emissions are 6466 Tons

EEA investments from diagnostics

- New CO2 unit that uses waste from CSS distillery instead of oil

- Investment : **1,8 billion**

Project Impacts

- Improved energy efficiency of CO2 production;
- A decrease in prices and an increase in sales volume;
- Control of environmental and safety risks

75 000 X



250 X



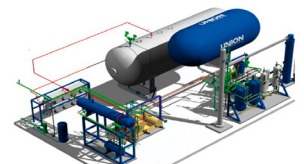
ou 73 000 X



Les projets sont analysés sur une durée de 10 ans sans prendre en compte l'évolution des prix de l'énergie.

Economy

- 41% on electricity
- 99% on diesel
- 66% on water



In total, this means a reduction in energy bills
1,5 billion FCFA*



RECP net



+221 33 869 77 70



137 Sotrac Mermoz - BP 16 595 Dakar - FANN



www.bmn.sn