Guidelines

Developing a Business Plan for an Integrated Resource Recovery Center

April 2011
Guidelines for Developing a Business Plan for an Integrated Resource Recovery Center

1. Executive Summary ........................................................................................................... 3
2. Background ......................................................................................................................... 3
   2.1. Solid Waste Management Situation ............................................................................. 3
   2.2. Previous experience of composting or IRRCs .............................................................. 3
3. Business Idea ...................................................................................................................... 3
   3.1. Aims and objectives of the IRRC ................................................................................... 3
   3.2. Services and products provided ................................................................................... 3
4. Marketing strategy ............................................................................................................... 3
   4.1. Market developments and prices ................................................................................. 3
   4.2. Demand for Compost .................................................................................................... 4
   4.3. Potential Competitors ................................................................................................... 4
   4.4. Marketing and Distribution Strategy ............................................................................. 4
5. Management Strategy ......................................................................................................... 4
   5.1. Organizational model .................................................................................................... 4
   5.2. Public-Private Partnership agreements ........................................................................ 4
6. Operational Strategy .......................................................................................................... 5
   6.1. Waste collection and disposal ...................................................................................... 5
   6.2. Capacity of compost plant ........................................................................................... 5
   6.3. Organizational Structure and Staff Requirements ....................................................... 5
   6.4. Production Costs .......................................................................................................... 5
   6.5. Quality Control ............................................................................................................ 5
7. Financial plan ...................................................................................................................... 5
   7.1. Depreciation and taxation ............................................................................................ 5
   7.2. Investment costs ........................................................................................................... 6
   7.3. Economic Feasibility of the IRRC ................................................................................. 6
   7.4. Certified Emission Reductions (CERs) ......................................................................... 6
   7.5. Equity and Loan Disbursements: .................................................................................. 7
   7.6. Sensitivity Analysis ...................................................................................................... 7
8. Time plan and Strategy for Implementation ....................................................................... 7
1. Executive Summary

A business plan developed for an IRRC should begin with a short executive summary. The executive summary should include objectives, management, financing, and strategy for success.

2. Background

2.1. Solid Waste Management Situation

The background section of the business plan should provide a short description of the solid waste management situation in the city, including costs for the local government and households. This should cover how the IRRC can reduce costs and improve service, based on data from the baseline.

2.2. Previous experience of composting or IRRCs

If applicable, this section shall describe existing compost plants and recycle sheds. With a focus on lessons learnt from the previous plants, the section shall briefly outline:

- How waste is collected and the sources of waste.
- Compost production rate.
- Financing and management arrangements.
- Income and expenditure of the existing compost plant.
- Lessons learnt from the existing compost plants.

3. Business Idea

3.1. Aims and objectives of the IRRC

This section should indicate how the IRRC will contribute towards solving issues of solid waste management in the city, what costs will it save for the city, how will it improve the lives of waste pickers, etc.?

3.2. Services and products provided

How will the IRRC (generally) make a profit and sustain its operations? How will waste be collected and what are the sources of waste? This section should also include a brief introduction to the compost market and what the IRRC aims to sell and to whom.

4. Marketing strategy

4.1. Market developments and prices

- Overall analysis of the present demand and usage of compost in the country, including soil conditions and usage of compost.
- Planned and existing compost plants in the country.
- Regulations on compost, including the standards for marketing and producing compost, registration process of compost in the country and time required to obtain
the registration. Incentives from government on compost and chemical fertilizers should be clearly documented in this section.

- Analysis of future estimated sales and growth trends for compost in the country.
- Price categories, including maximum price of compost sold in the market.

4.2. Demand for Compost

This section will cover the demand and supply situation for compost in the city and its surrounding area. It shall indicate existing and potential contacts and contracts for large scale buyers, as well as pricing.

4.3. Potential Competitors

This section shall cover the capacity of the other compost plants in the region, price of compost, the competitor’s strengths and weaknesses as well as competition from chemical fertilizer companies.

4.4. Marketing and Distribution Strategy

Based on the analysis above, this section will cover the strategy to be used for marketing and promotion of compost. It shall also outline how the market for compost can be increased.

- What type of promotional materials will be used, who will it target, how will the promotional materials be used and what kind of promotional activities will be carried out?
- The distribution strategy should be developed based on an analysis of the costs of distribution alternatives (direct sales/wholesale/use of marketing companies, etc).
- This section will also outline the types of bags to be used and the price of the product for different market segments.

5. Management Strategy

5.1. Organizational model

- Provide a description of the IRRC management model, including an organizational chart.
- Describe the legal structure of the company (partnership, corporation, company limited by guarantee etc.), including necessary licenses and/or permits.
- Legal requirements, including necessary licenses and/or permits, regulatory requirements for starting up and operating a business.
- Provide a brief description of key managers and board members of the company.

5.2. Public-Private Partnership agreements

- What management model and arrangements are there between the Municipality and the IRRC? (such as concessions, BOO, BOOT, management contracts)
- Include arrangements for collection and disposal of separated waste between the IRRC and Municipality.
6. Operational Strategy

This section shall describe in detail the strategy for the establishment of new IRRCs. It will discuss location of the plants (with Google Map coordinates), land requirements, logistics and capacity.

6.1. Waste collection and disposal

This section will describe logistics for the collection of organic waste. The section will also describe how rejects will be collected and transported to the landfill.

6.2. Capacity of compost plant

This section shall cover how the capacity of the plant has been decided, future estimates of waste to be brought to the plant and subsequent capacity needs for the future.

6.3. Organizational Structure and Staff Requirements

This section will describe the staff requirements at the compost plant level.

6.4. Production Costs

This section shall describe the production cost of compost per ton. The production cost can be estimated based on the experience of existing compost plants.

6.5. Quality Control

This section shall describe the quality control measures to be used to maintain the product quality. For CDM projects, this section shall also outline the quality control measures to be undertaken to ensure that the compost plant complies with CDM protocols to enable it to claim carbon credits.

7. Financial plan

This chapter includes cost analysis for start-up of the IRRC, one year operational costs and incomes, risk analysis and projections for future financial results.

7.1. Depreciation and taxation

Please state depreciation, taxation and project discount rates.

- The inflation in the country for the period of July 2008 to June 2010 should be measured by consumer price index. Please mention the inflation rate for the coming years and the exchange rate against the US dollar, in a tabular form.
- In this business plan, a straight-line depreciation of 15 years can be assumed (so, 6.66% per year). Depreciation/fixed assets indicate the depreciation of the equipment and civil works. Consider your local tax legislation, in which building costs can be depreciated for XX% per year and machinery equipment can be depreciated for XX% of the real depreciation.
7.2. Investment costs

- Estimate of start-up costs, including investment costs such as land, buildings, construction and equipment.

7.3. Economic Feasibility of the IRRC

- Previous cash flow statements (if applicable)
- Summary of expected financial results:
  - Projected balance sheet.
  - Profits and loss.
  - Projected, discounted cash flow statement.
- Calculate the NPV, IRR and payback period of the project using investments, operating costs and revenues. Internal project economic parameters to be met are:
  - NPV: positive;
  - IRR: exceeds discount factor;
  - Payback between 3 and 4 years.

Income includes sales of compost, CERs (if applicable) and any collection fees. Operational costs should be divided into four main categories, and each category will have fixed and variable costs:
- Production expenses such as electricity, fuel, water and the purchase of structure material
- Labour and management, including overheads and administrative costs, if any
- Waste Collection
- Maintenance costs
- Insurances and taxes
- Other expenses such as office equipment costs, equipment for employees and traveling, marketing costs

7.4. Certified Emission Reductions (CERs)

The composting project shall be registered under the Clean Development Mechanism of the UNFCCC. The specific methodology to be used for registering the project at the UNFCCC is AM0025 – “Avoided emissions from organic waste through alternative waste treatment processes”.

The OTC price of CERs was about €13 in March 2011. For the business case, a price of €111.5 per CER can be used. For a rough estimate, you may assume 0.4 tons of CERs per ton of organic waste recycled in the compost plants for the project period.

---

1 The full calculations for financial results of the composting project should be presented in the annex using Excel spreadsheets for at least one year.
7.5. Equity and Loan Disbursements

This section should mention the amount of equity to be disbursed by the owners as well as the amount of loans to be taken, including against the CERs. One example of equity is land and its price can be considered as equity.

7.6. Sensitivity Analysis

Please do a sensitivity analysis of the project assuming different price scenarios for compost, waste collection fee and CERs. An example of sensitivity analysis is shown below:

<table>
<thead>
<tr>
<th>Sensitivity Analysis</th>
<th>NPV project (€)</th>
<th>IRR project</th>
<th>Payback project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original scenario</td>
<td>2,013,278</td>
<td>15%</td>
<td>7</td>
</tr>
<tr>
<td>Decrease investment costs -5%</td>
<td>2,554,614</td>
<td>16%</td>
<td>6</td>
</tr>
<tr>
<td>Increase investment costs +5%</td>
<td>1,471,940</td>
<td>14%</td>
<td>7</td>
</tr>
<tr>
<td>Increase investment costs +10%</td>
<td>930,603</td>
<td>13%</td>
<td>7</td>
</tr>
<tr>
<td>Decrease OPEX - 5%</td>
<td>2,511,939</td>
<td>16%</td>
<td>7</td>
</tr>
<tr>
<td>Increase OPEX +5%</td>
<td>1,514,617</td>
<td>14%</td>
<td>7</td>
</tr>
<tr>
<td>Increase OPEX +10%</td>
<td>1,015,955</td>
<td>13%</td>
<td>7</td>
</tr>
<tr>
<td>Market price compost - 5%</td>
<td>1,175,048</td>
<td>13%</td>
<td>7</td>
</tr>
<tr>
<td>Market price compost +5%</td>
<td>2,851,507</td>
<td>16%</td>
<td>6</td>
</tr>
<tr>
<td>CERs price -5%</td>
<td>1,766,236</td>
<td>14%</td>
<td>7</td>
</tr>
<tr>
<td>CERs price +5%</td>
<td>2,260,320</td>
<td>15%</td>
<td>5</td>
</tr>
</tbody>
</table>

8. Time plan and Strategy for Implementation

This section should describe project plans with a timeline to complete different activities of the project, including details about construction and operation of new plants along with dates.