Chapter – 3

SWOT Analysis

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3.1 Introduction:

Every project or industry intend to operates in the positive, proactive, supportive, encouraging and protective environment which supports for the development of industry, its related environment, their employees, society and nation as a whole. Each project or a industry or a organization shall operates within its ambience of four dimensions say Strength, Weakness, Opportunity and Threat dimensions comprehensively well known as SWOT dimensions. In order to abstract the benefits of each dimension it is utmost essential to identify each of the dimensions with reference to that industry or a project and analyses the impact with respect to each of the four SWOT dimensions mentioned over here. The dimensions of strength within and outside the projects are to be manifested as competency of the project.

The dimensions of the SWOT is further classify into tangible and non-tangible, such as tangible strength and non-tangible strength. The tangible strengths is the dimension which includes the equipment, general infrastructures of the projects, advanced technological system used in the projects, capital items. Material and equipment manufacturers and suppliers, EPC consultants and project developers etc. The intangible strength includes policy supports from governments, financing from government and non-government, experience of the project developers, power purchasers supports, positive supports from the government and policy makers decision towards projects, co-cordial relation amongst the government, policy makers, developers, EPC agencies, consultant financiers and investors, encouragement by the government for development of renewable energy projects, awareness and knowledge/ capacity building. Both the tangible and non-tangible strengths are generally supportive and positive dimension in the development of the industry or projects. However, it is not to be considered as the universally consensus that the strength for one project shall be the strength of

other projects, as it depends on project to projects. Similarly for weakness the two categories are tangible weakness and non-tangible weakness.

Strengths are positive in nature. There cannot be a universal consensus about strengths. An aspect which is considered as strength for one person may not be considered as strength for other. Cautious and prudent application of strength can facilitate sustenance and growth.

3.2 Understanding SWOT Analysis:

SWOT Analysis is one of the effective framework to evaluate a company's or a Projects competitive position in the market and is used for developing strategic planning of any companies or projects and identification of strength, weakness, opportunities and threats involves in the business or projects, which supports to achieve the objectives for projects by identifying the extent of the internal organizational factors that are generated internally and external environmental factors that are favorably or unfavorably affects the business or projects objectives, as well as current and future potential of the business of projects. In view of this, the various terms are explained here under:

Strengths: Involves the attribute of the projects or organization that support or in favor of achievement of the projects objectives as well as current and future potential of the business of projects.

Weaknesses: Involves the attribute of the projects or organization that resists the achievement of the projects objectives as well as current and future potential of the business of projects.

Opportunities: These are the external environmental factors or conditions or policies that support the projects or organization as well as current and future potential of the business of projects.

Threats: These are the external environmental factors or conditions or policies that harm the developments of the projects current and future potential of the business.

The SWOT analysis is generally used for decision making in day to day and regular management of project or business. This is usually executed during the initial phase or infant stage of the project as well as during any stage of the project life cycle especially to identify any difficulty arises on the deliverable of the projects by analyzing the situations internally or externally, the result of which is utilized for the development of the project. The identified strength of the projects is utilized to compensate the threat and the identified opportunities of the project can be utilized to overcome the weakness of the projects. SWOT analysis identifies the risk and barriers which restrict the achievement of the objectives and development of the project. A SWOT analysis framework is designed in such a holistic manner that facilitates a realistic, fact-based and data-driven set up for the strengths, Weaknesses. Opportunities and Threats by scanning the complete system related to the business competitions, government policies or other threat of any projects or company / organization or any Industry. In fact, the projects or company analyzed itself accurately by avoiding pre-conceived belief or assumptions over the gray areas of the projects. Which ultimately supports the project to identify and address the points which are lacking in order to minimize risk involved in the projects, the weakness and threats are to be identified and convert into favorable support for current and future development of the projects. All out efforts are made to focus on the real life based fact or contexts of the issues of the company or projects to find the trust and real scenario of the projects for the short as well as long run so that this SWOT analysis can be used by the company or any project as a preliminary guide for the current and future development of the company.

The SWOT analysis involves identification of core strength of the project/company, weakness, opportunities involved and the threats of the business that leads to fact-based analysis, development of new ideas for tapping the potential market and fresh new perspectives of the business.

The SWOT analysis put forward additional value, once it is analyzed with realistic data obtained from the diverse group of stake holders within the organization or various organization of the same business.

3.3 SWOT Analysis with respect to Renewable Energy Projects:

The influential factor for SWOT analysis of utility scale renewable energy projects is the project developers/organisations internal issues as well as external factors which anticipate the changes involved in projects affecting the existing and future development of the project & its targets. In case of Renewable Energy Projects, the various factors are numerated with reference to the objective of the topic.

The Internal factors (strength & weaknesses):

Project developers organizational Structure (Resources, availability, designing for project)! Stakeholders (employers, employees, management, investors, policy makers, off taker)

Customers (consumers of renewable power,)

Competitors (project competitor, manufacturers)

The External Factors (Opportunities and Threats) includes the Technology, Economy, Politics, Government policies, Regulations and Society as well.3

Strengths:

The Government of India has notify for development of Ultra Mega Renewable Energy Park Project (UMREPP) at various states. The State Government is providing land for such UMREPP with certain amount of land cost in the form of upfront/lease rent over a period of time in accordance with the policy of the each state government. The total size of the UMREPP is in the range of 2000 MW with minimum size of land for 600 MW at single location. The UMREPP is scattered over more than one location in multiple 600MW

The evacuation facility is to be provided with erection of new transmission system either by CTU or STU for the said UMREPP at single location of UMREPP or in multiple location of 600MW and evacuation of minimum 250 MW renewable energy projects size at single location or in multiple location

of 250 MW in existing transmission system of Central Transmission Utility (CTU)/ State Transmission Utility (STU) based on availability of evacuation capacity.

UMREPP cost: The Government or renewable energy park developers charges from the renewable energy project developers, a Park development charges on the name of Upfront / annual lease rental charges or per unit energy charges. The renewable energy park developers also eligible for the Central Financial Assistance (CFA) from Ministry of New and Renewable Energy (MNRE) to the tune of Rs. 20 Lakh/MW or 30% of the cost of development of internal infrastructure of the UMREPPs, this includes the cost of connecting to the CTU/STU point, whichever is lower. O & M charges from RE Power Developers Rs. 0.07 per unit of power being generated from the projects for the entire PPA period, in case SPV is also a Trading Licensee. MNRE also, requested State to support for formation of Special Purpose Vehicle (SPV), supports in identifications and acquisitions of the lands to both private and state organisation, supports in getting clearance of tedious Right Of Way (RoW) issues for erection of dedicated Transmission Lines for the evacuation of renewable energy production from the RE parks.

Must Run Status and non-curtailment of power:

The production of renewable energy generation projects covered under Must Run status. However in some States, instances of curtailment of renewable energy power that's too without assigning any specific reason have significantly increased even without any grid security reasons.

Opportunity:

The policy initiatives of the Government of India has lead to a faster growth and development of renewable energy (RE) sector projects in the India. According to this policy initiatives, The Ministry of New and Renewable Energy (MNRE), Government of India (GoI), along with all the State Nodal Agencies (SNAs) have already been taken over appropriately for achievement of the GoI target of 175 GW of renewable energy projects by 2022, which contains solar projects capacity of 100 GW. India, communicated its Intended

Nationally Determined Contributions (INDCs) to the United Nations(UN) Framework Convention on Climate Change (UNFCCC) and committed amongst others, mainly to reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level and to achieve about 40 percent cumulative electrical power installed capacity from renewable based energy resources by 2030. Pursuant to the enactment of the Electricity Act 2003 and amendment thereoff, the State Electricity Regulatory Commissions (SERCs) has to fix a purchase of minimum percentage energy from renewable energy projects sources of the total consumption of electricity in the area of a distribution licensee or as notified by the Central Government from time to time.

RPO: Under Section 86(1) (e) of the Electricity Act 2003 ("EA 2003") and the National Tariff Policy (NTP) 2006, ``Renewable purchase obligation (RPO) is a mechanism by which the obligated entities are obliged to purchase certain percentage of electricity from Renewable Energy sources, as a percentage of the total consumption of electricity``. RPOs are categorized as Solar and Non Solar RPO. The RPO targets specified for solar and non-solar power are to be adhered and met uniformly by the Obligated Entities of all the States and Union Territories. As such, the RPO to each state and union territories are the backbone of India's renewable energy projects development programme.

``Obligated Entities`` includes Discoms, Open Access Consumers and Captive power producers.

(MNRE, 2018) The Government of India, MNRE under section 86 (1) (e) of the Electricity Act 2003 manadates the State Electricity Regulatory Commissions (SERCs) to notify the RPO, ensure RPO compliance and invoke penal provisions against the defaulting entities, Accordingly, The GoI during July 2018, enforces the long term renewable energy growth trajectory of renewable purchase obligation (RPO) for both solar and non-solar as well, for 21% of renewable energy RPO by 2022, in order to achieve the target of 175GW of renewable energy capacity by March 2022 to all the states as well as union territories of the country initially for the three years from 2016-17 to

2018-19 and further modified trajectory for the year 2019-20 to 2021-22. This is updated obligation to all obligatory entities of the country to consume percent of renewable energy both solar and non-solar (wind including other renewable energy generation) based on the total electricity consumption, as mentioned in table 4.1 and table 4.2 indicated earlier trajectory.

Table: 3.1 : Modified RPO trajectory for the year 2019-20 to 2021-22

RPO (Renewable Purchase Obligation)	Year 2019-20	Year 2020-21	Year 2021-22
Solar generation	10.25%	10.25%	10.50%
Non Solar generation	7.25%	8.75%	10.50%
Total		19.00%	21.00%

Source: MNRE Order dated 14.06.2018

Table: 3.2 : Initial RPO trajectory for the years from 2016-17 to 2018-19

RPO (Renewable Purchase Obligation)	Year 2016-17	Year 2017-18	Year 2018-19
Solar generation	8.75%	9.50%	10.25%
Non Solar generation	2.75%	4.75%	6.75%
Total	11.50%	14.25%	17.00%

Source: MNRE Order dated 14.06.2018

The respective State Regulatory Commission in exercise of power conferred under the Electricity Act 2003, consider notify the RPO to their respective state in line with subjected modified uniform RPO trajectory.

Allotment of land:

MNRE has taken up issue with MoEF & CC to notify renewable energy projects deployment as green activity and grant automatic approval for utilization of degraded forest land for renewable energy project. Also, in order to keep RE tariff competitive, MNRE requested state governments not to levy excessive development charges or charges if any.

Ease of doing Business concept:

The GoI, MNRE has intended to provide support to renewable energy project developers in resolving the issue arises for project developments. MNRE in support to the ease of doing business concept notify the clarifications time to time with reference to the renewable energy projects issues & problems including manufacturing and execution of the projects.

Threat:

On Gandhi Jayanti, India has submitted it's Intended Nationally Determined Contribution, the approach of which has been anchored in the vision of equity inspired by our Father of Nation ``Mahatma Gandhi's`` famous exhortation **"Earth has enough resources to meet people's needs, but will never have enough to satisfy people's greed"**

This statement means that the earth has abundant amount of natural resources to satisfy needs of everyone's but unfortunate to say that it often, in developing and utilizing this natural resources in our greed and hurry, these resources are exploited recklessly. Hence, in the course of development of natural resources, we are spoiling the nature in the form of deforestation, overgrazing, encroachment of Gauchar & forest lands etc. Further, the over exploitation of natural available resources not only harms the environment and wild life but may cripple the future generations for the development process itself which direct the judicious use of available natural resources for development of the projects.

This envisages that there is also a threat against the development of renewable energy projects, which needs to be addressed. So far as renewable energy projects are concerned, some of the threats uncovered are as under:

Sanctity of PPA: The major threat in case of renewable energy developers is the re negotiation of PPAs already signed. This is very vital to sustenance and growth of the renewable energy projects sector. There have been numbers of instances where PPAs are sought to be renegotiated. Hence the judicious things are to strictly adhere to the provisions lay down under PPAs which should be enforced in letter and spirit.

Payment Security:

Renewable Energy Generators and Developers is suffering from fear of non-payment or timely payment of their sale of electricity by Distribution Companies (DISCOMs) or renewable power purchasers.

Convert threat to opportunity:

DISCOM and Purchase shall ensure timely payment to RE generators on `First In First Out` (FIFO) basis

DISCOM and Purchaser should follow the Ministry of Power's order no. 23/22/2019-R&R dated 28.06.2019, 17.07.2019 & 23.7.2019 issued in favour of RE generators.

Development of ``Payment Security Mechanism`` : DISCOM and Purchase shall establish Letters of Credit payment system in favour of all the renewable energy generators and developers in coherence with MoP's Order dated 28th June 2019.

Reference:

1. MNRE. (2018, June 14th). RPO-Long term growth tragectory of renewable purchase obligation for solar for three years upto 2022. *Order by MNRE*, 2. New Deelhi, NCR, India: MNRE, MoP, GoI, New Delhi.