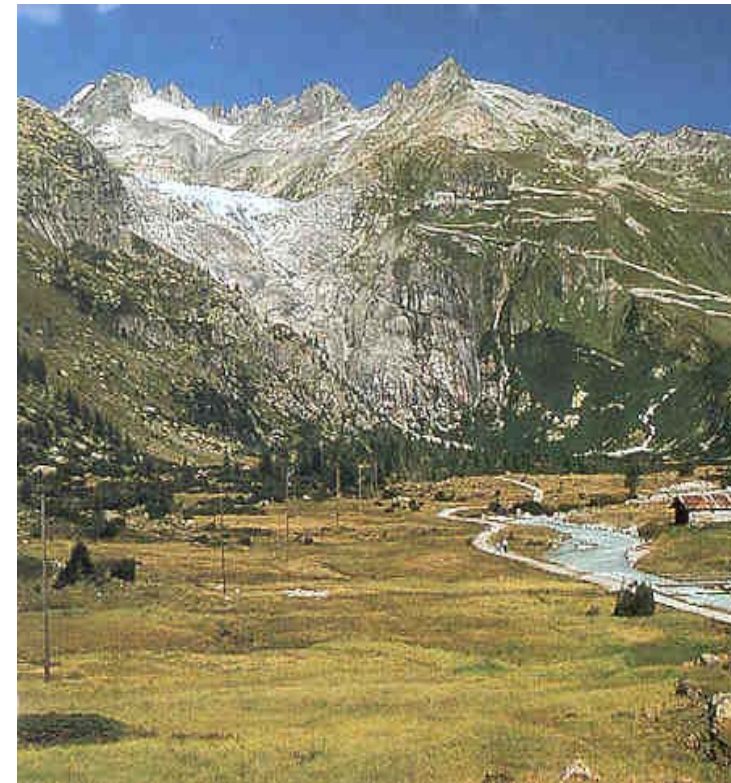
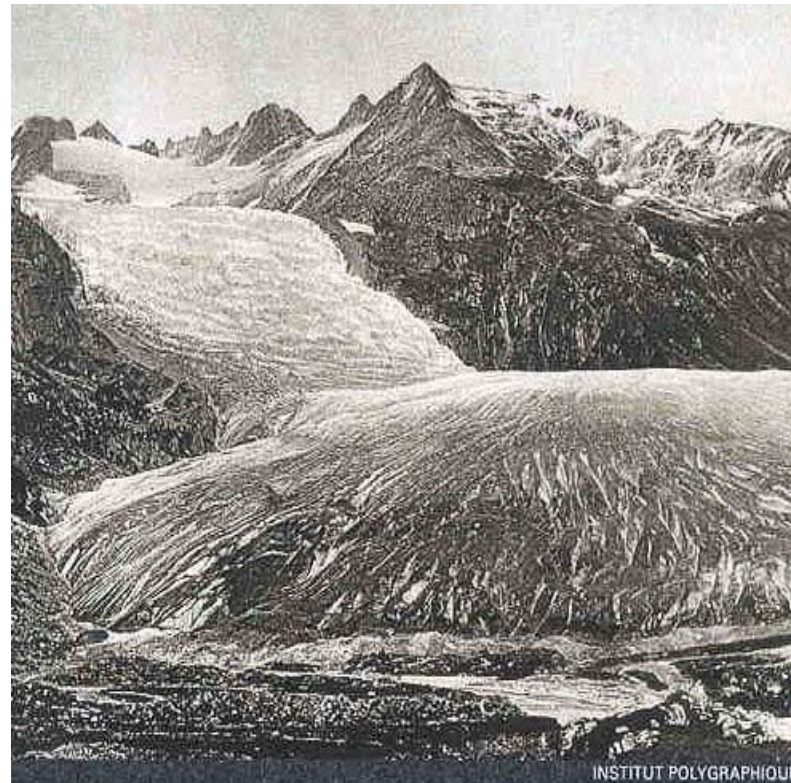




Climate Change & Re/Insurance





Insurance relevant aspects



Impacts of climate change are manifold:

- increased precipitation and change of weather patterns:
frequency and severity of floods and storms
- rise in temperature:
spread of tropical diseases, infrastructure failures
- depletion of ozone layer:
increase of skin cancer and eye affections
- ambient air pollution:
increase of respiratory diseases and allergies



Over 40 emerging/re-emerging diseases (1996–2001)





Traffic generated air pollution: health costs in Switzerland

Health costs in Switzerland caused by traffic generated air pollution [ECOPLAN 1996]

Indicators	Estimated health effects in Switzerland (additional cases; 7 million inhabitants)		Yearly costs (million CHF)
Premature deaths	2,100	deaths per year	1,550
Invalidity caused by chronic bronchitis	10	cases per year	10
Acute bronchitis in children	31,000	cases per year	2
Chronic bronchitis	22,000	cases per year	10
Asthma	1,4 million	days with asthma attacks per year	1
Symptoms of respiratory diseases	8 million	days with symptoms of respiratory diseases per year	< 1
Hospitalizations	12,100	days in hospital per year	15
Reduced activity	426,000	days with inability to work	49
Total (rounded)			1,600



What do the statistics tell us?

Since 1960

- The global GDP has increased by **factor 3**
- The economic loss attributable to weather related losses has increased by **factor 7**
- Insured losses stemming from atmospheric causes have increased by **factor 12**

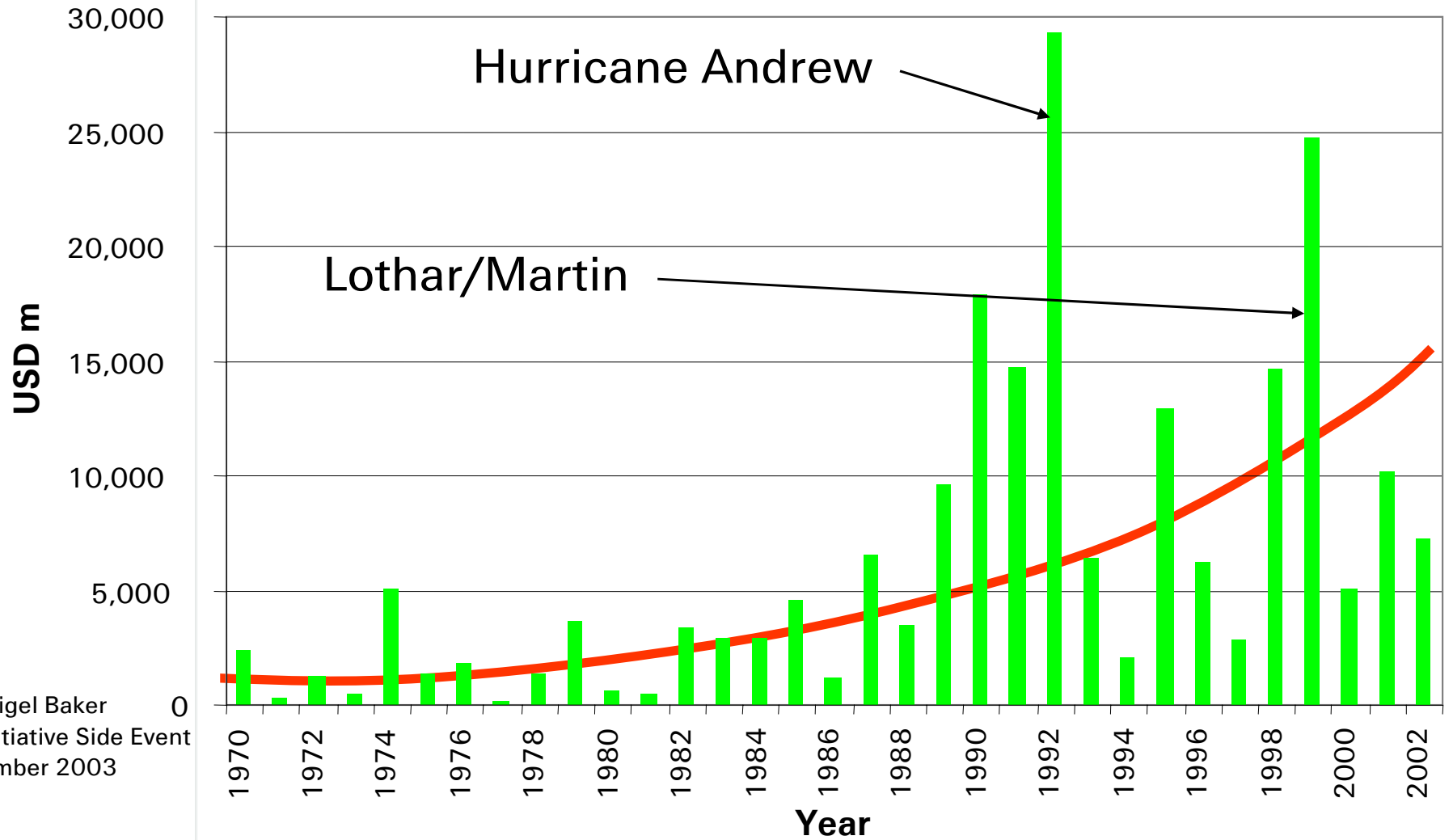
These increases are primarily due to economic, demographic and geographic changes

Climate change also impacts. But by how much?



What does claims data reveal?

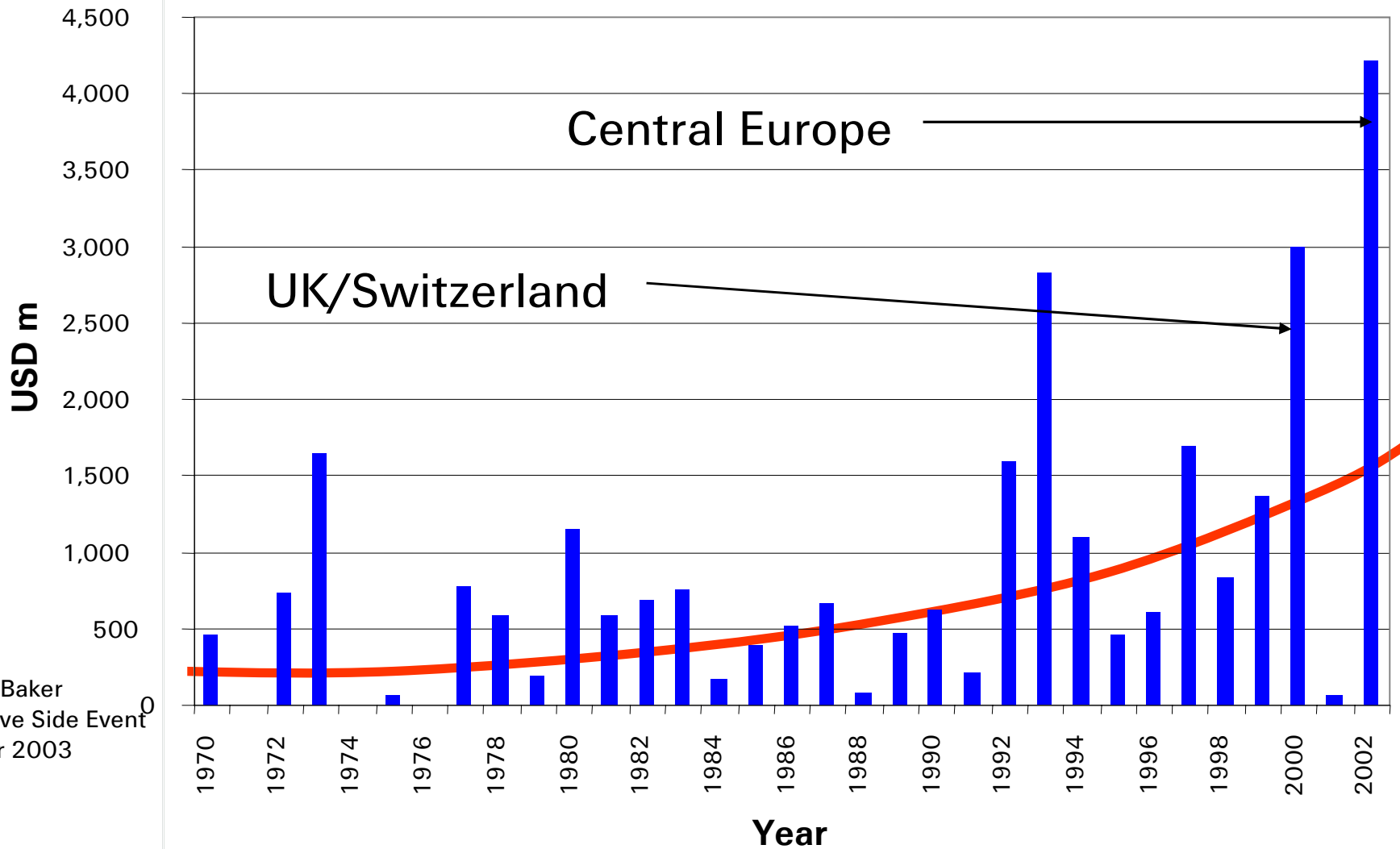
Storm damage 1970-2002 (in USD m, 2003 indexed)





What does claims data reveal?

Flood damage 1970-2002 (in USD m, 2003 indexed)





The inherent risks of climate change

Study*: UK November 1994 - Summer 1995

Swiss Re
iii

Opportunities and risks of climate change



Risk Perception

Temperature 1.5 - 3 degrees centigrade above average 1961-1990

- mortality rate +5% (July-August)
- mortality rate overall clearly reduced (mild winter)
- grain harvest regional variations
- cattle/fish farm suffer badly - agriculture total loss £180 million
- energy savings £ 355 million (provider -, society +)
- beverages industry turnover +£ 380 million
- clothing industry losses £ 350 million
- *insurance industry losses £350 million*
- **Total economic loss £ 1.5 billion**

*Source J.Pautikof, S.Subak & M Agnew: Climate Monitor Vol 25 No. 3



Mitigation & adaptation to climate change

new needs: new products and applications

- demand for natural-perils covers ↗
- insurance/finance solutions for direct methods of reduction, eg energy-efficient technologies ↗
- Kyoto related traditional products ↗
- demand for risk-transfer solutions for "indirect" reduction methods, eg emissions trading ↗

Legend:

↗ increasing



Greenhouse Gas Risk Solutions

Swiss Re's
Sustainability
Commitment:
Business
Development



Greenhouse Gas Risk Solutions

Targeted Emission Reduction Business Activities

Asset Management

ECO Portfolio

Carbon Disclosure Project

3rd Party Asset Management - consumer products

Hedge Fund

Re/insurance

Risk Management - D&O and PD/BI

Delivery Guarantees

Professional Indemnity

Weather Derivatives

Credit Guarantees

Project Finance

Structured Finance

Revenue Stream Enhancement



Asset Management - “greenhouse neutral” products

Asset Management

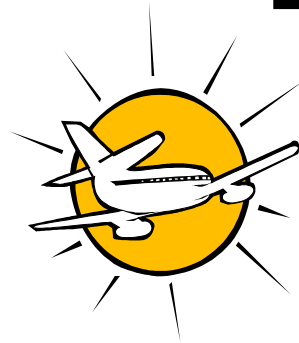
ECO Portfolio

Carbon Disclosure Project

3rd Party Asset Management - consumer products

Hedge Fund

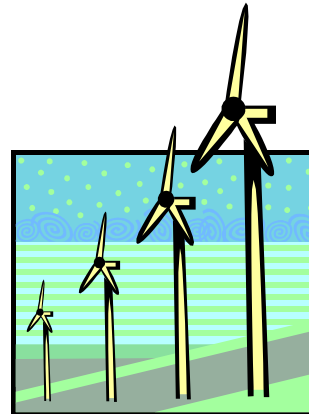
Consumer Choice



Swiss Re as Independent Fund Manager

Emission Offset Fund

Projects to offset Consumers emissions





A “greenhouse neutral” Swiss Re

The programme structure

- To reduce internal emissions by 15% over 10 years by implementation of energy efficiency measures at owned locations
- To invest in the World Bank Community Development Carbon Fund (CDCF), and retire generated credits
- Any deficit after 10 years to be made up from internal hedge fund



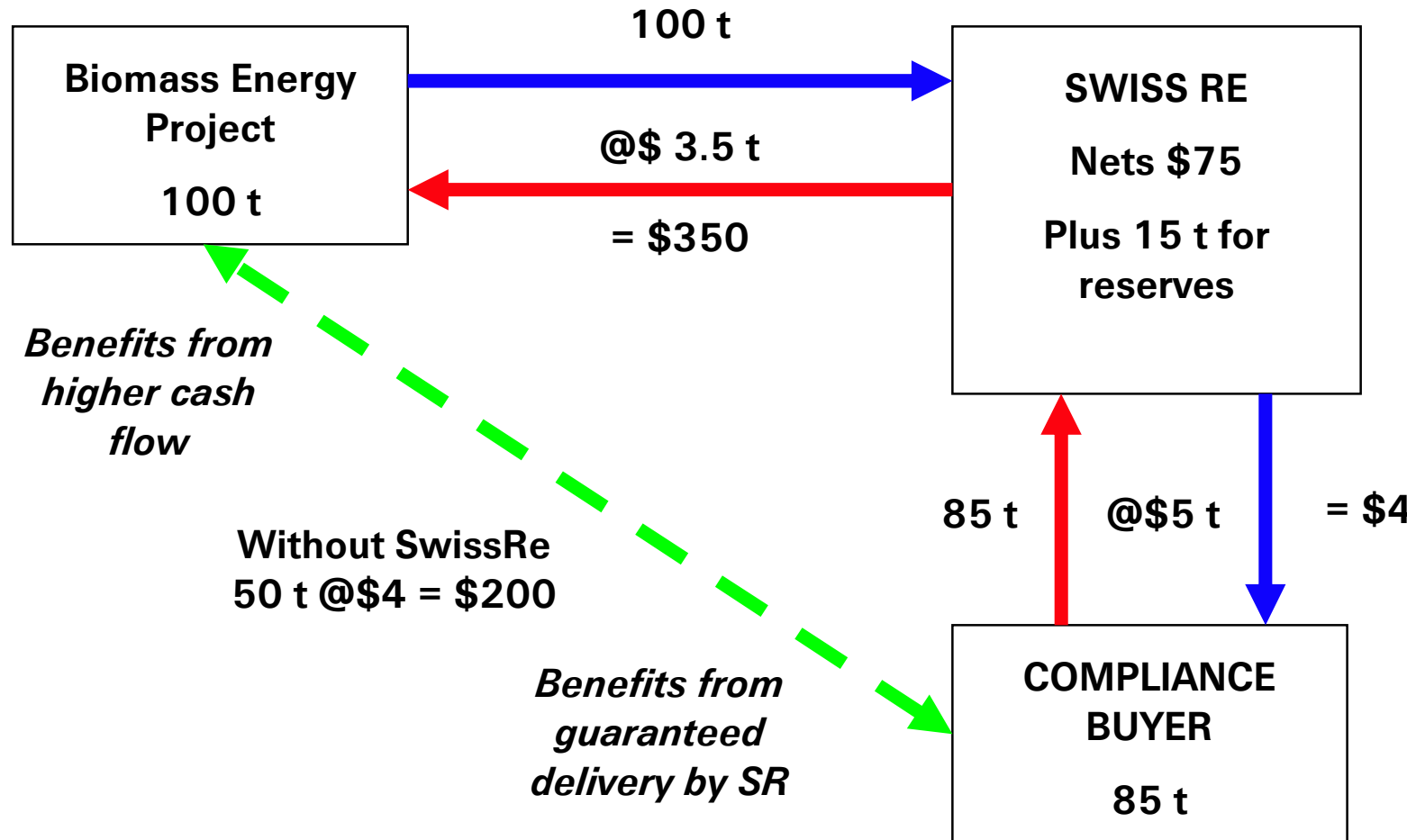
Insurance - the Value of Swiss Re's Balance Sheet to a Delivery Guarantee

Re/insurance

Risk Management -
D&O and PD/BI

Delivery Guarantees

Professional
Indemnity





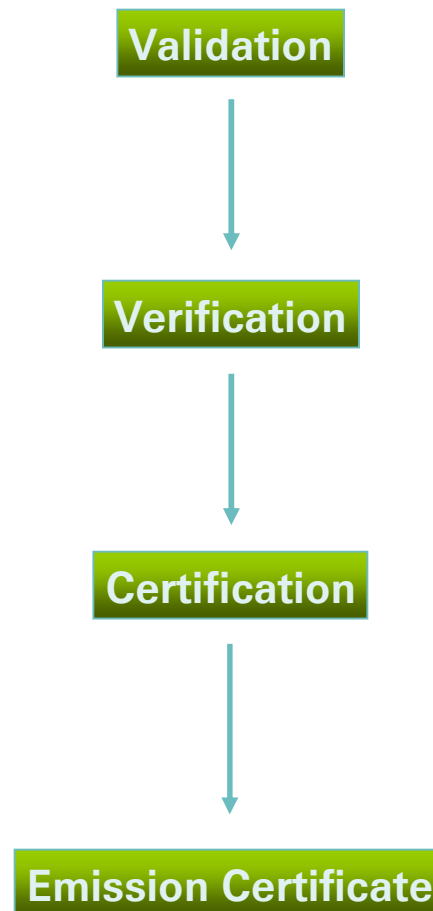
Insurance - Professional Indemnity for Certification/Verification

Re/insurance

Risk Management -
D&O and PD/BI

Delivery Guarantees

Professional
Indemnity



- Additional Risk to existing Professional Indemnity Insurance carried by Auditing Firms
- New Risks for New Entrants



Project Finance

Project Finance

Structured Finance

Revenue Stream
Enhancement

- Application of structured project finance and carbon delivery guarantees to a new sector: emissions reductions / renewable projects
- The benefits of extracting these 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