Energy Efficiency Financing

A REVIEW OF RISKS AND UNCERTAINTIES

Daniel R. Hill, MSc, Vienna University of Economics & Business, Department of Finance, Accounting & Statistics (daniel.hill@wu.ac.at)

Economic & Financial

Mostly extrinsic, uncontrollable risks that are common to other non-EE investments. They are often managed by means of contracting or some other hedging mechanism. This type of risk can manifest as either unexpected interest rate increases, volatile fuel/energy prices, uncertainty in demand charges, and loan payment default risks.

- Interest rates, fuel prices, default rates

Measurement & Verification

Accurate measurement of the realized savings is required to insure the viability of the investments. M&V is essential for achieving long-term energy savings. International Performance Measurement and Verification Protocol is a guidelines for mitigating these risks.

- Modelling errors, poor data quality, inconsistent measurement

Behavioral & Operational

Manifest as unexpected consumption patterns, faulty operation or improper maintenance of equipment, behavioral biases, and rebound effects. They are often caused behavioral patterns related specifically to energy use.

- Rebound effect, faulty operation, consumption patterns

Contextual & Technology

These risks involve unpredictable externalities or uncertainties related to the technical specifications of the project. Difficult to generalize these in financial modelling.

- Poor project design, poor performance

Selected references


Using option pricing theory to augment NPV

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Conclusions for future research

Role of institutional investors

Market potential for energy efficiency securities

Development of secondary market

More focus on third-party investor as decision maker