



**THE SIXTH FRAMEWORK PROGRAMME
for Research, Technological
Development and Demonstration**

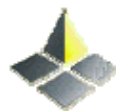


**ALF-CEMIND Project:
Supporting the use of alternative fuels in the cement industry
Specific Support Action**

Contract No: TREN/05/FP6/EN/S07.54356/020118

Pre-feasibility Study

EXECUTIVE SUMMARY



**MINISTRY OF
COMMERCE, INDUSTRY &
TOURISM**



**CYPRUS INSTITUTE
OF ENERGY**

Executive summary

The study aims to evaluate the current situation of the cement industry and later on to the research of its future prospects aiming on strategic planning an action plan that will ensure the viability and quality of its provided services.

There are two cement production sites in Cyprus, Cyprus Cement Company and Vassiliko Cement Company. Both are using ARM's but only Vassilikos uses AFs. Today Vassilikos Cement Company is using 6% AFs but its target is to go for new lines by 2010 which will be utilizing alternative fuels that would result in replacing at least 35% of the conventional fuels normally required (pet-coke).

About 41400 tns of pet-coke can be saved from the use of biomass (as alternative fuel). This leads to a reduction of 125000 tns of CO₂ emission and a reduction of 7.3% of firing pet-coke.

Today Vasilikos Cement Industry is taking garbage from Mari Garbage site with the authority of the government as part of the Industrial test. The first sample is positive and Mr. Theophilou, Project Manager, reported that everything is working as planned during the burn of garbage without any problems. It is also confirmed that by the data collected that the emissions levels are lower now by the replacement of pet-coke by green coal.

The Vasilikos Cement Industry will be able to receive 200.000 tns of fuel (from Bio-drying 500.000 tns of waste).

The CO₂ emissions criteria are very important. They are already discussing in Cyprus the strict limits of CO₂ emissions in the industry, affecting the Cement industry in a great level. With the cost of CO₂ reaching 20€/t and paying in the future 30% or more of the emissions, this means that the Cement industries will have great cost in case of high emissions. The effort of the Cement Industries for pet-coke replacement with green coal will financially help them making the investment more viable.

From the above mentioned, Vassiliko Cement Industry came to the need for use of Biomass and especially Green Coal. It's a project for evolving the foundations for the technological and financial development of the Cement Industries.

The investment is expected to pay off within five years.

Studying the NPV= 5.453 and the IRR= 9,06% we came to the conclusion that the investment is viable.

The replacement of oil, coal and pet-coke in the cement factories from the AFs and ARMs, will have positive effect in all the sectors.