EVALUATING CDM PROJECT RISKS: AN INSURER'S PERSPECTIVE

Johannesburg, November 2010

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1. Munich Re and its climate change activities

2. Analysing the risks

3. Conclusion
1. Munich Re and its climate change activities
   → Structure
   → Creating awareness
   → Active engagement
   → Carbon Risks Insurance: our aims

2. Analysing the risks

3. Conclusion
Munich Re (Group)*

Diversified structure – diversified risks

Reinsurance
- Munich RE

Munich Health
- MUNICH HEALTH

Primary insurance
- ERGO

Corporate Social Responsibility
- Corporate Climate Centre
- Geo Risks Research Unit

Asset management
- MEAG

Munich Re and its climate change activities

* The above is a selection of companies operating in the relevant field of business.
Creating awareness, knowledge sharing

August 1973: Munich Re publication

Flood Inundation

2.1 Climatic Variations

Investigations into the overall trend of climate experience are indispensable and here climatic variations become most significant. Such investigations involve a study of thermodynamic processes such as, for example, the rising temperature of the earth’s atmosphere (as a result of which glaciers and the polar caps recede, surfaces of lakes are reduced and ocean temperatures rise), changes in the earth’s atmosphere due to the large-scale increase in areas irrigated and cultivated and increases in humidity resulting therefrom, and finally, the pollution of the earth’s atmosphere, e.g. rise of the CO₂ content of the air causing a change in the absorption of solar energy. We wish to enlarge on this complex of problems in greater detail, especially as—as far as we know—the conceivable impact on the long-range risk trend has hardly been examined to date.

Munich Re and its climate change activities

Devastating Natural Catastrophes 1980 – 2008

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( > US$ 500 Mio, 500 fatalities)

Number of Events and Trend Line

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Active engagement, leadership

Munich Re and its climate change activities

Founders member of Munich Climate Insurance Initiative

Charitable foundation: wide activities in science, environmental protection, public healthcare...

Centre for Climate Change Economics and Policy

Cooperation with UNEP FI

Hosting and participating in side events at COP

Member of The Climate Group

Member of 3C (Combating Climate Change) initiative

Board member of the European Climate Forum

Member of Global Roundtable on Climate Change (Jeffrey Sachs)

Member of international trade association active in development of carbon markets

Munich Re Foundation

Desertec Industrial Initiative

Member of international trade association active in development of carbon markets
Carbon Risks Insurance: our aims

- “We will develop insurance products and services that encourage our customers to reduce their carbon and climate risks, to assist the development and adoption of GHG mitigation technologies and strategies and to take advantage of the carbon market”

  § 2.4.3, The Climate Principles, adopted by Munich Re on 1st December 2008

- To encourage the development of an insurance market, we
  → share knowledge
  → develop insurance products for local insurers to use
  → support local underwriting, price delivery risks
Agenda

1. Munich Re and its climate change activities

2. Analysing the risks
   → What we do for CDM projects
   → CDM projects we consider
   → “Normal” risks, considerations
   → “New” or unusual risks, considerations

3. Conclusion
What we do for CDM projects

- De-risking projects:
  - improved project viability
  - carbon finance?
  - better CER prices?
- Indemnity against financial loss vs. guaranteeing investment returns
CDM projects we consider

Projects by type, in pipeline

- Renewables: 23%
- Energy Efficiency: 8%
- N20, HFC, PFC, SF6, CO2 capture: 14%
- Afforestation, reforestation: 10%
- CH4 and coal mine: 8%
- Agriculture, biomass: 15%
- Fuel switching: 22%

Source: UNEP Risø 1/10/10

Projects by no. of CER’s

- 49%
- 13%
- 17%
- 7%
- 6%
- 5%
- 3%
- 1%

Africa

Analysing the risks

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“Normal” risks, considerations

- The project owner/developer
- The project
- Contractors
- Buy- and supply-side issues
- Financial
- Legal, licensing

Analysing the risks
“New” or unusual risks: insurability

<table>
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<tr>
<th>Process</th>
<th>Assets</th>
<th>Operational</th>
<th>Liability</th>
<th>Market</th>
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<td>Marine Cargo</td>
<td>Project company</td>
<td>Environment</td>
<td>Carbon price risk</td>
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<td>LoA non-issuance</td>
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<td>Baseline, methodology</td>
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<td>Kyoto collapse</td>
<td>Delay in start-up</td>
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<td>Property “all risks”</td>
<td>Weather</td>
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<td>Registration</td>
<td>Business Interruption</td>
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<td>Failure to monitor</td>
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- Project design
- Contractual
- Country/policy issues

Programs of Activities…

Analysing the risks
Agenda

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   → Carbon Risks Insurance: product areas so far
Carbon Risks Insurance product areas so far

- De-risking CER generation so as to benefit all parties: project owner, financier, buyer and host country

- Project insurances: new assets mean a new basis of coverage:
  - Multi-year – to protect current and future carbon revenues
  - Multi-line – “joined-up” coverage for wide range of perils which interrupt/impair carbon revenues
  - **Carbon Credits Insurance** for host country project owners: insures project assets and/or non-generation of carbon credits; **Carbon Offsets Insurance** for foreign carbon credit buyers

- Other products in development for traders (index-based), EUA compliance users

- Areas under active discussion: Programs of Activities, forestry carbon, ESCO’s

- Emerging liability issues: carbon capture and storage
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