



Scoping Study on Financial Risk Management Instruments for Renewable Energy Projects

United Nations Environment Programme

Reference Document

Note: This mid-2000 time frame document is just an executive summary of a very large study. The entire report is far too extensive for examination here but does convey the extreme difficulty inherent in funding new innovation. While the study dealt with renewable energy technology development, the issues it addresses are the same for all innovation writ large.

MARSH

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Part 1: Executive Summary

This study was commissioned by UNFP Division of Technology Industry and Economics (DTIF) under its Sustainable Energy Finance Initiative (SEFI) with the aim of providing an overview of the barriers / risks affecting investment in Renewable Energy (RE) projects, “financial risk management” instruments currently supporting RE projects and those that could be developed to reduce uncertainty and facilitate more efficient and effective financing of such projects. Key messages of the report include:

The benefits of renewable energy are clear and well documented: climate change mitigation, cleaner environment. unlimited resource supply and improved energy security. However, current approaches to financing renewable energy deals are inadequate. **“Market failure” is common because the information required for lenders and underwriters to assess a project's viability is often unavailable or in the wrong format.** This usually results in the risks of a proposed RET deal being overrated and the required hurdle rate becoming untenable.

Traditional project finance for renewable energy deals is restricted by the credit requirements associated with off-balance sheet transactions. RE projects are usually small and their developers relatively unknown, under-capitalized and generally unable to absorb sufficient risk to provide comfort to commercial lenders.

The risks and barriers that prevent a more rapid uptake of desirable renewable energy technologies are diverse but interrelated. **From an investment perspective, the RE-specific risks and barriers of most concern relate to the small scale of projects, technology efficacy, operational risk and regulatory uncertainty.** Only long-term policies can change the familiar patterns of commercial investment.

Other barriers: whilst this study is not intended to address in any detail the social, legal and economic challenges in developing countries that may affect RE project financing, carbon finance can improve certain RE project revenues but is of limited interest to commercial financiers / insurers at present because of regulatory uncertainty.

When small-scale RE projects utilize private financing in addition to developer's equity, it is often as a result of an eclectic support group that may comprise; specialist 'boutique consulting and financial advisory firms, high-net worth individuals seeking tax shelters, community and local finance schemes, equipment leasing arrangements and, occasionally, corporate sponsorship by a utility.

Traditional insurance products are gradually becoming more widely available to the RE sector. However, “institutional inertia” is preventing any significant progress with regard to product development. The tendency in the insurance industry is to readapt existing products rather than create new ones. Substantially more engineering tests must be carried out on RE technologies for the purposes of actuarial studies. There is an important role for the public sector in the sponsorship of this work.

Capital allocation within insurance companies is dependent on senior management being convinced that the business case for underwriting a certain class of risk meets their minimum criteria. Most small projects have a high opportunity cost and rarely exceed the internal risk hurdle rates required by management. There is currently an

impasse in RE market development in part due to restrictive thinking. Fresh approaches and financial innovation are required. **Based on the responses to this study, the hypothetical provider of such innovation in the insurance markets is likely to be a small to medium-sized specialist risk transfer / finance operation with dedicated capital and low overheads.** Such an enterprise could facilitate and attract additional capital by providing industry leadership. However, few such operations currently exist.

This study proposes that there is a distance between the developers, their advisors and institutional investors. On one side are the boutiques and consulting firms that really interact with the majority of RE project developers. On the other side are the major financial institutions who interact at a high level with policymakers but, despite good intentions, are usually too large or inflexible to operate usefully in the RE space at this time. There is a useful role for the public sector to act as a “mezzanine player” or bridge between the expertise, creativity and nimbleness of the private specialist boutiques and the distribution networks, balance sheet and market influence of major financial institutions.

New financial risk management instruments are evolving and can be adapted to meet the needs of the RE (renewable energy) sector. These include Alternative Risk Transfer (ART) products, specialist underwriting vehicles, credit derivatives and political risk insurance. Insurance Collateralized Debt Obligations (CDOs) may be one method of directing capacity at particular insurers and lines of business. There is an ongoing role for risk mitigation and especially credit enhancement products provided by Multilateral Financial Institutions (MFIs), Official Bilateral Insurers (OBIs) and Export Credit Avenues (ECAs).

A key objective of this study is to accelerate plans to develop product blueprints for actual application in the market. **A learning - by - doing approach to developing new and commercially acceptable RE financing and risk management products could be usefully adopted through focused interactions between the public sector, specialist financial boutiques or insurers and several global financial intermediaries.** This can be accomplished through joint ventures that combine the perceived support and credit rating of public sector entities with the creative vision of private specialist boutiques and the distribution networks of large financial services companies.

A number of programs are suggested. **The main suggestion is to develop Special Purpose Underwriting Vehicles (SPUVs) with dedicated capacity for the RE sector.** An example of an environmentally friendly risk management start-up operation from the forestry sector indicates the potential of Lloyd’s syndicates as a means of providing cover to commercially viable RE projects. There are a variety of SPUV structures, which could be developed. The nature of the cover to be provided determines the level of public support required. An insurance company providing standard fire and windstorm protection for forestry requires nominal public support unless it takes on broader environmental agendas. However, the technology and operational risks inherent in RE projects mean that providing standard insurance cover is actually quite complex because of the data requirements. **Public sector support is required for engineering as well as project risk rating studies for most RETs that have limited operational experience.**

End Part 1