

Chapter 5: Project Ideas for the Industry Sector

5.1 Brief Summary of the Project Ideas

The majority of boilers used in the food industry are old and inefficient, which results in higher fuel consumption and causes air pollution and GHG emissions. This project idea is suggested to support the deployment of the High Efficient Boilers in food factories in Khartoum State. It is expected to realize significant reduction in energy loss and support clean fuel utilization, thus reducing GHG emissions. The project entitled ‘Promotion of High Efficient Boilers (90% efficiency) using dual fuel (Diesel/LPG) in food factories in Khartoum State’ aims to support the factory owners replacing their old boilers with high emission by new boilers that reduce emissions.

5.2 Specific Project Ideas

The establishment of the project aims to support factory owners to invest in erecting new efficient boilers. As a pilot project type the project seeks to create an encouraging environment to overcome the set of barriers discussed in the barrier report. The project is composed of three elements: (i) facilitating financial mechanisms and technical support for factory owners to purchase efficient boilers, (ii) raising awareness in the industrial sector for technology utilization, (iii) improving the technical setup in installation and use of efficient boilers. The project is proposed to target the medium and small-scale food industries by erecting 50 efficient boilers with dual fuel in 5 years at a rate of 10 boilers per year. This replacement lead to reductions of the production cost by 30 per cent due to fuel saving.

5.3 Project overview

Name of Project Idea	Promotion of High Efficient boilers with dual system 90% efficiency: Diesel/LPG
Introduction	The majority of the industrial boilers in Sudan are characterized by low thermal efficiency and utilization of so called dirty fuels. This situation necessitates replacement of these old boilers with new efficient boilers that have better thermal efficiency, thus reducing fuel and GHG emissions. Different barriers hinder the diffusion of this technology as discussed in the barrier report, such as convincing factory owners and other stakeholder to support the deployment activities of this technology.
Objectives	Raise awareness within the industrial sector and decision makers Encourage the factories owners for purchasing efficient boilers through establishing appropriate financial mechanism Improve the capacity of workers in dealing with EB working conditions Provide technical support on EB retrofitting, installation and monitoring.
Outputs	Reduction of GHG Contribute to reduce air pollution Contribute to reduce fuel cost at industry
Relationship to the country's sustainable development priorities	The project goes in line with plans set to reduce costs of production by reducing fuel quantity and hence fuel price. This will increase profitability of produced commodities.
Project Deliverables	Make 50 factories aware of the benefits of using efficient boilers At least 30 factories get benefits from financial facilities Support all interested factories to purchase efficient boilers by providing technical support. Train 80 per cent of workers in dealing with EB working conditions
Project Scope	The target is to replace 10 low efficient boilers in 10 factories by high efficient ones every year for a total of five years for medium and small food industries in Khartoum State.
Project activities	Project activities could be briefed as follows: Studying the current situation of 50 old boilers in 50 factories Design awareness programs for using EBs Establish investment portfolio to finance the importation of EB Conducting training programs for labours and operators Providing technical support for factories owners.
Timeline	The estimated timeline for the project is 5 years
Budget	Importation of EBs (1million USD) Awareness raising, training and technical support:\$300,000 Management costs: 200,000 USD Total budget 1.5 million USD
Measurement/evaluation	Drop in fuel bill Reduction present in air pollution GHG reduction

Possible complications/ challenges	Smooth coordination between the project stakeholders, Ministry of Industry and Ministry of Energy, banks and Sudanese Industrial Association chamber The coordination between these different institutions and distributions of roles in establishing financial mechanism will need well organizational system. Challenging Advocacy work is needed towards fuel distribution policy. Support programs like awareness, capacity building and providing technical support requires relatively high level managerial skill
Assumptions	The first two factories are expected to achieve the desired results and then function as a demonstration unit
Responsibilities	The project will be developed and managed by the Sudanese Industrial Association Chamber with coordination with Ministry of Industry and Ministry of Energy and financial support of the Industrial Development Bank.