Bridging the GAP: Project - Finance
GBEP Working Group on Capacity Building
3rd Bioenergy Week
Medan, Indonesia, 25-29 May 2015

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1. What we do Matters!

- Up to 50% of the world energy demand will come from renewables in 2050;
- Biofuels can provide up to 27% of world transportation fuel by 2050 (IEA Roadmap);
- The past year brought a rebound of green energy investments worldwide with a surge of a solid 17% to $270 billion (UNEP's ninth Global Trends in Renewable Energy Investment 2015).

Energy sources (Source: IEA – Energy perspective 2015)
1. But we are not there yet!

- Decarbonising electricity supply remains a key component of the 2°C Scenario, as highlighted in Energy Technology Perspectives 2014 (ETP 2014);

- US Environmental Protection Agency recognizes “that biomass-derived fuels can play an important role in CO2 emission reduction strategies”.

- A number of promising sustainability de-risking structures are available - GBEP

- BUT......There is a gap between Project – Finance

- Well developed and financially structured project lead to:
  
  a) A donor finds effective results of involvement
  
  b) A developer finds realisation of the project
  
  c) A financier finds deployment of capital
Independent global energy project developer and project advisor:

– Headquartered in the Netherlands with partners in Africa, Latin-America and Asia;
– Specialized in structured and “hands-on” project development where bio-energy (biomass, biogas, biowaste and biofuel) is created and converted into electricity;
– Combines industry, project financing and technical expertise, thus increasing the chances of success and speedy execution.

2. Everest Energy

By executing both advisory and development assignments we service our clients with “real life” expertise, analytical background and in-depth content;

– Servicing public institutions, private clients and NGOs.
2. Everest Energy – Global coverage

Independent global energy project developer and project advisor:

– Partnership with Pangea servicing the African Project Development Market
– Pangea & Everest Energy service the United Nations SE4ALL Africa HIO program
– Partnership with GMSP servicing the Latin American Project Development Market.
Everest Energy’s core objectives are:

– Developing well-structured and high quality projects in markets with favourable returns;
– Minimizing operational project risks by using stable technologies and rigorous operation & maintenance;
– Developing projects with value-adding and professional partners;
– Developing local partnerships with the best-connected and most knowledgeable players;
– Leveraging our in-house capabilities to develop, structure and execute sustainable projects.
2. Everest Energy – Project focus

- Our project development process combines industry, project financing and technical expertise.
- This integrated approach increases the chance of success and speedy execution.
- Durable project development leads to stable operations and high financial returns.
- First month’s cash flow is as important as last month’s cash flow.
3. How to develop a project

Projects are structured according to the EE “7 Building Blocks” principle:

- Each block is developed simultaneously and with equal weight;
- Allows to identify project key risks and potentials;
- Chances of obtaining project finance are dramatically increased.
3. How to develop a project – Example GIZ

(Source: Deutsche Gesellschaft für Internationale Zusammenarbeit - GIZ)
3. How to develop a project - Project structuring

A combination of Qualitative and Quantitative analysis.

1. **Qualitative strategic analysis:**
   A. Project description;
   B. Strategic Business Plan;
   C. Process Flow Diagram;
   D. SWOT Analysis;
   E. Project Success Factors Analysis.

2. **Quantitative analysis:**
   F. Income Statement
   G. Balance Sheet
   H. Discounted Cash Flow
   I. Sensitivity Analysis

Key information is then summarized in an **Investment Pitch:** single document presented to multiple stakeholders to support the project in fulfilling its **financial needs!**
3. How to develop a project - Project structuring

**EVEREST ENERGY**

- Preliminary Project Screening
- Project Structuring
- Investment Pitch
- Match Making
- Investors Screening

**Qualitative Analysis**
- Strategic Business Plan
- SWOT Analysis
- Project Description

**Quantitative Analysis**
- Profit and Loss Statement
- Financial Ratios
- Discounted Cash Flow Analysis
- Stakeholder Map
- Project Success Factors
- Balance Sheet Statement
- Sensitivity Analysis

**Funding Closure**
- Development Banks
- Debt Funds
- Commercial Banks
- Subsidy & Grant Programs
- Private Equity Funds
- Debt & Equity Funders

[Diagram showing the stages and analyses involved in project structuring]
3. How to develop a project - Qualitative business case

The qualitative analysis includes the following key elements:

- Strategic Business Plan illustrating: project input-output, technology, CAPEX, key short/medium term opportunities and deliverables, key stakeholders;
- Project Flow Diagram;
- SWOT Analysis;
- Project Success Factors.
3. How to develop a project - Qualitative business case

For the financiers the Project Success Factor Analysis allows for structuring and conclusions on:

1. a **project level**;
2. a **portfolio level**.

When combined with key economic indicators and macro data, results in **management data** to analyze and compare current and future project proposals.
3. How to develop a project - Quantitative business case

The quantitative analysis includes the following key elements:

- Modelling assumptions;
- Mass and Energy Balance;
- CAPEX Analysis;
- Financial Statements;
- Financial Graphs;
- Ratios;
- Sensitivity Analysis.

### Table: Key economic values

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Change</th>
<th>Equity IRR</th>
<th>Project IRR</th>
<th>Cumulative profit</th>
<th>Cumulative Free cash Flow</th>
<th>Average EBITDA</th>
<th>NPV</th>
<th>DSCR</th>
<th>Break even point (years)</th>
<th>Δ equity IRR</th>
<th>Δ project IRR</th>
<th>Δ % cumulative profit</th>
<th>Δ % cumulative FCF</th>
<th>Δ % Average EBITDA</th>
<th>Δ % NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Business Case baseline scenario</td>
<td>-</td>
<td>32.7%</td>
<td>18.1%</td>
<td>€46,888,847</td>
<td>€44,606,567</td>
<td>€13,889,301</td>
<td>€14,530,747.56</td>
<td>4.22</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2 Capex increases by 10%</td>
<td>+10%</td>
<td>23.7%</td>
<td>14.5%</td>
<td>€40,664,349</td>
<td>€38,457,968</td>
<td>€13,889,301</td>
<td>€9,176,372.00</td>
<td>3.83</td>
<td>7</td>
<td>-9.1%</td>
<td>-3.7%</td>
<td>-13.3%</td>
<td>-13.8%</td>
<td>0.0%</td>
<td>-36.8%</td>
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<tr>
<td>3 Capex is increased by 15%</td>
<td>+15%</td>
<td>19.6%</td>
<td>12.8%</td>
<td>€37,532,100</td>
<td>€35,383,668</td>
<td>€13,889,301</td>
<td>€6,497,868.90</td>
<td>3.67</td>
<td>7</td>
<td>-13.1%</td>
<td>-5.3%</td>
<td>-20.0%</td>
<td>-20.7%</td>
<td>0.0%</td>
<td>-55.3%</td>
</tr>
<tr>
<td>4 SDE+ is not granted</td>
<td>-</td>
<td>-20.8%</td>
<td>32,461,618</td>
<td>€34,743,989</td>
<td>€36,441,929.64</td>
<td>N.a.</td>
<td>N.a.</td>
<td>1.55</td>
<td>N.a.</td>
<td>-19.9%</td>
<td>-169.2%</td>
<td>-177.9%</td>
<td>72.9%</td>
<td>-350.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5 Gearing equity/debt is set to 30/70</td>
<td>50.3%</td>
<td>20.1%</td>
<td>€52,046,971</td>
<td>€50,043,799</td>
<td>€13,889,301</td>
<td>€20,948,661.42</td>
<td>3.61</td>
<td>6</td>
<td>17.5%</td>
<td>2.0%</td>
<td>11.0%</td>
<td>12.2%</td>
<td>0.0%</td>
<td>44.1%</td>
<td></td>
</tr>
<tr>
<td>6 Gearing equity/debt is set to 50/50</td>
<td>22.1%</td>
<td>16.1%</td>
<td>€41,730,722</td>
<td>€39,169,334</td>
<td>€13,889,301</td>
<td>€8,720,867.26</td>
<td>5.06</td>
<td>7</td>
<td>-10.7%</td>
<td>-2.0%</td>
<td>-11.0%</td>
<td>-12.2%</td>
<td>0.0%</td>
<td>-40.0%</td>
<td></td>
</tr>
<tr>
<td>7 Gearing equity/debt is set to 60/40</td>
<td>14.7%</td>
<td>14.1%</td>
<td>€36,572,597</td>
<td>€33,732,102</td>
<td>€13,889,301</td>
<td>€3,448,055.61</td>
<td>6.32</td>
<td>7</td>
<td>-18.1%</td>
<td>-4.0%</td>
<td>-22.0%</td>
<td>-24.4%</td>
<td>0.0%</td>
<td>-76.3%</td>
<td></td>
</tr>
<tr>
<td>8 Depreciation in 8 years</td>
<td>35.9%</td>
<td>19.5%</td>
<td>€35,295,208</td>
<td>€48,471,113</td>
<td>€13,889,301</td>
<td>€16,941,422.43</td>
<td>4.22</td>
<td>6</td>
<td>3.2%</td>
<td>1.4%</td>
<td>-24.7%</td>
<td>8.7%</td>
<td>0.0%</td>
<td>16.6%</td>
<td></td>
</tr>
<tr>
<td>9 10% decrease in quantity of input and output</td>
<td>-10%</td>
<td>21.8%</td>
<td>13.8%</td>
<td>€35,856,753</td>
<td>€33,574,473</td>
<td>€12,418,355</td>
<td>€7,270,901.12</td>
<td>3.79</td>
<td>7</td>
<td>-10.9%</td>
<td>-4.4%</td>
<td>-23.5%</td>
<td>-24.7%</td>
<td>-10.6%</td>
<td>-50.0%</td>
</tr>
<tr>
<td>10 20% decrease in quantity of input and output</td>
<td>-20%</td>
<td>11.1%</td>
<td>9.4%</td>
<td>€24,826,659</td>
<td>€22,542,379</td>
<td>€10,947,469</td>
<td>€11,054.69</td>
<td>3.37</td>
<td>8</td>
<td>-21.6%</td>
<td>-8.7%</td>
<td>-47.1%</td>
<td>-49.5%</td>
<td>21.2%</td>
<td>-99.9%</td>
</tr>
<tr>
<td>11 Inflation for project costs increased to 3%</td>
<td>29.8%</td>
<td>16.7%</td>
<td>€42,300,754</td>
<td>€40,018,474</td>
<td>€13,277,555</td>
<td>€11,917,701.67</td>
<td>4.04</td>
<td>7</td>
<td>-3.0%</td>
<td>-1.4%</td>
<td>-9.8%</td>
<td>-10.3%</td>
<td>-4.4%</td>
<td>-18.0%</td>
<td></td>
</tr>
<tr>
<td>12 Increase of other project expenses by 10%</td>
<td>+10%</td>
<td>30.3%</td>
<td>17.1%</td>
<td>€44,174,758</td>
<td>€41,892,478</td>
<td>€13,527,422</td>
<td>€12,809,134.06</td>
<td>4.11</td>
<td>7</td>
<td>-2.4%</td>
<td>-1.0%</td>
<td>-5.8%</td>
<td>-6.1%</td>
<td>-2.6%</td>
<td>-11.8%</td>
</tr>
</tbody>
</table>
3. How to develop a project – Investment Pitch

– Once the project has been structured, the investment pitch consolidates key qualitative and quantitative information for investors in a succinct manner.

– The investor documentation’s key objective is to create a single document that can be presented to a variety of stakeholders.

– The investment pitch is focused on concise and clear information sharing, using the jargon of investors.
The financial world comprises of a wide variety of bio-energy funders. There are financial institutions specialized in providing:

- Debt;
- Equity;
- Technical assistance;
- Grants and subsidies.
4. Debt

Debt is defined as loans (usually medium-long term) on a non-ownership basis. These can be both at fixed or variable interest rate. Moreover, loans can be offered on a commercial/market base or, in relation to the development aim of the project, as interest free.

Debt can be provided by different funders, such as:

- **Commercial banks:**
  - Rabobank
  - ING
  - ABN-AMRO

- **Multilateral and National Development Banks:**
  - Dutch Good Growth Fund,
  - AECF
  - Adaptation Fund

Examples:
- **AECF REACT window**: maximum $1.5 million interest free loan per project;
- **DGGF**: direct loan (co-finance) 7 years with 1-2 years of grace period, interest rate is market conform, maximum €10 million per project.
On a company's balance sheet, equity corresponds to the amount of the funds contributed by the stockholders.

Equity financing refers to the process of raising capital through the sale of shares in an enterprise.

Equity financing can be provided by different funders, such as:

- **Friends, Family, Angel investors**
- **IPO (Initial Public Offering)**
- **Private equity investors**
- **Private equity funds**

Examples:

- **Africa Renewable Energy Fund (Berkeley Energy)**: invests into small hydro, wind, geothermal, solar, stranded gas and biomass projects across Sub-Saharan Africa
Technical Assistance (TA) is defined as financial aid given by funders to bio-energy projects to support their economic, social and environmental development.

Technical assistance can be issued in various forms such as: training and monitoring services.

TA can be provided by different funders, such as:

- **Multilateral development banks**

Examples:

- **FINPYME**: Technical Assistance Program of the IIC consists of several services designed to help SMEs in Latin America and the Caribbean improve their competitive position and assist them in their access to medium and long-term financing.
Grants are non-repayable funds disbursed by a grant maker to a recipient for which a specific proposal or application is required.

Subsidies are a form of financial or in kind support extended to an economic institution, business, or individual generally with the aim of promoting economic and social policy.

Grant and subsidies can be provided by different funders, such as:

- **Government Bodies**
- **Foundations**

Examples:

- **DHK Subsidy (RVO)**: grant programme supporting Dutch companies to access markets in a several target countries. For feasibility studies, provides 50% of the total budget with a maximum of € 100,000.
5. How to develop a project - Cases
5. Cases: FUMA matchmaking projects with financiers

Between 2012 and 2015 Everest Energy was tasked by RVO to improve the bankability and scalability of 24 international bio-energy projects with the aim of accelerating their time-to-market.

The project consisted of three phases:

- **Phase 1:** Cluster of Project Portfolios based on Key Financial Parameters, Project funding requirements and preconditions of an investment portfolio.
- **Phase 2:** Match Portfolios with Investors
- **Phase 3:** Make & Match Business Plans with project contractors and investors to present the most attractive options;
5. Cases: Quick Scan – Financial Sector

The Dutch Embassy in Costa Rica noticed that Dutch companies are not aware of the opportunities that Central America has to offer. The Embassy aims to actively raise awareness, promote opportunities and invite companies to make use of the DGGF.

The goal of the DGGF (launched on July 1st 2014) is to support Dutch and local SMEs in developing countries by offering a source of financing for local investment and export.

On this regard, the objective of this quick-scan financial sector was three-fold:

– To present the “lay of the land” of bio-energy investors – opportunities and risks;
– Describe the opportunities of the DGGF, including the opportunities of combining DGGF with existing national/regional funding products;
– To support the Embassy, defining its role when utilizing the DGGF combined with existing national/regional funding products to develop SME’s.
5. Cases: Biotech incubator Colombia

Everest Energy, GMPS and TNO are developing an incubator for biochemical companies, named:

“Dutch – Colombian Knowledge Valorisation Platform and Business Eco System Feasibility for Bio-business Development and Clean Production of Green Chemical Intermediates in Colombia.” [“BioInc”]

The goal of the project is to develop shared visions as the basis for:

– Organisational embedding of knowledge valorisation in the field of biomass to biomaterial conversions;
– Organisational and financial embedding of new bio-business opportunities;
– Curriculum development in the field of, amongst others, natural sciences and bio-business;
– Development of a technical infrastructure for piloting and demonstration;
– Attracting Dutch and Colombian bio-business initiatives.
5. Cases: Bridging the Gap - Future Developments

To further strengthen the service offering the partnership will:

1- Increase effectiveness of service offering (by opening a new office in Kenya)
   a) Wider geographical service area
   b) More internal knowledge & Expertise (sharing)
   c) Wider & Deeper product offering
   d) Thus ability to bid for larger/more complex work

2- Automating a part of the evaluation and reporting functions (TADS) allowing to service an additional market segment:
   a) Small projects (up to $2MM) with a cost-effective service offering.
   b) The investor/government who invests/manages/evaluates a portfolio of (small) projects
      • Increase efficiency of product offering – thus reducing operational cost
      • Able to service large portfolios (high number of projects)
      • Ability to service small projects with a partially automated product
      • Ability to retain / store data thus creating a portfolio analysis /advisory / forecasting tool

3- The partnership will launch a call for acceleration – inviting projects to use the service offering and therefore accelerating the time to the (financial) markets.
5. Cases: Bridging the Gap - Future Developments

Product Cooperation

Market Cooperation

PA-EE-GM Partnership

Project Development Advisory

TADS — Automated Product Offering

Advisory — Advisory Product Offering

<table>
<thead>
<tr>
<th>Product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Qualitative Project Development</td>
<td>2- Quantitative Project Development</td>
</tr>
<tr>
<td>3- Project Finance Structuring</td>
<td>4- Project Report / Risk Analysis</td>
</tr>
<tr>
<td>5- Project Finance Documentation / Presentation</td>
<td>6- Project Portfolio Evaluation</td>
</tr>
<tr>
<td>7- Project Portfolio Analysis</td>
<td>8- Investor TA</td>
</tr>
</tbody>
</table>
5. Cases: Bridging the Gap TADS

- TADS – Technical Advisory and Development Services
- Goal is to support the advisory product, making it more:
  - Efficient and thus lower operational cost
  - TADS allows for automated lower-cost support, hence the ability to service small projects.
  - TADS allows for larger groups of projects to be serviced
  - TADS allows for portfolio analysis and evaluation
6. Conclusion

- Up to 50% of the world energy demand will come from renewables in 2050
- A number of promising sustainability de-risking structures are available - GBEP
- BUT......There is a gab between Project – Finance
- Well developed and financially structured project lead to:
  a) A donor finds effective results of involvement
  b) A developer finds realisation of the project
  c) A financier finds deployment of capital
- Thanks to TADS, hundreds rather than dozens of projects can be developed and structured simultaneously.
  (using GBEP indicators)
Contact

We invite you for an open discussion and look forward to your reply.

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