Climate Change
The Human Fingerprint?

Swiss Re’s Business Activities
Supporting Emission Reduction
### Possible Emission Reduction Strategies for Industrial Corporations

**Direct Reductions**
- In-house

**Indirect Reductions**
- **Offset Projects**
  - Joint Implementation
  - Clean Development Mechanism
- **Emissions Trading**

### Financial Industry Opportunities and Risks

<table>
<thead>
<tr>
<th>Investments</th>
<th>Funds</th>
<th>Re/Insurance</th>
<th>Derivatives</th>
<th>Project</th>
</tr>
</thead>
</table>
| • Venture Capital  
  • GHG Portfolio Risks | • Diversification  
  • Kyoto Hedge | • New Products  
  • New Exposures to old products | • Futures  
  • Options  
  • Weather | • New project revenue stream |
The Influence of Directors & Officers Insurance

- Directors & Officers: Professional liability insurance for senior management

- As soon as an obligation to reduce GHG emissions becomes law, breaching this law creates liabilities

- Kyoto Protocol ratification expected in spring 2003
  EU Emission Trading Directive operational in 2005

- Non-action potentially affects shareholder value

- Swiss Re questionnaire
  - establish benchmark for risk assessment
  - differentiation between good and bad risks
  - effects on insurability, coverage & premium
<table>
<thead>
<tr>
<th>Influence on Investments</th>
<th>The Carbon Disclosure Project</th>
</tr>
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<tbody>
<tr>
<td>- A large group of institutional investors representing ca. USD 5’000 billion in assets has written to the 500 largest quoted companies in the world by market capitalization (Fortune 500) asking for the disclosure of investment-relevant information concerning their greenhouse gas emissions.</td>
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<tr>
<td>- Sufficient momentum building around the issue of climate change to suggest there may be financial implications for the respective investment portfolios</td>
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<td>- Goal: to obtain investment-relevant information which is currently difficult to obtain</td>
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<tr>
<td>- Product: a thematic investment-relevant document (e.g. risks and opportunities by sector/geography) to be published February 2003</td>
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</table>
A Direct Role in Project Finance

- Application of project finance techniques such as Contingent Loans and Financial Guarantees to a new sector: emissions reductions / renewable projects

- The benefits of extracting risks from a project are:
  - Raises the project investment rating
  - Increases ROE
  - Reduces financing costs
  - Frees up capital for other investments

- Swiss Re acts as a facilitator of projects by structuring out the risk elements and thus attracting the financing
Reinsurance Support for Project Finance in Developing Countries

- Public Finance
- Public Development Knowledge

SCREENING FACILITY

- CDM/JI Host Country Finance Vehicle
- CDM/JI Host Country Insurer
- CDM/JI Host Country Equity Finance Vehicle

Global Reinsurer
- Internal Carbon Bank
- Carbon Assets
- Carbon Liabilities

*SWAP

*CAPACITY FOR CARBON
Opportunities for Fund Managers

- Returns from GHG investments can be split into the underlying project return and additional revenue streams from environmental externalities, such as carbon credits.
- Swiss Re is focusing in the first instance on selecting investments that generate an appropriate risk-adjusted return based on the underlying project without taking into account the sale of credits.

### Potential Role of the “Carbon Kicker” in Funds

<table>
<thead>
<tr>
<th>Carbon Price</th>
<th>2002</th>
<th>2008</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ @ USD 3-10 per ton</td>
<td>5 - 10%</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>CO₂ @ USD 20-50 per ton</td>
<td>1 - 3%</td>
<td>15%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Note:**
- The graph illustrates the potential increase in IRR (Internal Rate of Return) due to the implementation of carbon pricing policies, which can significantly enhance the financial returns of GHG investments.
<table>
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<th>Key Points</th>
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<tbody>
<tr>
<td>▪ A performance guarantee based upon the physical success of the project. Guarantee will only cover non delivery due to named hazard perils (i.e. fire, earthquake, flood, explosion)</td>
</tr>
<tr>
<td>▪ Covers failure to deliver volume and not quality</td>
</tr>
<tr>
<td>▪ No financial credit guarantee (Possible link to a public sector scheme to protect against financial failure)</td>
</tr>
<tr>
<td>▪ No Kyoto-non-enforcement guarantee, non-acceptance into CDM/JI mechanism, non-admittance into emission trading schemes etc.</td>
</tr>
</tbody>
</table>
CDM & JI Delivery Guarantee Structure for Forward Trades

Key Points cont.

- No political country risk guarantee

- Original project volume (OPV) will be net of any certifiers retention

- 25% of traded project volume (TPV) amount is coinsured with original project, thus a significant moral obligation to perform is maintained

- Difference between OPV and TPV is the premium

- Guarantor is able to calculate loss exposure and amount of capital needed to support the risk
“Successful companies will be those that capture the tide of increased demand, reduce their energy costs and manage their risk better” - "History has shown that first movers often benefit during a period of transition. Today’s corporations could learn from this and drive transition, using their human and financial capital to good effect. They would then see climate change as a business opportunity rather than an economic threat.”

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