

## PROJECT IDEA NOTE (PIN)

### **Description of size and quality expected of a PIN**

Basically a PIN will consist of approximately 5-10 pages providing indicative information on:

- A.** Project participants
- B.** Project description, type, size, location and schedule
- C.** Avoided / reduced GHG emissions
- D.** Financial aspects
- E.** Expected environmental and socio-economic benefits
- F.** Risks
- G.** Other relevant information

### A. PROJECT PARTICIPANTS

Name of the Project Participant	Food and Allied Industries Ltd (FAIL)
Role of the Project Participant	Project implementation and operation
Organizational category	Private company - Limited
Contact person	Brigitte Masson
Address	Gentilly, Moka. P.O Box Mauritius
Telephone/Fax	+230 433 42 25
E-mail and web address, if any	bmasson@food-allied.com
Main activities <i>Describe in not more than 5 lines</i>	As a pioneer in the poultry industry in the sixties, FAIL has ever since diversified into food distribution and marketing, wheat flour milling, dairy processing, fruit and vegetable canning, Kentucky Fried Chicken (KFC) franchises, hotels and IT services among others. Today, the group is organized in six divisions namely industry, animal production, commercial, shipping, services and hotels.
Summary of the financials <i>Summarize the financials (total assets, revenues, profit, etc.) in not more than 5 lines</i>	FAIL Group of company is one of the largest groups in Mauritius. (2005 figures) Turnover: Rs. 5582 million (€133 million) – Profits: Rs. 133 million (€3.15 million) – Net assets: Rs. 3261 million (€77.6 million).
Summary of the relevant experience of the Project Participant <i>Describe in not more than 5lines</i>	The project promoter has more than 45 years experience in the agro-food industry and already manages other animal food processing plants. An in-house team of experienced engineers ensures that the company has all the necessary knowledge to successfully undertake this kind of project.

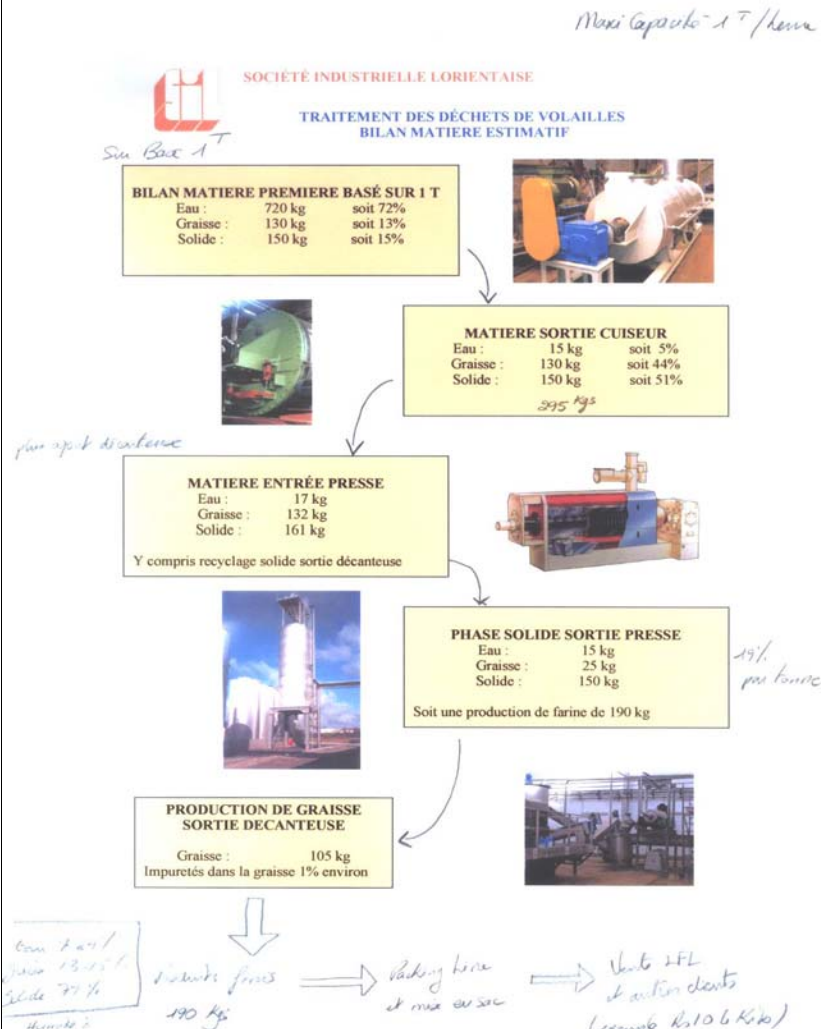
### B. PROJECT DESCRIPTION, TYPE, LOCATION AND SCHEDULE

<b>OBJECTIVE OF THE PROJECT</b> <i>Describe in not more than 5 lines</i>	The project's objective is to reduce emissions of Greenhouse gases generated from anaerobic decomposition of poultry waste in the Mauritius's only landfill – Mare Chicose. The project aims at valorizing the abattoir waste by turning it into animal foodstuff in the most energy neutral way.
<b>PROJECT DESCRIPTION AND PROPOSED ACTIVITIES</b> <i>About ½ page</i>	<p>FAIL produces 10 tons of high organic waste every day from its chicken processing in the Phoenix abattoir. This waste is composed of the chickens' leftovers such as guts, legs, necks and feathers.</p> <p>At present time, this wet, highly organic, degradable and smelly waste is transported to Mare Chicose landfill site. This waste stream from FAIL's activities represents just below 1% of the total waste land filled at present time in Mauritius (i.e., 3650 tons out of the yearly average 400,000 tons of waste deposited at the landfill). This waste disposal and its associated handling, transporting and dumping costs amounts to 1.5 million rupees (€35,000) per year and is an emitting source of many pollutants.</p> <p>FAIL's project will transform the abattoir's waste into animal flour in order to produce pet food for both the local and export market. The production of this protein rich flour will be carbon neutral as the heat necessary to cook the waste will be derived from the burning of the greases produced as by-product of the flour's production. This industrial process will take place within Phoenix industrial zone, close to the abattoir where the chickens are processed.</p>

	<p>It is worth noting that in the coming year, the landfill’s flaring efficiency will increase; however, that increase is part of an “ongoing CDM Project” and should therefore not be taken into consideration while developing the baseline.</p> <p>Due to the nature of the waste, it is difficult to imagine another valorization stream than the one proposed by FAIL – both composting and incineration would not benefit much from this type of wet, highly organic, strong smell waste.</p> <p>FAIL is in the process of determining its overall chicken processing carbon footprint. This waste processing project aims at lowering this overall carbon footprint while creating some valuable by-product and lowering the operational costs associated with dumping of the waste in Mare Chicose. The carbon footprint study is FAIL’s property and is not yet in the public domain – it is therefore not yet possible to determine the impact of this project on the company’s overall carbon footprint.</p> <p><b>NB:</b> The project could produce 2.5-3 times the amount of ER stated above if FAIL could acquire the poultry waste coming from the other poultry processing plants in the Island (2 main ones). This could be done in the framework of the CDM, by using some of the ER money to buy and transport the waste to the “waste-to-foodstuff” factory. The project would gain in economical strength and ER appeal.</p>
<p><b>TECHNOLOGY TO BE EMPLOYED<sup>1</sup></b>  <i>Describe in not more than 5 lines</i></p>	<p>The chicken waste will undergo the following process:</p> <ol style="list-style-type: none"> <li>1. Waste from the abattoir will be transported on pneumatic belt to the waste processing part of the operation (next door building – max 200 m away).</li> <li>2. The waste will be cooked in an industrial pressure cooker. The heat necessary for this cooking operation will come from burning the high quality fat/greases extracted from the waste processing operation (to kick start operation, some diesel will have to be used – very small amount – 20 tons per year ~ &lt;75 tCO2e per year)</li> <li>3. The cooked waste mass is then passed through an electrically powered press (use 37.5 kW) that will separate the solid (flour) and liquid (fat/grease) phases of the cooked waste mass (est. 58.5 MWh ~ 64 tCO2e per year)</li> <li>4. The liquid phase will then transit to a decanter (10 kW ~ 23 tCO2e per year) so that solids in suspension and other impurities settle and are separated from the fat/grease (in order for it to be of a quality suitable for use as fuel).</li> <li>5. The flour is dried (without energy input – naturally) and bagged.</li> </ol>

<sup>1</sup> Please note that support can only be provided to projects that employ commercially available technology. It would be useful to provide a few examples of where the proposed technology has been employed.

Here below, a schematic representation of the chicken waste processing operation:



<b>TYPE OF PROJECT</b>	
Greenhouse gases targeted CO <sub>2</sub> /CH <sub>4</sub> /N <sub>2</sub> O/HFCs/PFCs/SF <sub>6</sub> <i>(mention what is applicable)</i>	Methane (CH <sub>4</sub> )
Type of activities Abatement/CO <sub>2</sub> sequestration	CH <sub>4</sub> emissions avoidance by processing chicken waste into pet food, this waste would otherwise end up in the landfill where CH <sub>4</sub> is generated and emitted to the atmosphere. Currently, only part of the biogas and associated CH <sub>4</sub> produced by the landfill is collected and flared.
Field of activities <i>(mention what is applicable)</i> See annex 1 for examples	4c. Waste Management - recycling
<b>LOCATION OF THE PROJECT</b>	
Country	Mauritius
City	Phoenix Industrial Zone (exact site to be confirmed)
Brief description of the location	Phoenix (20.30°S 57.48°E) is located on the Island's central plateau. It is one of

<p>of the project <i>No more than 3-5 lines</i></p>	<p>the main industrial zones of the island, well connected to the port and airport via the motorway. As the poultry abattoir is located in the Phoenix industrial zone the opportunity to reduce transportation costs/needs between the two sites has been seized.</p>
<p><b>EXPECTED SCHEDULE</b></p>	
<p>Earliest project start date <i>Year in which the plant/project activity will be operational</i></p>	<p>Since financing is not yet secured but in the process of being secured, it is hard to give a proper estimate of the project's start of operations. If financing secured by October 2009, the project could start in July 2010.</p>
<p>Estimate of time required before becoming operational after approval of the PIN</p>	<p>Time required for financial commitments: 3 months Time required for legal matters: 3 months Time required for construction: 6 months</p>
<p>Expected first year of CER/ERU/VERs delivery</p>	<p>At best July 2011</p>
<p>Project lifetime <i>Number of years</i></p>	<p>20 years</p>
<p>For CDM projects: Expected Crediting Period <i>7 years twice renewable or 10 years fixed</i></p> <p>For JI projects: Period within which ERUs are to be earned (<i>up to and including 2012</i>)</p>	<p>10 year fixed</p>
<p>Current status or phase of the project <i>Identification and pre-selection phase/opportunity study finished/pre-feasibility study finished/feasibility study finished/negotiations phase/contracting phase etc. (mention what is applicable and indicate the documentation)</i></p>	<ul style="list-style-type: none"> <li>- Pre-feasibility completed</li> <li>- Process finalised – plans drawn</li> <li>- Equipment providers contacted</li> <li>- Bank approached for debt financing</li> </ul> <p>NB: All reports are accessible upon direct request to project participant and confidentiality agreement signature.</p>
<p>Current status of acceptance of the Host Country <i>Letter of No Objection/Endorsement is available; Letter of No Objection/Endorsement is under discussion or available; Letter of Approval is under discussion or available (mention what is applicable)</i></p>	<p>Steps have yet to be taken towards the Host country's DNA. As part of the UNEP-RISOE and Ministry of Environment current capacity programme, this project has been earmarked and if the promoter wishes to go ahead with the CDM/VER project, will be able to do get a "Letter of No-Objection" from the DNA.</p> <p>This project is, however, of very small scale and might have to investigate the Micro-Scale Gold Standard VER development course. If adopted it will therefore not need, officially, to contact the DNA for a "Letter of No-Objection".</p>
<p>The position of the Host Country with regard to the Kyoto Protocol</p>	<p>The Host Country acceded to the Kyoto Protocol in 2001</p>

**C. AVOIDED / REDUCED GHG EMISSIONS**

<p><b>ESTIMATE OF GREENHOUSE GASES ABATED/ CO<sub>2</sub> SEQUESTERED</b>  <i>In metric tons of CO<sub>2</sub>-equivalent, please attach calculations</i></p>	<p>Annual (if varies annually, provide schedule): 1-1,500 tCO<sub>2</sub>-equivalent                  Up to and including 2012: 3,000-4,500 tCO<sub>2</sub>-equivalent                  Up to a period of 10 years: 10,000-15,000 tCO<sub>2</sub>-equivalent</p>
<p><b>BASELINE SCENARIO</b></p> <p><b>Baseline Methodology to be used</b>                  This project is covered by an existing Approved CDM Small-Scale Methodologies:</p> <p>A. III.E./Version 15.1 “Avoidance of methane production from decay of biomass through controlled combustion, gasification or <u>mechanical/thermal treatment</u>”. In this methodology the baseline is that no methane capture exists at the landfill site, thus there will have to be some adjustment of the methodology to account for the portion of biogas being flared at present time.</p> <p>B. III.F./Version 06 “Avoidance of methane emissions through controlled biological treatment of biomass”. In this methodology does not cater for an industrial process such as the one accepted in AMS III.E above.</p> <p>The project will use the Methodological tool to determine the baseline methane emissions: “Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site” (Version 04)</p> <p><b>What modifications the project would induce?</b>                  Due to its low economical appeal and lack of alternatives to get rid of the chicken abattoir waste, one can only assume that the most accurate baseline scenario, without CDM (or VER financing) would be “business as usual” – i.e. the waste being land filled at Mare Chicose.</p> <p><b>What would the future look like without the proposed CDM project?</b>                  Without the project being implemented as CDM project, the waste produced by the abattoir after processing the chicken will continue to be sent by trucks to the only landfill of the island. In the landfill, some of the gas generated will be destroyed by an inefficient flaring system.</p>	
<p><b>ADDITIONALITY</b>                  Please explain which additionality arguments apply to the project:                  (i) there is no regulation or incentive scheme in place covering the project                  (ii) the project is financially weak or not the least cost option                  (iii) country risk, new technology for country, other barriers                  (iv) other</p>	<ul style="list-style-type: none"> <li>• No regulation or incentive in place covering this type of project</li> <li>• The project is financially weak and not profitable without carbon revenues.</li> </ul>

**D. FINANCIAL ASPECTS**

<b>TOTAL CAPITAL COST ESTIMATE (PRE-OPERATIONAL)</b>	
Development costs	0.02 US\$ million (Feasibility studies, resource studies, etc.)
Installed costs	0.75 US\$ million (Property plant, equipment, etc.)
Land	0.15 US\$ million
Other costs (please specify)	0.01 US\$ million (Legal, consulting, etc.)
Total project costs	0.93 US\$ million
<b>SOURCES OF FINANCE TO BE SOUGHT OR ALREADY IDENTIFIED</b>	
Equity Name of the organizations, status of financing agreements and finance (in US\$ million)	None
Debt – Long-term Name of the organizations, status of financing agreements and finance (in US\$ million)	Mauritius Commercial Bank – Loan possibilities are being investigated at present time.
Debt – Short term Name of the organizations, status of financing agreements and finance (in US\$ million)	Mauritius Commercial Bank
Carbon finance advance payments <sup>2</sup> sought from the World Bank carbon funds. (US\$ million and a brief clarification, not more than 5 lines)	None
<b>SOURCES OF CARBON FINANCE</b> Name of carbon financiers other than any of the World Bank carbon funds that you are contacting (if any)	None at this stage
<b>INDICATIVE CER/ERU/VER PRICE PER tCO<sub>2</sub>e<sup>3</sup></b> <i>Price is subject to negotiation. Please indicate VER or CER preference if known.<sup>4</sup></i>	VER Gold Standard Micro-project: € 5.00 per VER (without validation and auditing costs – paid by buyer).
<b>TOTAL EMISSION REDUCTION PURCHASE AGREEMENT (ERPA) VALUE</b>	
A period until 2012 (end of the	To be negotiated US\$ / €

<sup>2</sup> Advance payment subject to appropriate guarantees may be considered.

<sup>3</sup> Please also use this figure as the carbon price in the PIN Financial Analysis Model (cell C94).

<sup>4</sup> The World Bank Carbon Finance Unit encourages the seller to make an informed decision based on sufficient understanding of the relative risks and price trade-offs of selling VERs vs. CERs. In VER contracts, buyers assume all carbon-specific risks described above, and payment is made once the ERs are verified by the UN-accredited verifier. In CER/ERU contracts, the seller usually assumes a larger component - if not all – of the carbon risks. In such contracts, payment is typically being made upon delivery of the CER/ERU. For more information about Pricing and Risk, see "[Risk and Pricing in CDM/JI Market, and Implications on Bank Pricing Guidelines for Emission Reductions](#)".

first commitment period)	
A period of 10 years	To be negotiated US\$ / €
A period of 7 years	To be negotiated US\$ / €
<p>Please provide a financial analysis for the proposed CDM/JI activity, including the forecast financial internal rate of return for the project with and without the Emission Reduction revenues. Provide the financial rate of return at the Emission Reduction price indicated in section “Indicative CER/ERU/VER Price”. DO NOT assume any up-front payment from the Carbon Finance Unit at the World Bank in the financial analysis that includes World Bank carbon revenue stream.</p> <p>Provide a spreadsheet to support these calculations. The <a href="http://www.carbonfinance.org">PIN Financial Analysis Model</a> available at <a href="http://www.carbonfinance.org">www.carbonfinance.org</a> is recommended.</p>	

### E. EXPECTED ENVIRONMENTAL AND SOCIAL BENEFITS

<p><b>LOCAL BENEFITS</b> E.g. impacts on local air, water and other pollution.</p>	<ul style="list-style-type: none"> <li>Reduction of air pollution near landfill by avoiding decay smell of poultry waste</li> </ul>
<p><b>GLOBAL BENEFITS</b> Describe if other global benefits than greenhouse gas emission reductions can be attributed to the project.</p>	<ul style="list-style-type: none"> <li>Avoiding generation and emission of methane gas to the atmosphere thus reducing the impacts of global warming</li> </ul>
<p><b>SOCIO-ECONOMIC ASPECTS</b></p>	
<p>What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project? Indicate the communities and the number of people that will benefit from this project. <i>About ¼ page</i></p>	<ul style="list-style-type: none"> <li>Local production of pet food will reduce needs to spend foreign currencies – Balance of payment improvement.</li> <li>Part of the production can be sold in the region bringing foreign currencies into the country</li> <li>This project, however small, will reduce some of the highly odoriferous waste sent to the landfill; hence reducing the nuisance for the landfill’s surrounding communities.</li> </ul>
<p>What are the possible direct effects (e.g. employment creation, provision of capital required, and foreign exchange effects)? <i>About ¼ page</i></p>	<ul style="list-style-type: none"> <li>10-15 direct employment created</li> <li>10-15 indirect employment supported</li> </ul>
<p>What are the possible other effects (e.g. training/education associated with the introduction of new processes, technologies and products and/or the effects of a project on other industries)? <i>About ¼ page</i></p>	<ul style="list-style-type: none"> <li>This technology, once installed, could be used at the other abattoir sites or the waste stream from other chicken processing plants could all be treated in this only factory, thereby reducing the associated nuisance of “poultry waste” over the whole industrial sector. Note that FAIL represents about 40% of the poultry market.</li> </ul>
<p><b>ENVIRONMENTAL STRATEGY/ PRIORITIES OF THE HOST COUNTRY</b> A brief description of the</p>	<p>One of the main issues that the Government of Mauritius has tried to tackle during its current mandate was “waste management”. As part of this management plan, the government has increased the landfill’s capacity and asked for technical improvement on the site. The government, realizing that</p>



<p>project's consistency with the environmental strategy and priorities of the Host Country  <i>About ¼ page</i></p>	<p>more sustainable actions needed to be taken has been looking into various alternative projects like incineration, waste selection, composting and recycling, etc. as a solution to this increasingly complicated issue. Providing solution for the waste produced in Mauritius is an increasingly important topic because the island on the one hand has limited capacity to absorb waste due to its size and location and consumption patterns on the other hand result in increased waste production. Waste management is at the centre of many debates and political actions.</p>
--	---

**F. RISKS**

<p><b>Risks in the Project</b></p>	<p>Please describe the factors that may cause delays in, or prevent implementation of the project</p>
<p><b>Estimate the Degree of Risk</b></p>	
<p>Technical risk</p>	<p>Low – this technology will be provided by foreign companies that master the technology fully. The local company will be fully trained on the technology and has high technical skills in its staff.</p>
<p>Timing risk</p>	<p>Medium-high – timing is the greatest risk in this project. Even if banks provide the financing, the company might want to wait a year or two before launching itself in this project. The company is currently looking into many other ways to be “less carbon intensive” and to produce “new product lines” and this project may not go ahead if the board doesn’t see the full benefits of the project. Getting carbon financing could well be a factor that would help the board push this project ahead.</p>
<p>Budget risk</p>	<p>Medium-Low – the company should not have too many problems to get the financing loans from the bank as it is a very large and important company in Mauritius.</p>

**G. OTHER RELEVANT INFORMATION**

<p>Please mention any additional information or precisions to justify the project under CDM</p>
---