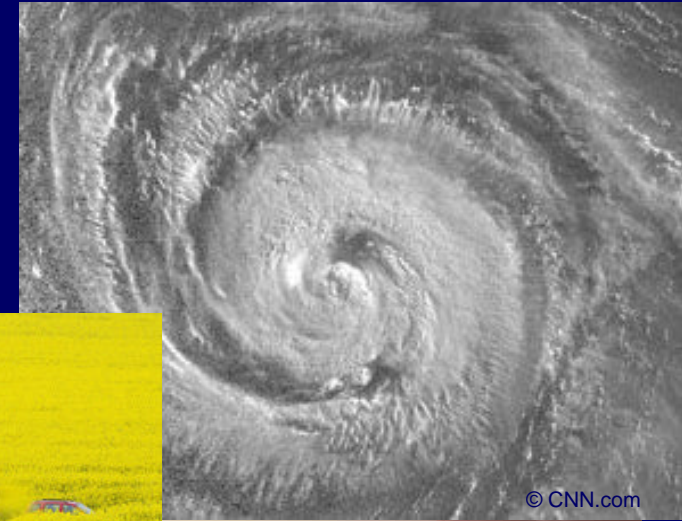


Insurance and Low Carbon Technology Deployment

*Public Goods and
Private Asset Protection –
Opportunity and Risk
in the Face of Global Change*

Lindene Patton
Chief Climate Product Officer
Zurich Financial Services



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Innovative Finance, Global Change and Insurance

*fit,
interplay,
and scale*

- A “green” paradigm shift
- New consumer demand
- New risks
- New opportunities
- New technology
- New political will
- New political risk
- New law

* see “Environmental Governance: The Role of Institutions in Causing and Confronting Environmental Problems”, Young et al, International Environmental Agreements: Politics, Law and Economics 3: 377-393 (2003)

Fit →

Insurance & Climate

*the challenge of using
private market tools to
manage risk to public goods*

- “Tragedy of the Commons”
- Leading scientists assert climate risk mitigation requires changes to **“essential services”** → Power, Water, Transportation
- Adaptation → buildings, land use and other infrastructure
- Existing legal schemes & cultures regulate and constrain / impact changes to **“essential services”** and land use
- Market-based tools generally focus on private rights – property, fundamental and statutorily created rights

Interplay and Scalability

the challenge of using private market tools to manage risk to public goods

- New regulations
 - *International*
 - *Country specific*
 - *Jurisdiction / sector specific*
- New voluntary standards
- Interplay of legal rights & existing regulatory structures
- **New subsidies**
 - *New political risk*

All this means ...

INSURERS need to

evaluate the same data differently;

collect / analyze new data;

deploy more often or restructure claims processes using earth observation where possible

How Does this Apply to Innovative Finance of Natural Resources ?

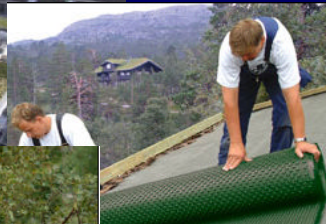
- We are still talking about Project & Product Development ...
- The same fundamentals apply ...
- The political risks are different ...
- The legal underpinnings are different ...
 - Previously “free” components to the business model are now costs
- The technology requirements are different ...

The risk profiles are different

New questions arise like ..

*Who owns the sun ?
Who owns the wind ?*

Innovation: New technology – new business models; new insurance needs to meet the 2050 Targets



Current Zurich climate change activities

Insurance products responsive to government legislation and policy creating market demands

1. Carbon credits

- a. Political risk coverage for carbon credits**
- b. Carbon credit securitization for multilateral and multinational banks lending to CDM projects**

2. Motor

- a. Discounts for hybrid vehicles**
- b. Pay-as-you-drive auto insurance (in process)**

3. Alternative energy: full suite of p/c coverage

Solar

Wind

Hydropower

Biomass

Geothermal

Wave / tide (under review)

Current Zurich climate change activities

Insurance products responsive to government legislation and policy creating market demands

- 4. Directors and Officers
Side A coverage extension for climate related claims**
- 5. Green Wrap: GL / WC / PI for “green” building projects**
- 6. Recovery, buyback and disposal structured insurance of solar panels (WEE Directive)**
- 7. Energy conservation insurance (under consideration / review)**
- 8. Carbon capture and sequestration (in process)**

Current Zurich climate change activities

Products and other responses to physical risks

9. Property coverages

- a. Green re-build extensions (manuscript available; full product in process)
- b. Off-grid power BI extension

10. Water Re-Use / Storm Water Run-Off Coverage (in process)

Insurance and Low Carbon Technology

Deployment:

Where Do We Go Next ?

- Better definition of risk
- Improve definition of financial product capabilities
- Customize products to new paradigms ...

Discussion

