Innovating Energy

Financial and Business Models

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Dear Reader,

Energy efficiency is increasingly being acknowledged as the gamechanger in keeping the burgeoning energy demand in check. With energy production pegged as a major source of emissions, efficiency of energy use through innovative interventions gains even greater importance. According to the International Energy Agency (IEA), implementation of energy efficiency policies could result in nearly 36% reduction in greenhouse gases (GHG) emissions by 2050, clearly underlining its significance. Thus, the need of the hour is to bring energy efficiency into the spotlight. This can be done by incentivizing investments in innovative energy efficiency projects and rapidly scaling up the entire energy efficiency financing mechanism.

Hence, concerted efforts are required to gauge the current energy efficiency financing mechanisms and to bolster them with innovative financial models. This can greatly augment the government’s efforts in building an energy efficiency ecosystem in the nation. In that vein, we explore various nuances of financial modelling in this newsletter. We scrutinise the impact of financial modelling on strategic decision making, cash flow forecasting, management and board reporting, strategic planning and options analysis. We also analyse the various financial models and glean their relevance for various energy efficiency projects.

The newsletter also delves into the intricacies of the newly formulated ‘Energy Efficiency Revolving Fund’ and examines its utility, distinguishing features and various avenues for collection of capital. The article also discusses the role of Energy Efficiency Services Ltd. (EESL) as a mentor for the entity, in a bid to maximise its impact in scaling up the energy efficiency market in the country.

India’s energy efficiency outlook promises to be increasingly upbeat, with the meticulous endeavors of the government. However, we need to look beyond the government interventions and invite investment from the private sector to incubate innovative energy efficiency and clean energy projects. This collaborative approach will facilitate the development of a robust financial mechanism for the sector and will spur the nation forward in achieving its ambitious climate goals.
Financial Modeling

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Financial Modeling or forecasting

A. Introduction
Financial modelling is an abstract representation/model of a real-world financial situation. It is essentially a mathematical model to represent the performance of a financial asset or portfolio of a business project or any other investment. Financial modelling allows the financial performance of a business to be forecasted based on its historical performance. It can help in strategic decision making on various aspects like acquisition, raising or allocation capital, forecasting, budgeting, etc. Financial modelling can also be used by investors or financial analysts to achieve a multitude of goals, from cash flow forecasting and management and board reporting to strategic planning and options analysis.

B. Types of Financial Modeling
Three basic statements to understand a company’s financial performance which form bases of any financial modelling are: 1) Income Statement; 2) Balance Sheet 3) Cash flow statement.

Three Statement Model:
This model is developed based on the historical/audited financial statement and while developing revenue, profit, cash flow etc. are appropriately classified under different sections to normalize the company’s biasness to adjust these items. Banks and other financial institutions use this model to evaluate the historical financial performance of their corporate borrowers.

Credit Rating Model:
This model is built upon the three statement models, which is extended further to do three-to-five years of projections, and incorporate other parameters such as future demand growth in the industry, strength & quality of management, quality of collaterals, conduct of the existing loan accounts etc. A credit score is calculated which is a weighted average of financial risk score, management risk score, business risk score, and industry risk score. When a company applies for loans, the bank uses this model to evaluate the company’s legitimate borrowing potential and the applicable interest rate.

Comparable Company Analysis (CCA) and/or Ratio Analysis:
Based on a company’s business profile (such as the geography its operating in, product & service category, target customers etc) and financial profile (size of the company, top and bottom line etc), an analyst need to determine a set of comparable companies. Different types of financial ratios that can be used across this set of companies are PE Multiple, EV/EBITDA, P/B ratio (Price-to-Book value) etc. At times sufficient data may not be available for a company to be analysed, or there is a need to understand where a company stands with respect to its peer companies, CCA or Ratio analysis method is used.

Discounted Cash Flow (DCF) Model:
It is valuation analysis model that is based on projected future cash flow to assess a company’s worth or value. Future cashflows are to be discounted with an appropriate discount rate (which is dependent of the
company’s capital structure and cost of capital) and then sum them up to calculate the valuation. Investors use this model to understand the true value of a startup/new project before putting their money and calculate the stake to be bought. Stock market investors use this for fundamental analysis to see if A Company is trading higher or lower vis-à-vis its actual worth.

**Leveraged Buyout (LBO) Model:**
It is also a valuation analysis model but its difference with the DCF model is that LBO takes into account a significant debt financing. The purpose here are three folds – balance sheet adjustment for debt-heavy capital structure, to come up with an acceptable IRR (internal rate of return) and an exit value based on EV/EBITDA multiple. When an acquirer company (most of the cases bi bracket Private Equity firms) uses a significant amount of debt to finance the cost of acquisition, this model is used to determine the fair valuation and exit-return of the company being acquired which may be private or public.

**Merger and Acquisition (M&A) Model:**
In case of this model, M&A financing options (eg. Cash, Stock, Debt and Hybrid), share swap ratio, control premium, expected synergy post M&A etc. are analyzed. When two companies decide to merge for possible synergy, higher market share, diversification etc or a company decided to acquire another company (eg. Microsoft acquiring LinkedIn), an Investment Banking analyst would use this type of models to determine the accretion / dilution.

C. **Key Component of Financial Modeling /projections**

1) **Key components**

   Although component of each finance model is different from each other. However, following the key component which are usually should be in a finance model.

   ![Forecasting Operating revenues and profits](image)

2) **Analysis**

   Following analysis may be done, based on the type of the model and requirement, of user:

   - Project Viability Ratios – Internal Rate of Return, Net Present Value, Equity IRR, Payback Period, DCF, return on capital employed, Etc.
   - Liquidity Ratios: Current ratio, quick ratio, and working capital ratio.
   - Solvency Ratios: Debt-equity ratio, debt-assets ratio, and interest coverage ratio.
   - Profitability Ratios: Profit margin, return on assets, return on equity, and return on capital employed, and gross margin ratio are all examples of profitability ratios.
   - Efficiency Ratios: Asset turnover ratio, inventory turnover, and days’ sales in inventory.
   - Coverage Ratios: Interest earned ratio and the debt-service coverage ratio.
India has voluntarily pledged to reduce emissions intensity of its GDP by 33 to 35% from 2005 level with growing concerns around climate change and its impact on the development of a country. As, India is one of the fastest growing economies in the world with the economy estimated to grow 5 times the current size by 2040 from all segments of the economy, it is more noteworthy to keep its engine of growth, i.e. energy, sustainable to reap benefits in long term. Given the size of Indian economy and varied uses of different forms of energy across the sectors, the clean energy sector presents a cosmic opportunity for investment.

To meet this target, India has a definitive action plan encompassing clean energy initiatives for various sectors. Transition to electric mobility, focus of energy efficiency through UJALA, Street Lighting National Program, Solar AgDSM and Smart meters have been some of the marquee initiatives in the recent times. Efforts around fueling these initiatives at scale is steered by Ministry of Power, Ministry of New and Renewable Energy (MNRE), Bureau of Energy Efficiency (BEE) and EESL. However, for India to rapidly scale up the initiatives and meet the targets within the stipulated time, there is a growing need for clean energy financing over and above the existing government driven schemes.

Thus, in line with the national targets, the market is shifting towards de-carbonization and low carbon development leading to increased adoption of clean energy. ADB through clean energy financing supporting EESL through various interventions in past. Now, ADB is focussing under component-2 for project GEF-6 called ‘Creating and Sustaining Markets for Energy Efficiency’, by identifying and promoting innovative technologies. Under the first pilot, EESL intends to do a pilot project targeting 50,000 nos. of super-efficient ACs that would save estimated 106.84 million kWh of electricity per year mitigating around 91,000 tCO$_2$ per year. The approximate investment in this pilot would be around **US$ 36 million**. EESL engaged with BSES Rajdhani, BSES Yamuna and Tata Power-DDL to implement schemes on Energy Efficiency for institutional and residential consumers in Delhi.

Through second pilot, EESL is proposing the pilot demonstration for 40,000 of energy efficient motors (IE3) motors that have significant energy savings of electricity per year mitigating around 95,000 tCO2 per year. The approximate investment in this pilot would be around **US$ 26 million**. With third pilot, EESL will be procuring and installing 200 fast chargers with the capability to charge CCS, CHAdeMO and Type II AC on public charging infrastructure in Delhi-NCR. The approximate investment in this pilot would be around **US$ 12 million**.

In this context, these proposed technologies would help in future to replicate and scale-up the new technologies. Further, it is proposed that repayment from client would be re-invested to an energy efficiency revolving fund that encapsulates certain distinguished feature in comparison to other financing interventions.

This revolving fund shall have its prime focus over the clean energy space and run with the assistance of
experienced and knowledgeable professionals in the field. This specialized focus over the designated clean energy domain shall empower the entity to create a discrete competitive edge in the market and with passage of time, the entity shall accumulate valuable experiences and further fine tune its pioneering approach to clean energy financing. Additionally, a parent and mentor in the form of Energy Efficiency Services Ltd. (EESL) shall further help the entity in putting its best foot forward while approaching clean energy finance market and can ensure its technical and financial prudence.

The fund shall gather its capital in form of grants, equities and loans from various multilateral institutions, government, parent organization, private investors, similar funds etc. This accumulated capital shall be expended for up taking proof of concepts, commercialization of new technologies and propagation of established technologies through a number of financial instruments. The expected repayments from the various investments done shall then be plough back into other clean energy avenues to ensure the financial sustainability of the entity. Also, a part of the repayments shall be channelized to the equity holders in the form of dividends to ensure a regular cash flow to the contributors.

Overall, the proposed financing entity is expected to create a domino effect in the clean energy market. In the process of entrenching its coverage in the financing market, the entity shall capture related data and develop comprehensive frameworks to make the future project appraisal process more inclusive and robust. A better assessment of risk through these frameworks shall plummet the uncertainty and risk intensity in the clean energy market to instigate other stakeholders to participate for the same cause and support in market transformation through clean energy financing.
EESL’s Stellar Financial Results for FY19

An impressive revenue of INR 630.45 crores from EESL’s UK operations in FY 18-19, which has lead to a 73% increase in consolidated revenue of EESL.

FY19 highlights (YOY)

<table>
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<tr>
<th>Category</th>
<th>INR 1935.7 crore</th>
<th>Pre-tax earnings growth as 202%</th>
<th>EBITDA growth as 128%</th>
<th>Total consolidated revenue growth as 73%</th>
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Unnat Jyoti by Affordable LEDs for All (UJALA)
- Street Lighting National Programme (SLNP)
- Agricultural Demand Side Management (AgDSM) Programme
- Building Energy Efficiency Programme (BEEP)
- Solar Programme
- E-Vehicle
- Solar Study Lamp Scheme (MNRE)
- Atal Jyoti Yojna (MNRE)
- CSR Projects for PSU
- Other Projects
- Other Income