Training on Dynamic Investment Grade Calculation

Dynamic Investment Grade Training

The GIZ Renewable Energy and Energy Efficiency Program (REETA) developed an extensive training module on dynamic investment grade calculation for energy contracting-, energy efficiency and renewable energy projects to support the contracting market development in GIZ's partner countries. The aim of the training is to enable the participants to develop and calculate their own complex energy service projects, to perform risk analyses and to produce bankable project documentations.

Excel Calculation Tool

The training is based on a Microsoft Excel-tool for energy performance and energy supply contracting projects. After participating in the training the participants can use the tool in their own context. The calculation is based on the net present value method. The net present value is an economic indicator of the dynamic investment calculation. Payments for certain times are made comparable by discounting them to the beginning of the investment. The main results of the calculations are the following 3 Key Performance Indicator (KPIs):

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Payback period (dynamic and static)

The tool gives also insights about further relevant indicators like cost structures, revenue development, debt services coverage ratio and cash flow availability for debt services. Furthermore, a comprehensive sensitivity analysis is also part of the tool. The KPIs are relevant for a detailed analysis of the profitability of a project over a defined period and absolutely necessary for proper communication with Banks.

Goals of the Training

The design of the training is very much practice oriented. Each training is tailored to the specific needs of the participants and partners or the countries framework. However, the basic structure and general goals are the following:

- Enable the participants to perform life/project cycle cost calculations
- Create knowledge on the basics of dynamic economic calculations for complex ESCo projects
- Give detailed introduction to a comprehensive ESCo calculation tool for Energy Performance Contracting (EPC) and Energy Supply Contracting (ESC) projects
- Enable the participants to calculate and model own EPC and ESC projects
- Improve the participants skills for reporting to management, financing institutions and other stakeholders
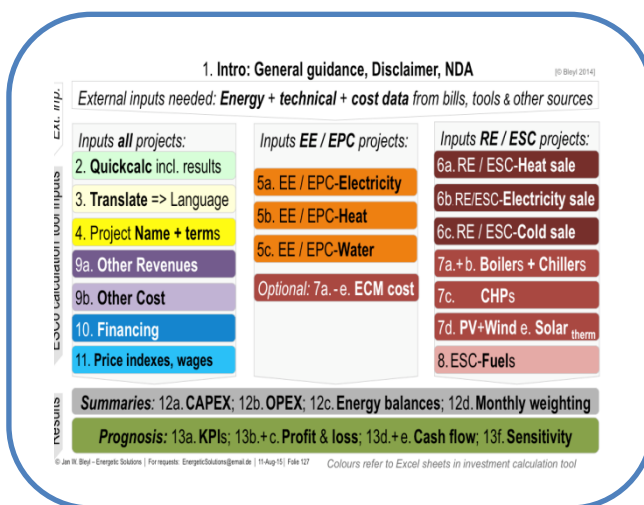
Target Group

→ Employees of ESCos and / or Utilities
→ Facilitators of contracting projects
→ Project developer
→ Investors
→ Employees of financial institutes
→ Staff from energy agencies
→ Employees of research centre (energy sector)
→ Staff from public institutions and ministries who are in charge of energy efficiency or ESCo market development

Training Structure

To ensure a good start with the financial calculations for all participants, the overall training structure is divided in 3 parts:

- The training consists of an introduction to life-/project cycle cost calculations as well as basics of dynamic economic calculations.
- Secondly, a detailed introduction to a comprehensive techno-economical Excel calculation tool is presented and reiterated by calculating real world ESCo project examples together with the trainees.
- The third part actually constitutes the calculation of own projects of the participants.

Participants should bring own project data to calculate their own projects which is the main part of this hands on-training, supplemented by some basic theory units about dynamic economic efficiency calculation, risk analysis and life cycle costs. To start first calculation the following input data are required.

Project story outline:

- Project/contract term
- Life cycle cost of measures: Investment (CAPEX) and operation & maintenance, insurance, management, controlling etc. (OPEX)
- Financing: Interest rates; equity & debt shares; subsidies

Energy efficiency / EPC projects:

- Baseline data: energy & prices (in MWh & price/MWh, kW/kVA & price/kW)
- EE-measures and related savings in MWh or % of baseline

Renewable energy / ESC projects:

- Heat + Electricity sales: energy & prices in MWh & price/MWh
- technical performance data of equipment like boiler, CHP, PV, solar therm in kW, operating hours, annual efficiencies
- Energy prices: Electricity, fuels in Price/MWh, price/kW

In order to bridge the language barrier, the Excel tool was made operational in German, English, French, Chinese and Croatian language in parallel.

Required knowledge for the training

→ Basics on energy services & ESCo business models (energy performance and supply contracting)
→ Technical or economical education with regards to the energy business
→ Basics on Microsoft Excel

The training has been developed together with Jan W. Bleyl from Energetic Solutions and operating agent of the IEA DSM Task 16 'Competitive energy Services/ESCOs'