

A penguin stands on a small ice floe in the upper left quadrant of the slide. The background is a vast, icy landscape under a pale sky, with a semi-transparent grid overlay on the right side.

# Risk Governance for the Arctic

Dr. Reto Schneider Swiss Re



# some of our concerns

## Climate change

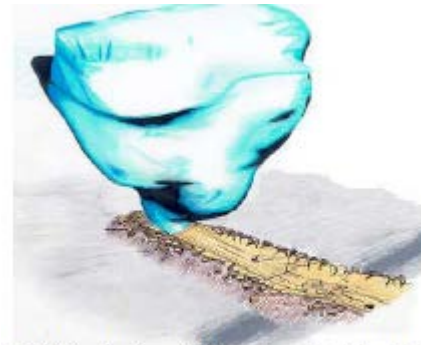
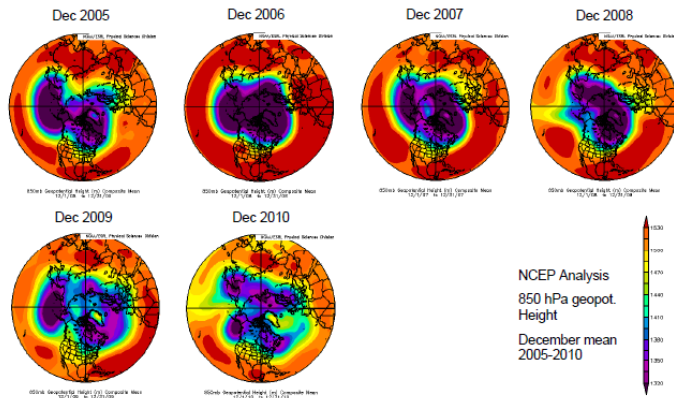


Fig. 2 Visualization of Iceberg Gouging Seabed (after Ref 9)

Fig. 2 Nobahar, A., Kenny, S. and Phillips, R., "Buried Pipelines Subject to Subgouge Deformations," International Journal of Geomechanics, ASCE, Volume 7, No. 3, June 2007

ATMOSPHERIC  
CIRCULATION  
FEEDBACKS

OCEAN  
CIRCULATION  
FEEDBACKS

ICE SHEETS  
AND SEA-LEVEL  
RISE FEEDBACKS

MARINE & LAND

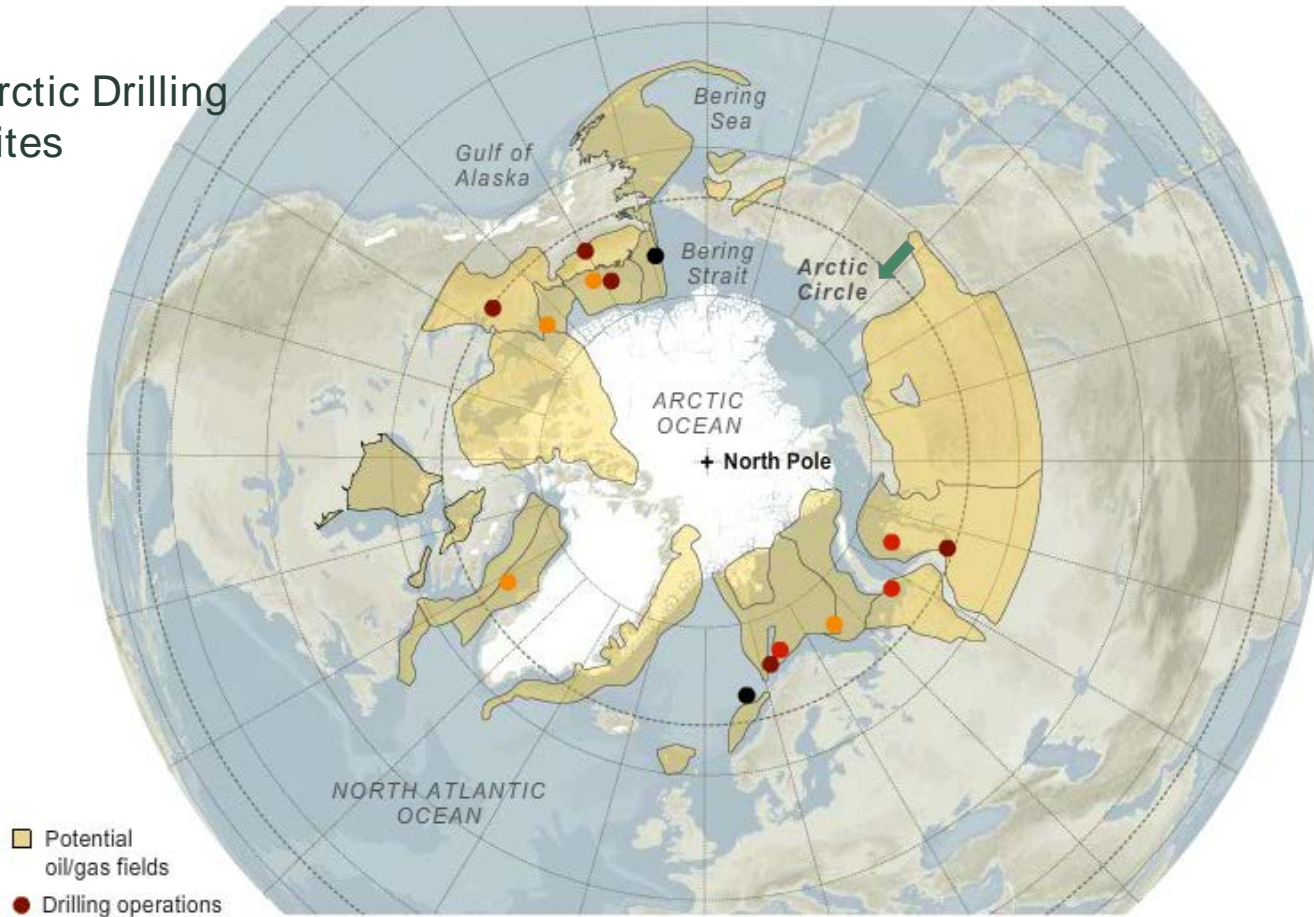
CARBON  
CYCLE  
FEEDBACKS

METHANE  
HYDRATE  
FEEDBACKS



## Relevance (2/3)

### Arctic Drilling Sites

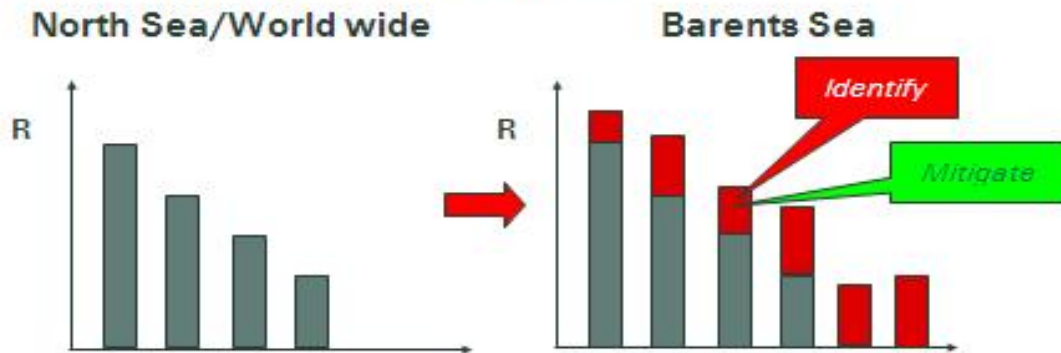


Source: The Guardian, November 2010

# Risk Assessment

- Risk = Probability (x) \* Severity (x)
- Insurance premium is a proxy for an return period for expected losses

Risk = Probability x Consequence



Examples Maritime Risk:

- Collision with other vessel
- Contact
- Fire/explosion
- Structural failure
- Grounding
- Collision with installation
- Collision during Ship To Ship (STS) approach
- Accidental oil spill during loading/unloading

 Additional risk

Ice Management Operations  
 24 August 2010  
 © Det Norske Veritas AS. All rights reserved.

MANAGING RISK 

**BUT**

## Risk Assessment in insurance

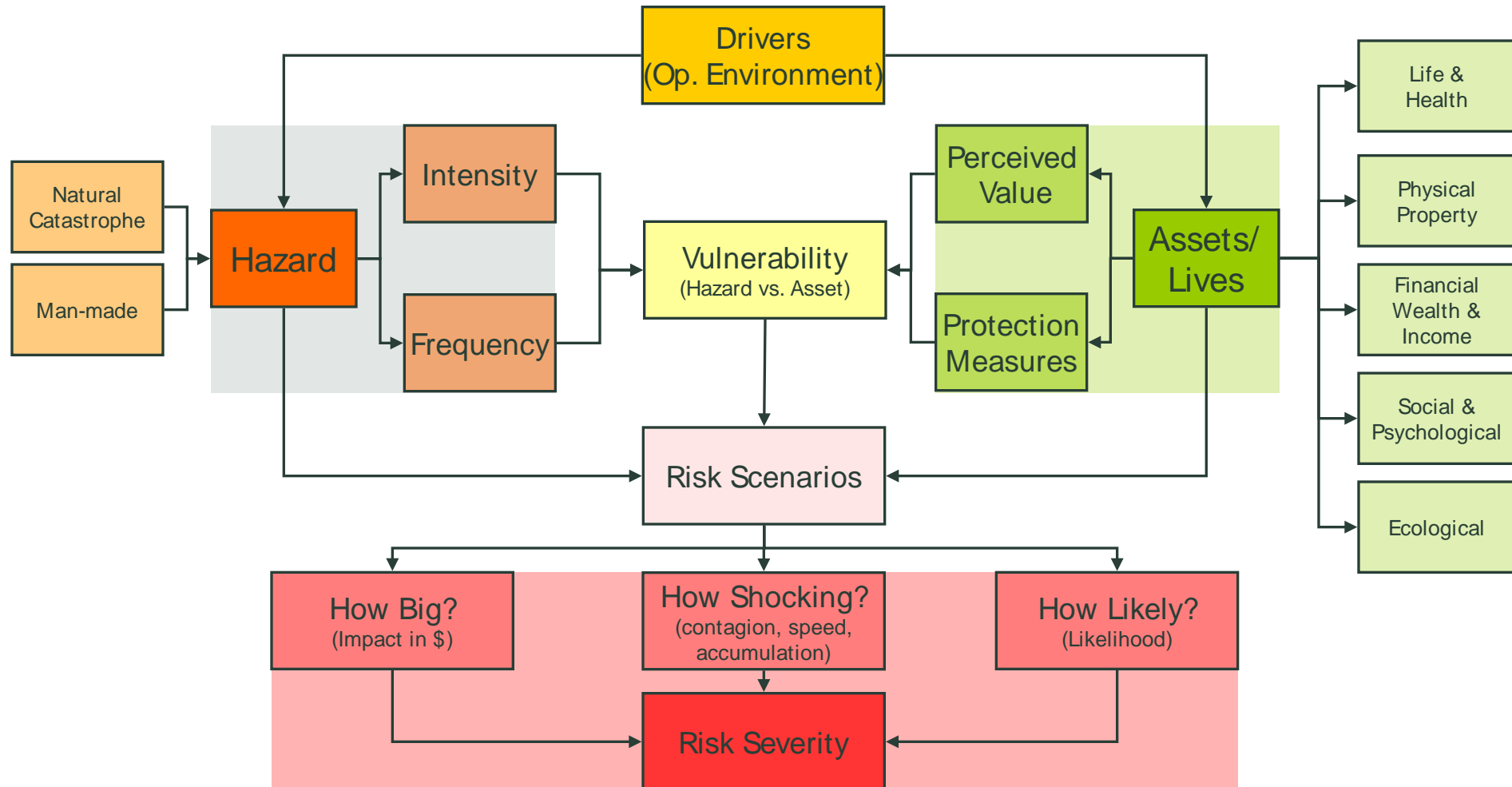
### ■ Risk in (Liability insurance):

$$\text{Risk} = \frac{P(x) * S(x)}{\text{acceptance}}$$

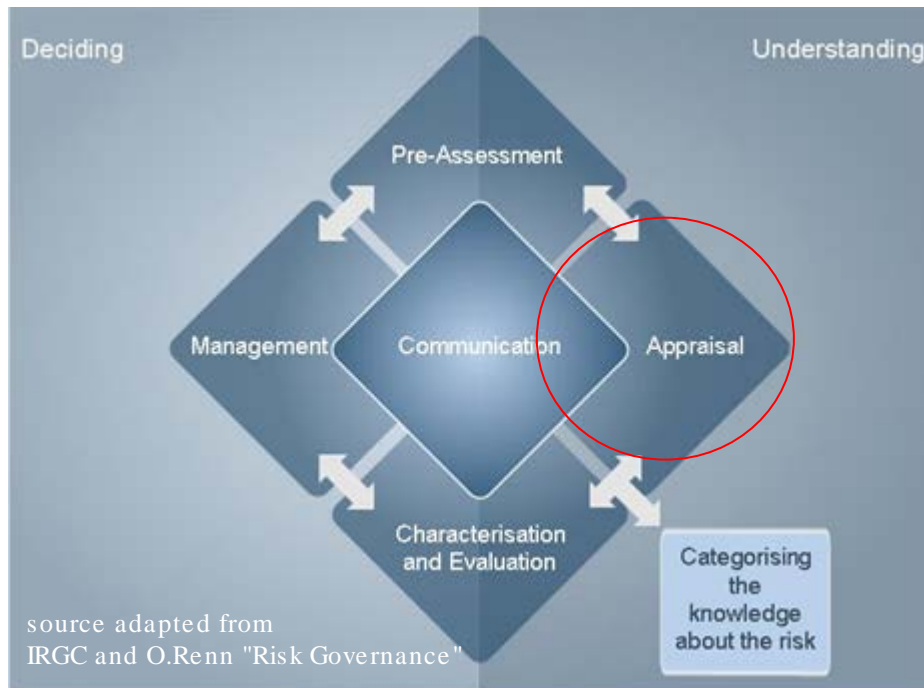
- Event, accident, spill > injuries, damages, environmental impacts, financial losses
  - Liability?
  - Insured/ "covered loss"
  - Insurance limits bought?
  - Legal defence costs are already part of insured losses!



# Global Risk Assessment Framework



## Risk Governance , risk characterization



Pre-assessment:

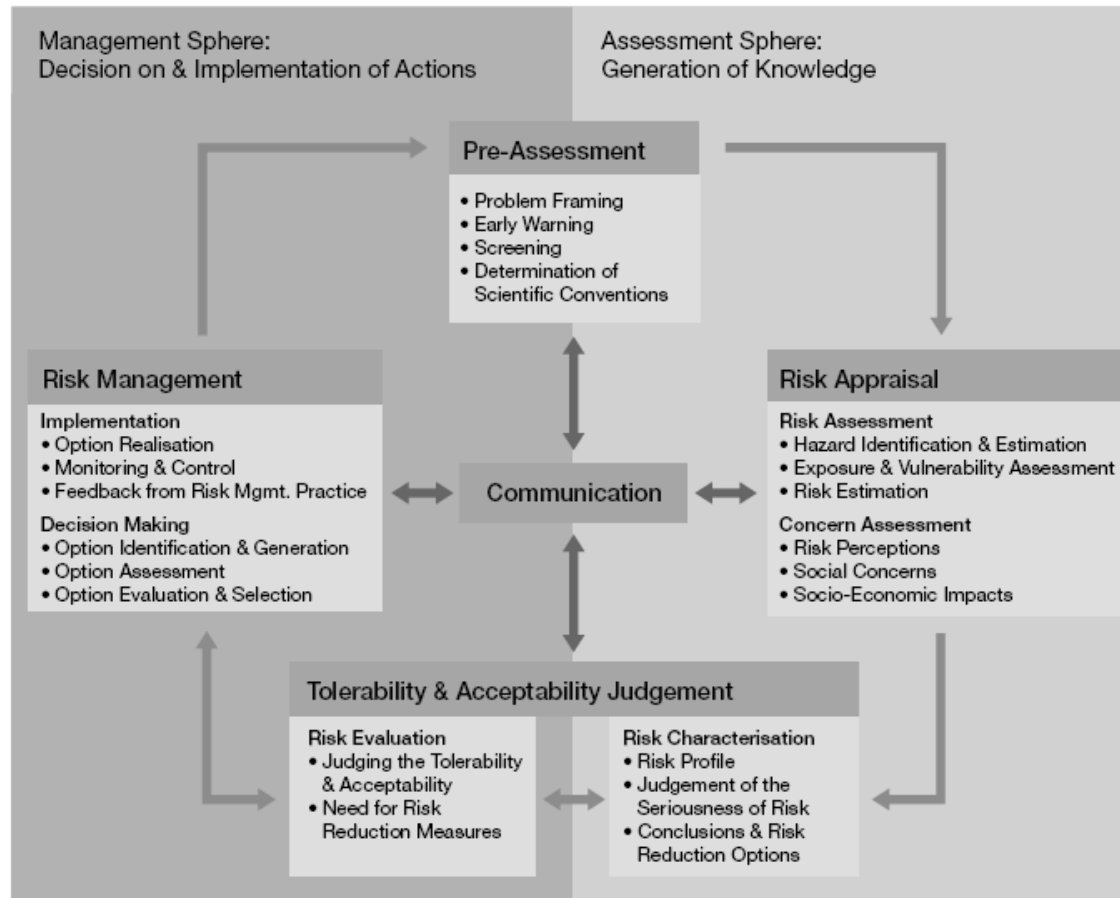
- Problem framing
- Early warning
- Screening risk and concern assessment
- Modelling and evaluating risks and concerns

### Appraisal, concern assessment:

perception of fear and dread, generations involved, personal institutional control, trust, type of damage, uncertainty, ubiquity, persistence, delay, reversibility, fairness, potential for mobilization



# Risk Appraisal



Source: 'White paper on Risk Governance – Towards an integrative approach'  
IRGC, Ortwin Renn



# Headline risk: Examples 2008- today

## Reputation Risk



**Ending Harmful Investments**

BankTrack 2008



16. April 2010 - 14:56

Artikel anhören (elekt. Stimme)

**Banken wegen Finanzierung von Streubomben im Visier**

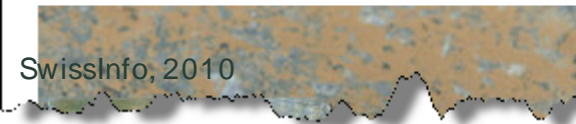
Die Schweizer Banken UBS, Credit Suisse und Vontobel gehören laut Nichtregierungs-Organisationen zu 1...



Ad in Ethical Corporation magazine, summer 2010



One-page ad in FT, fall 2009



**Insuring Repression**  
Exposing how the insurance industry supports Burma's dictatorship

The Burma Campaign UK

**New Report - RBS is UK's biggest tar sands funder**

People & Planet 2011

**HSBC criticized for palm oil related violations in Indonesia, Malaysia, PNG partners**

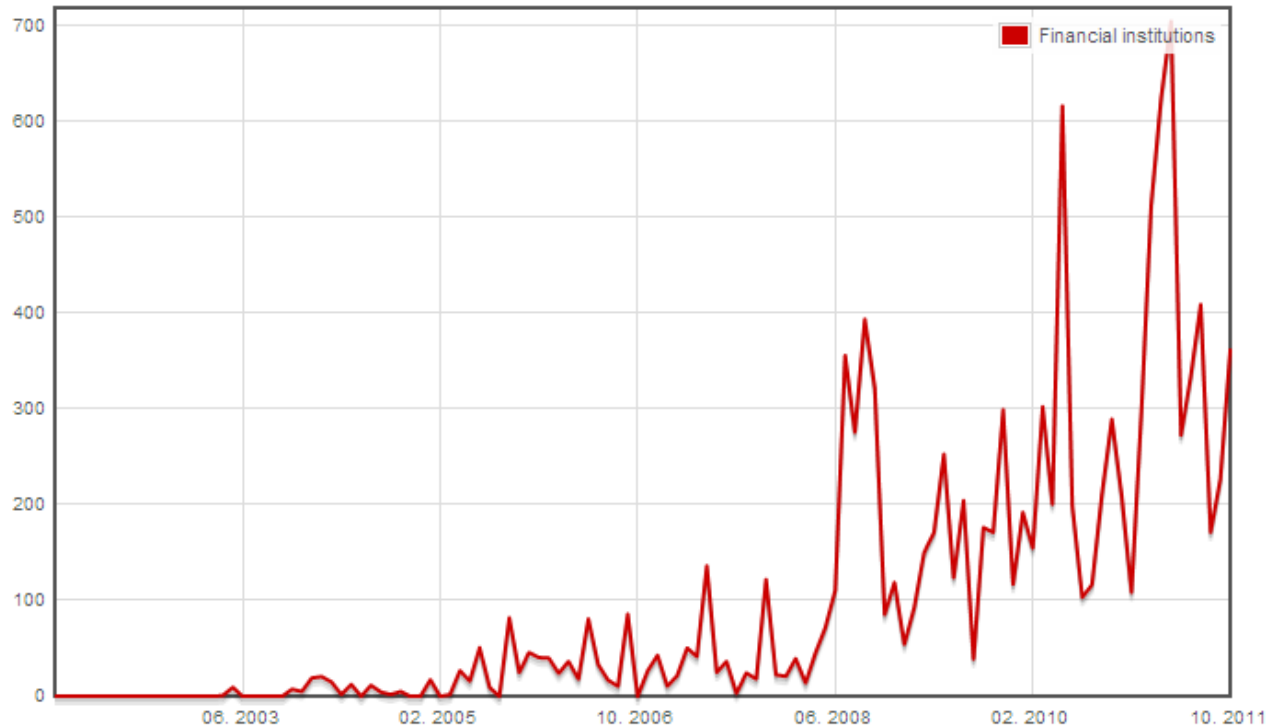
Profundo 2008

**UK banks fund deadly cluster-bomb industry**

The Independent, 2011



## NGO Activism in the Finance Sector



- Top NGO topics are energy-focused:
  - bank investment in carbon industries
  - bank investment in oil sands
  - bank investment in large dams

Source: SIG Watch, Nov  
2011: *Global NGO  
Tracking and Issues  
Analysis*



# Pre-emptive Reputation Risk Management: Canadian Oil Sands

**"Swiss Re has been fully greenhouse neutral since 2003"**

**Swiss Re's business exposure: Overall IRI capacity related to oil sands**

**Supersector leader in the Dow Jones Sustainability Index**

**"Innovative insurance solutions are key to making local communities more resilient to climate risks"**

**2009 WORLD'S MOST ETHICAL COMPANIES**  
WWW.ETHISPHERE.ORG

Legend:  
Property\*  
Casualty\*\*  
Engineering\*\*

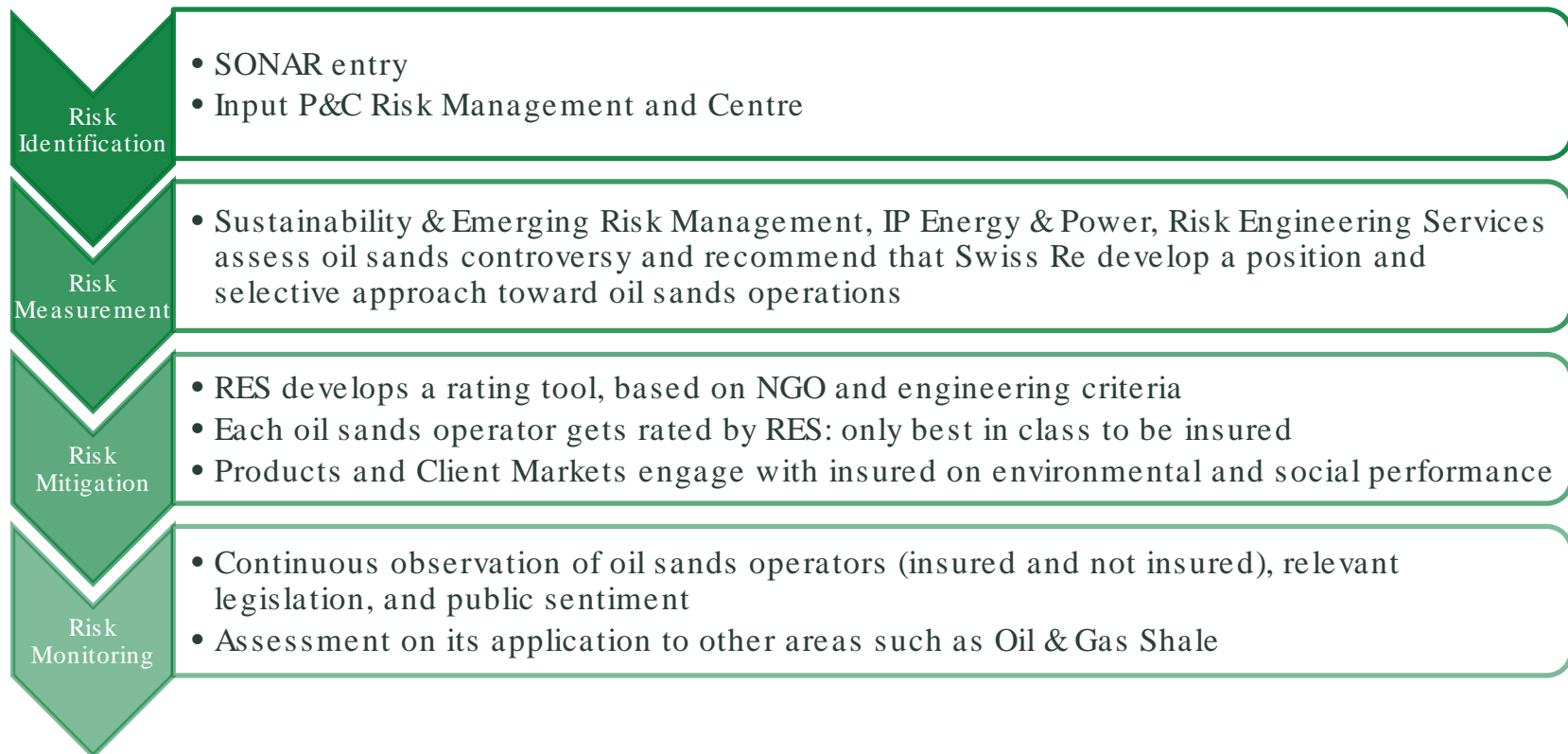
Category	Percentage
Property*	~35%
Casualty**	~35%
Engineering**	~30%

Source: National Geographic



## A cross-functional approach: Oil sands (primarily Canada)

Due to great carbon intensity of oil sands operations, insuring them is in stark contrast with Swiss Re's climate change positioning → reputation risk





## Business opportunity and sustainability

Swiss Re considers sustainability aspects in the underwriting process, including

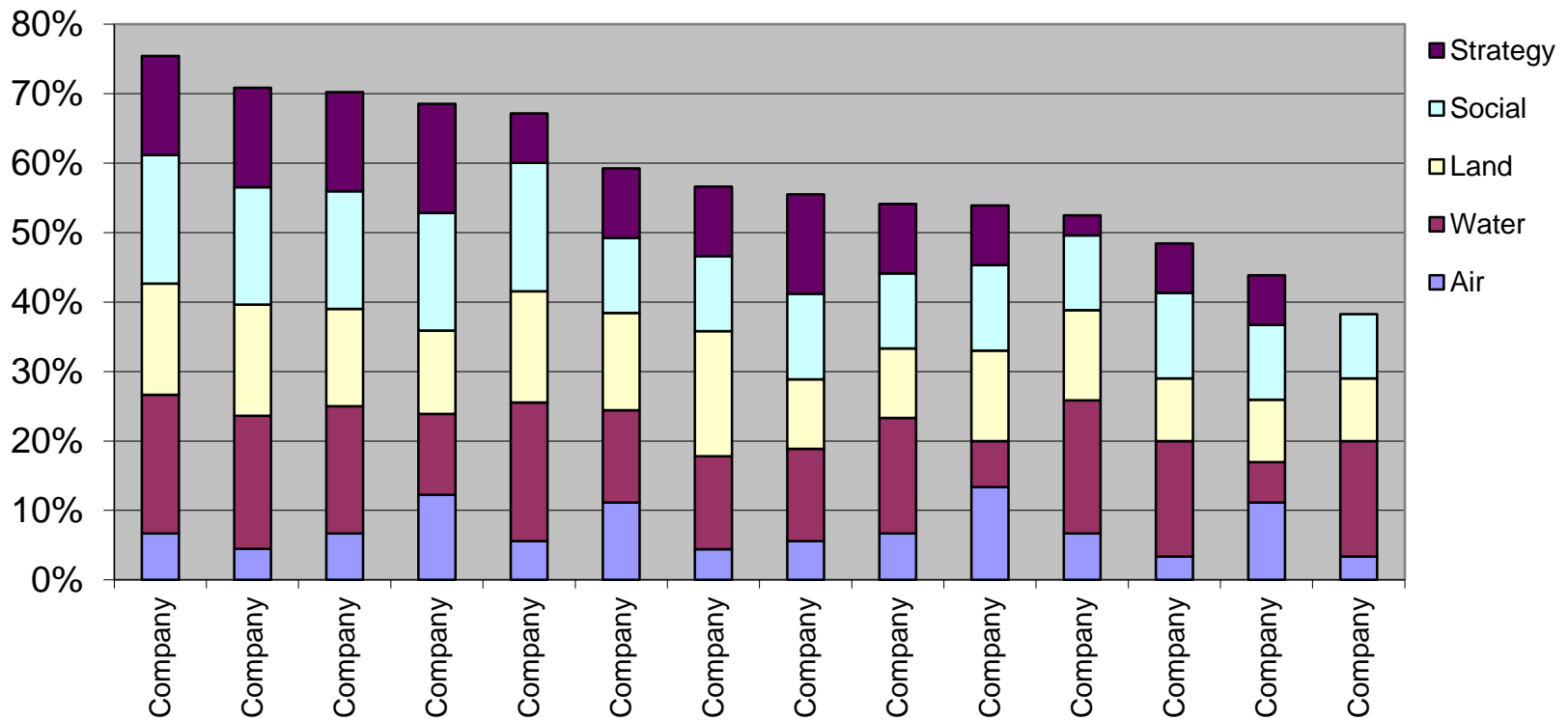
- Pure insurance risk-related aspects, such as frequency and severity assumptions of global warming
- Reputational risk-related aspects, considering the consistency of corporate values and insurance activities. Regular monitoring of potential conflicts provides information on critical segments

→ Oil sands and oil & gas shales are a general corporate social responsibility topic, if NGO activities is for example taken as indicator

→ is arctic drilling the next upcoming topic?

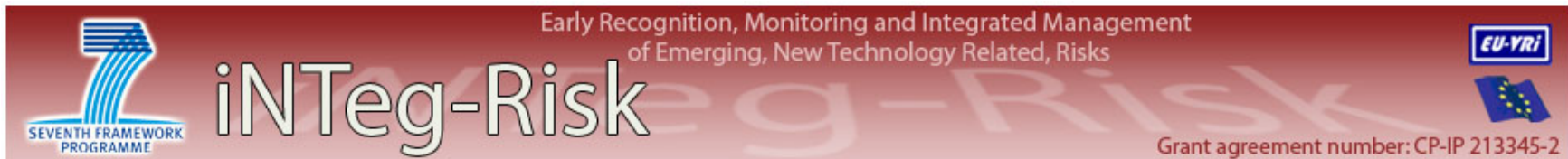


## Ranking: Using public information and completed questionnaire



→ Better insight thanks to open communication and provided questionnaire improved rating

# iNTegRisk Project



## Oil exploration in remote areas

### WP 1.4 Case specific early warning indicators

K. Oien, RK Tinmannsvik (SINTEF), G. Haugen, L Keane,  
L. Nielson (Eni Norge) J. Buston, D. Lisboa, M. Wardman,  
J. Wilday (HSE-HSL)

Example: Floating Production, Storage and Offloading vessel installation  
and connection to the sub sea system.

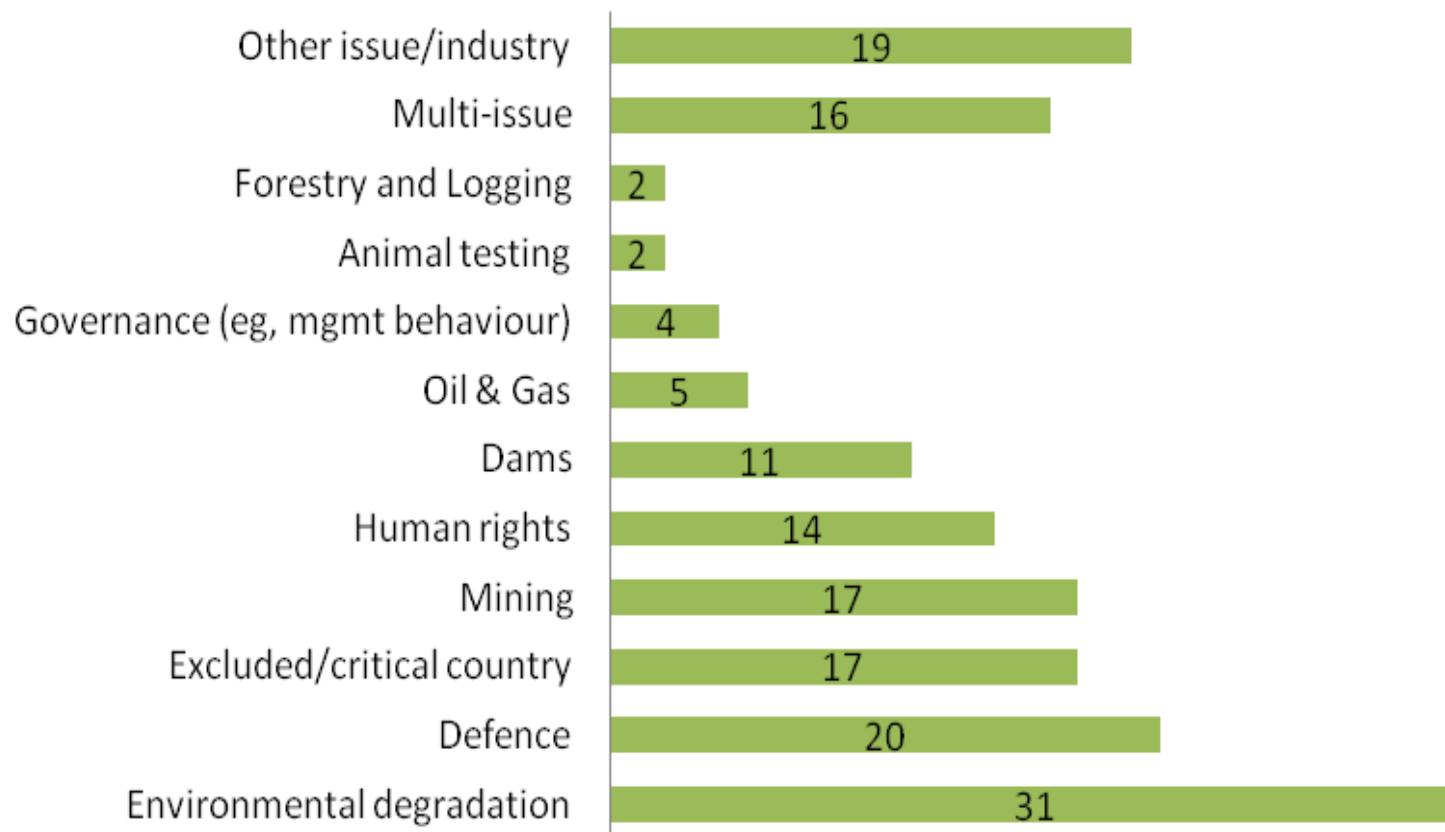
Process Safety indicators

Risk control systems

KPI's



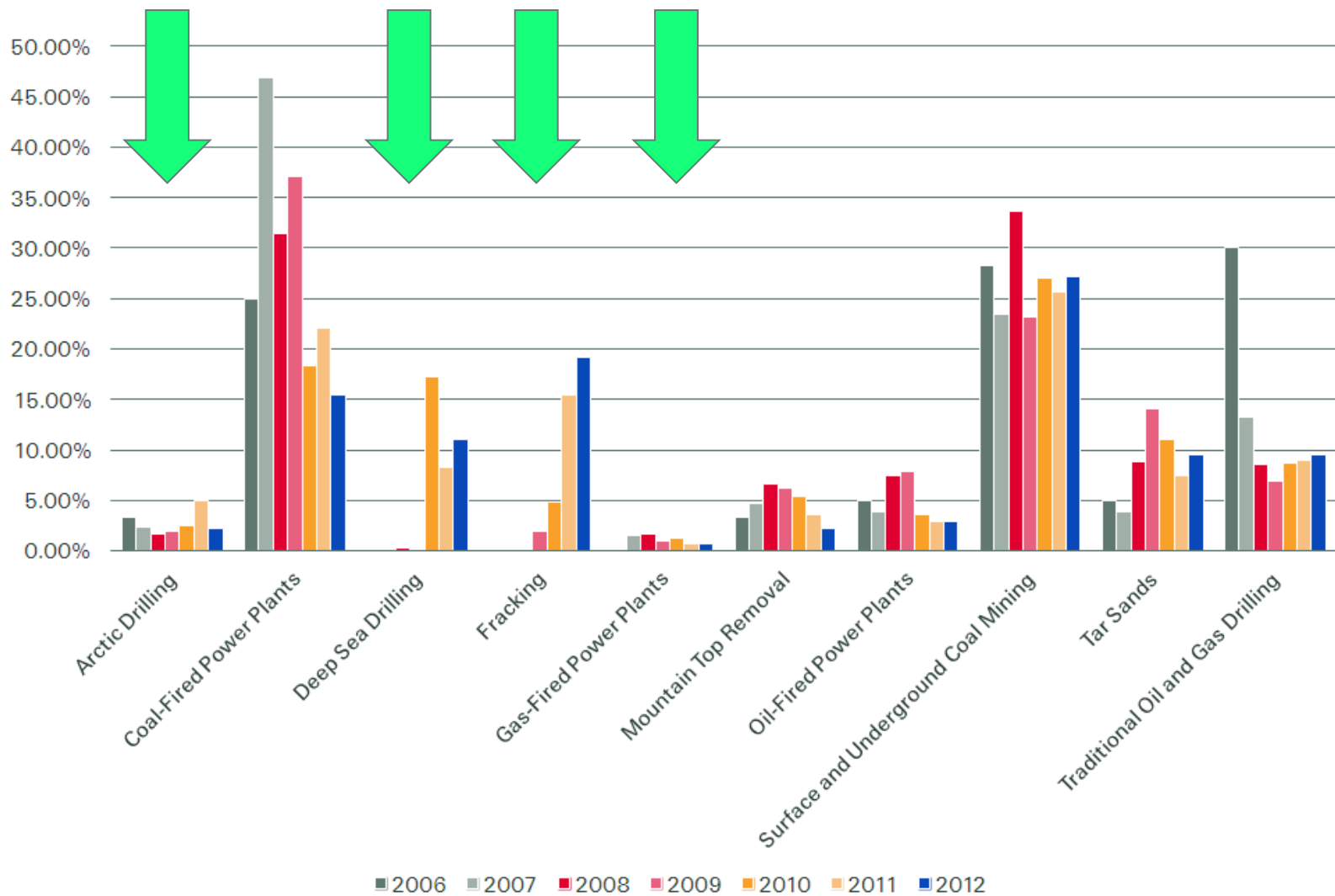
## Number of Sensitive Business Risk referrals 2011 by Sustainability theme







# negative press releases & reputational risk





## Future outlook Trend

- Arctic oil and gas is on the strategic agenda due to fear of energy dependence and/or shortages. This, combined with rising prices and increased accessibility to the Arctic, means that the pressure to exploit the region's hydrocarbon resources will further increase.
- However, geopolitical issues and stringent environmental regulations could hinder or delay development.



## Concerns for risks incl. reputation risks

- Arctic drilling will most likely continue, but with heightened governmental and public awareness of the potential consequences of a major oil spill following a blow out.
- Despite strict regulations, the potential for oil spills will remain. The Arctic ecosystem is perhaps one of the most vulnerable to oil spills on earth. Offshore Arctic drilling carries inherent risks for both the environment and communities . To date there is no proven technology to clean up an oil spill in the Arctic Ocean.
- Environmental and social risks will increase as industrial drilling activities increase.
- As the sea ice melts, untapped Arctic hydrocarbon resources become more accessible, resulting in increased oil drilling. Greater extraction of fossil fuels that will eventually be ‘burned’ for energy production will again result in more greenhouse gas emissions that further contribute to climate change.



# The future of the arctic



Illustration 6.1 Scenarios matrix. Source: AMSA

Swiss Re



Thank you



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