CHAPTER 3

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3.1 RATIONALE OF THE STUDY

This chapter details rationale and boundaries for the research in hand. Promotion of investments in renewable energy technologies by Indian government is a very recent phenomenon. The markets are dynamic and therefore along with the policy and institutional mechanism in place analysis of the perception of risk in investments by individual investors and the structure of their risk cognition is very crucial to design better policies and marketing strategies along with relevant information capsules for the new market.

There is a growing perception that low carbon technologies can offer tremendous opportunities to overcome the current energy and climate change crises due to the numerous environmental, economic and societal benefits they incorporate [Dutche bank Report, 2008]. Despite these characteristics, both energy analysts and the majority of policy makers argue that the diffusion of RE technologies remains below expectations and that further investments are badly needed to revert this trend.

However, the reasons for this systematic underinvestment remain somewhat unclear.

There is very small body of literature dealing with the current financial conditions and modeling for renewable energy in India. The existing study includes study by Shrimali et al (2014) which examined the potential role of policy in providing cost-effective renewable deployment via detailed project-level financial modeling based on actual projects on ground. According to the study high cost of debt, that is, high interest rates, is the most pressing
problem facing renewable energy financing in India and has significant impact on the Levelised Cost of Energy (LCOE).

The cost and terms of debt add about 24–32% to the cost of renewable projects in India when compared to similar projects in the west. Further they noted that general Indian financial market conditions are the main cause of high interest rates for renewable energy.

Growth, high inflation, and country risks all contribute to risk. Thirdly, regulation and the structure of the India power sector also raise significant issues. Many state-level policies are created to support renewable energy and decrease project-level risk (Atteridge et al., 2012).

However, renewable energy is just a small fraction of the overall mix for the power sector, which is not in a good shape. Thus, some state-level policies – in particular, the weak and ad-hoc management of the financial failure of the state electricity boards – increase project risk. National policies designed to weave state policies together – e.g., the REC mechanism do not adequately reflect the realities of financial markets or state-level risks. Fourth, differences in national financial markets impact renewable energy policy design and effectiveness. Therefore lessons learned from, and policies developed by, developed economies may not be particularly useful given these differences in financial markets.

An ex ante study by ESMAP (World Bank 2010) for solar investments in India has been one of the key reference for investor’s perception towards investment in renewable energy sector in India. There has been a substantial capacity buildup for renewables in last five years with a possibility of ex post perception from investors with experience in the growing clean
energy market along with individual investors aspiring to enter a new investment opportunity for portfolio hedging and diversification.

3.2 OBJECTIVES OF THE STUDY

The current thesis contributes to the existing understanding of risk cognition by investor by formulating econometric models for investor risk perception of technology and policy during investment portfolio design. The main objectives of the study are:

(i) to analyze main determinants of investments in the renewable energy sector in India from the investor cognition perspective.

(ii) To study investors risk analysis for setting up renewable energy units

The following relationships are analyzed using a primary data survey.

➤ Technology risk cognition by experienced and new investors
➤ Institutional risk cognition by experienced and new investors
➤ Risk cognition for market based instruments by experienced and new investors

The study uses various qualitative regression techniques along with linear regression for analyzing various elements under study.

The detailed objectives for the thesis work are as follows

❖ Determine how risk perception of experienced and new investors changes for well established and comparatively new renewable energy technologies

❖ Determine how personal traits like age, education and investing exposure of an individual change the risk perception for renewable energy technologies
Determine how do experience pertaining to investing in renewable energy sector impact the policy risk cognition of the investors.

To determine how Investor's exposure to market based instruments associated with renewable energy sector play a role in perceiving risk associated with international and national market based instruments.

The next chapter provides details of research design and methodology followed to analyze the set objectives of the research in hand.