

# Environmental and Social Data Sheet

## Overview

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| Project Name:  | Mauritius Ethanol Project   |
| Project Number:  | 2013  |
| Country:   | Mauritius   |
| Project Description:   | Development of an ethanol plant for biofuel purposes with CO2 capture. The key objective of this operation is to add value through the further processing of molasses, itself a by-product of the processing of sugar cane. |
| EIA required:  | Yes   |
| Project included in Carbon Footprint Exercise <sup>1</sup> : | No  |

## Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

Overall, the proposed project will have a positive environmental impact through:

1. The conversion of a by-product of the sugar-making process: molasses, into industrial quality ethanol for use as either an input for manufacturing industry or as a substitute for fossil fuels. The alternative use for the molasses would be shipping overseas as a low value density product to be used as an animal feed supplement.
2. The process' by-product: Condensed Molasses Solubles, may be used as an organic fertiliser or animal feedstuff supplement, and substitute for fertilisers shipped to the island from overseas.
3. The CO2 released as part of the production process will be captured for use on the island, again substituting for liquefied CO2 imports shipped in from overseas.
4. In the event of the Mauritian government introducing a requirement for ethanol/petrol blended fuels, the plant would have sufficient capacity to meet an E5 programme.
5. The main components of the project were previously located in the centre of the town of Rose Belle, where the original owners operated it without the benefits of CO2 recovery or CMS conversion. The town centre location was also inappropriate for this type of industrial activity. The new location is within a bio-processing complex, remote from any centres of population.

The production process will be integrated with an existing biomass-based power plant for the supply of thermal and electrical power, minimising the plant's own carbon footprint, and the treatment of final waste water will be in accordance with Mauritian legislation and good international practice.

## Environmental and Social Assessment

### Environmental Assessment

The proposed project would probably not have required an EIA had it been located within the EU. However, an EIA was requested by the Competent Authority, the Ministry of the Environment under national legislation. This EIA was completed in 2011 and the Introduction (NTS) subsequently published on-line by the Ministry<sup>2</sup>.

<sup>1</sup> Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO2e/year absolute (gross) or 20,000 tons CO2e/year relative (net) – both increases and savings.

<sup>2</sup> [http://environment.gov.mu/English/eia/Documents/Reports/dist\\_CMS/chapt1.pdf](http://environment.gov.mu/English/eia/Documents/Reports/dist_CMS/chapt1.pdf)

The revised plant will have net positive environmental impact, particularly in terms of reduction in energy consumption and the use of electrical and thermal energy drawn from the on-site CHP plant which is predominantly fired by sugar-cane residues (bagasse), with coal only being used between harvesting seasons.

Waste water will initially be treated in the site's existing treatment plant, but it is planned to expand this plant as other activities on the site increase.

The plant's industrial ethanol and "heads and tails" ethanol will be shipped from an existing, small tank farm in the harbour area of Port Louis. However, it was announced in May 2013 that the government was planning to introduce an E5 petrol standard on the island, in which case approximately 20% of production will be retained on the island for local consumption.

Although the project is relatively small and does not fall under the EIB's Carbon Footprint exercise, comparing future production with production from the original site, the revised project should show a savings in emissions of 9 000 tonnes equivalent of CO<sub>2</sub>. This comes from three sources: the capturing of the CO<sub>2</sub> produced during fermentation, the use of thermal energy (steam) from a CHP plant powered mainly from biomass, rather than from a light oil fired boiler, and electrical power from the same CHP plant rather from the predominantly coal fired national grid.

### **Other Environmental and Social Aspects**

The Promoter has a sound track record in environmental and social management and has established a sustainability unit at the group level to support the objective of improved environmental and social management.

Mauritius has an established environmental framework with oversight and inspection. It is requirement for the effluent from the waste water treatment plant to be monitored regularly, with results being submitted to the Competent Authority.