Corporate responsibility in business at Munich Re

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Global Head of Sustainability

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Shared value creation focuses on connecting societal and economic progress.

Responsible behaviour increasingly relevant for competitive advantage – companies need to do good and do it well.

**WHAT?**
We take up society’s challenges to create value for our stakeholders.

**WHO?**
We share our competencies with our partners to create positive impact.

**HOW?**
Based on our risk intelligence we open up new perspectives and generate sustainable solutions.

**Corporate Responsibility in Business**
**Environmental management**
**Social impact projects**

Reconnecting Corporate Responsibility (CR) activities with the business creates shared value – for the company and society.
A strong commitment towards corporate responsibility

Our voluntary commitments

**UNEP FI (since 1999)**
Munich Re has signed the UNEP FI’s climate declaration

**UN Global Compact (since 2007)**
Munich Re has been a member of the UN Global Compact since August 2007. The ten principles of the UN Global Compact provide guidance for action in our business and set the basis for our corporate responsibility activities.

**Principles for Responsible Investment (PRI) (since 2006)**
Munich Re actively developed the UN Principles for Responsible Investment (PRI), which it signed in April 2006 – the first German company to do so.

**Principles for Sustainable Insurance (PSI) (since 2012)**
Munich Re played an active part in developing the Principles for Sustainable Insurance (PSI) since 2007 and was a founding signatory in June 2012. The PSI aim at anchoring ESG criteria in the core business along the value chain.
Principles for Sustainable Insurance (PSI) – A voluntary and aspirational global framework for the insurance industry

Principles for Sustainable Insurance

1. Embed ESG in decision-making along the value chain
2. Work together with clients and business partners to raise awareness, reduce risk and develop solutions
3. Engage with governments, regulators and other key stakeholders
4. Demonstrate accountability and transparency
Climate change and climate strategy

Natural catastrophes and climate change - more than 40 years of expertise at Munich Re

1974
Foundation of Geo Risks Research department

1978
First edition of „World Map of Natural Hazards“

1989
First (physical) Globe of Natural Hazards

1990
Analyses of NatCat events in “Schadenspiegel”

1994
First edition of “Topics GEO”

1998
Analyses of NatCat events in “Schadenspiegel”

2000
First CD-ROM „World map of Natural Hazards“

2005
Founding of „Munich Climate Insurance Initiative“ (MCII)

2007
Climate change defined as strategic topic → Founding Corporate Climate Centre

2009
Founding of „Desertec Industrial Initiative“ (Dii)

2011
NATHAN Risk Suite

2017
NatCatSERVICE online Analysis Tool

2014
Contribution to IPCC 5th Assessment Report

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Munich Re’s NatCatSERVICE - One of the world’s largest databases on losses from natural catastrophes

About the database

- Loss events from 1980 until today; for USA and selected countries in Europe: loss events since 1970; and all great disasters since 1950
- ~2,600 major historical events starting from 79 AD with the eruption of Mt. Vesuvius
- Currently >41,000 data sets
- Service for our clients: individual analyses by country and type of event (meteorological, hydrological, geophysical, climatological)
Munich Re's activities relating to climate change focus on the following fields of activity

<table>
<thead>
<tr>
<th>RISK ASSESSMENT</th>
<th>RISK TRANSFER SOLUTIONS</th>
<th>ASSET MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting and assessing climate change impacts on frequency and intensity of natural hazards</td>
<td>Providing risk transfer solutions for new technologies and PPP solutions for markets particularly affected by adverse effects of climate change</td>
<td>Supporting the expansion of renewable energies and infrastructure projects with our sustainable investment strategy</td>
</tr>
</tbody>
</table>

Carbon neutrality of Munich Re

Munich: since 2009, reinsurance worldwide: since 2012, Munich Re (Group): since end 2015

New coal policy

Withdrawal from insurance of new coal power plants and coal mines; no investment in coal intensive shares and bonds

TCFD (Task Force on Climate-related Financial Disclosures)

Participation in UNEP PSI Working Group on TCFD elaborating industry standards for disclosures
Our business and social impact activities contribute to achieving the Sustainable Development Goals

- Renewable energy and energy efficiency solutions, e.g. by Green Tech Solutions (e.g. solar performance warranty and option cover for photovoltaic)
- African Energy Guarantee Facility (AEGF): (re)insurance capacity for Sustainable Energy Projects in Sub-Saharan Africa
- Investments in Renewable Energy
- Climate KIC: Funding of clean tech start-ups in cooperation with EU’s main climate innovation initiative
- Solarkiosk: Providing off-grid solar energy and connectivity in Kenya

- Public-sector risk transfer solutions: weather-index-based insurance for individuals with low incomes (e.g. Carribean Catastrophe Risk Insurance Facility, African Risk Capacity, Pacific Catastrophe Risk Assessment and Financing Initiative)
- Insurance Development Forum / support of Insuresilience Global Partnership
NatCat risk transfer solutions via public-private partnerships: a successful approach to support sustainable economic growth

<table>
<thead>
<tr>
<th>Name</th>
<th>Aim of partnership</th>
<th>Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFIP <em>(National Flood Insurance Program)</em></td>
<td>Public programme covering flood damage to buildings and their contents in eastern and southern coastal states</td>
<td>USA 1968</td>
</tr>
<tr>
<td>CCRIF <em>(Caribbean Catastrophe Risk Insurance Facility)</em></td>
<td>Insurance of 16 Caribbean countries against earthquakes and hurricanes</td>
<td>Caribbean 2007</td>
</tr>
<tr>
<td>FONDEN <em>(Fondo de Desastres Naturales)</em></td>
<td>Reconstruction of infrastructure following natural catastrophes</td>
<td>Mexico 1999</td>
</tr>
<tr>
<td>IDF <em>(Insurance Development Forum)</em></td>
<td>Extend the use of insurance to build greater resilience and protection for people, communities, businesses, and public institutions that are vulnerable to disasters</td>
<td>UN 2016</td>
</tr>
<tr>
<td>InsuResilience Global Partnership</td>
<td>Enable more timely and reliable post-disaster response, and better prepare for climate and disaster risk through the use of climate- and disaster-risk finance and insurance solutions</td>
<td>G7 2015</td>
</tr>
</tbody>
</table>
Munich Re enables the deployment of new technologies by innovative risk transfer solutions

Munich Re provides insurance solutions along the value chain of renewable energies and new technologies.

Some cover examples:

**Solar**
- Performance guarantee for PV manufacturers
- PV-option cover for operators
- PV-project cover for investors
- Performance guarantee for CSP manufacturers
- CSP-delay and output cover for EPC contractors

**Wind**
- Serial loss cover for manufacturers and suppliers
- Offshore logistic delay cover
- Maintenance cost overrun

**Solar/Wind/Water**
- Coverage of shortage of planned output in running a power plant due to insufficiency of average sunlight / wind / water

**Geothermal**
- Cover for drilling success / exploration risk
Our business and social impact activities contribute to achieving the Sustainable Development Goals

- Public-sector risk transfer solutions
- Crop failure insurance by System Agro
- Humanitarian Impact Bond
- HDFC ERGO offers microinsurance policies in the rural sector in India
- Munich Re Foundation: Largest microinsurance conference worldwide
- Public-sector risk transfer solutions (e.g. Pandemic Emergency Financing Facility)
- Cooperation with the Global Fund (risk management, support for tuberculosis program)
- City Innovation Platform
- Earthquake/landslide risk protection of Indian city by Munich Re & GeoHazards International
- Partnership with Institute for Business and Home Safety: improved safety and construction standards for buildings in the US
- Mississippi Mayor Roundtable
Corporate responsibility in business

ESG framework

Sensitive issues, Munich Re position and measures

**Banned Weapons**
Policy on cluster munition and land mines, part of GUGL

**Arctic Drilling**
Guideline, risks to be referred to Arctic Drilling Panel

**Oil Sands**
Position paper, referenced in GUGL

**Fracking**
Position paper, referenced in GUGL

**Mining**
Position paper referenced in topic paper mining

**Coal**
Policy on coal business underwriting and investments

**Investments in Farmland**
Mandatory ESG check for investments

**ESG Tool for Underwriting**
Assessment of different industries, best practice in credit/surety

**Sustainable investment process**
ESG research and ratings included in investment process

**ESG country rating**
ESG information included in Munich Re Country Risk Assessment

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Based on Sustainalytics’ “Country Risk Monitor” with sustainability ratings for 165 countries, covering 31 indicators. This tool is used by MEAG for sustainability rating of sovereign bonds and offered as an additional resource to underwriters in Reinsurance.
ESG criteria for engineering projects – Tool implemented as best practice

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<table>
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<th>ESG Criteria Evaluation</th>
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<tbody>
<tr>
<td><strong>Risk:</strong> Mining</td>
</tr>
<tr>
<td><strong>Name:</strong></td>
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<tr>
<td><strong>U/W:</strong></td>
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<tr>
<td><strong>Date:</strong></td>
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**Environmental implications**

- Pollution prevention
- Conservation of natural resources and biodiversity

**Social implications**

- Political context and public awareness
- Labour and working conditions
- Health, safety, and security for the community
- Displacement of people
- Cultural heritage

**Governance implications**

- Responsible and correct planning and evaluation
- Compliance
- Consultation and transparency

**Final assessment:**

Weblinks for further information:

- Munich Re
- Transparency.org
- Corruption perceptions index
- Labour standards database
- UNESCO world heritage list

1) Check whether the criteria is not applicable or phrases replace it by a comment. 2) Check whether all required information is available.

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**Microsoft Excel**

**Pollution prevention**

- CON: If the substances used in processing (e.g., cyanide in many gold mines) do not form part of a closed-loop process.
- If possible risks to groundwater (e.g., from spoilheap leaching) have not been examined beforehand and appropriate measures taken.
- If the mine poses a risk to the environment (including in the long term).

- PRO: If an environmental impact assessment is available in accordance with the relevant legislation.
- If overburden, tailings, and water-polluting consumables and supplies and, in particular, waste requiring special monitoring, are stored, deposited, and disposed of in such a way that there is no negative impact on the environment as a result.
- If a plan exists for monitoring deposited residues.
- If overburden and waste are also taken into account as part of emergency management (e.g., measures in the event of unplanned discharges).
Reputational risk committees for escalation of controversial single underwriting cases

Reputational risk committee (RRC)

Mission
- Consultation of business segments
- Analysis and assessment of individual cases

Examples of requests
- Investment in / (re)insurance of specific entities / Groups
- (Re)insurance of potentially polluting projects
- (Re)insurance of projects in specific countries
- Insurance of clinical trial participants
- Critical products

Working mode
- Reporting of critical issues prior to closing of a deal
- RRC responds within 48 hours, giving clear guidance
- Escalation to Board of Management by RRC coordinator in case of non-compliance

Reputational risks are monitored and steered within RRCs
Carbon neutrality based on environmental management and CO₂ emission reduction

Our steps to carbon neutrality

**Data** gathering and measuring CO₂ emissions → since 2015 externally verified by a third party

**Reduction** of CO₂ emissions by saving energy, water, paper, waste and business travel and improving carbon impact of consumed goods and services

**Substitute** conventional electricity by green electricity

**Compensate** remaining CO₂ emissions through purchasing carbon credits

A Group-wide environmental management system is in place and approx. 80% of employees are covered

Target Munich Re Group 2020: ~35% CO₂ emissions per employee since 2009 → 2017 > ~35% CO₂ reduction

Target Munich Re Group 2020: 100% electricity is from renewable sources → 2017 > 71% electricity used from renewable sources

Since 2015: Munich Re Group is carbon neutral
Munich Re’s sustainability performance again amongst the top 10% insurers worldwide

Sustainable Responsible Investment Ratings

Corporate Responsibility Portal

Combined non-financial statement

www.munichre.com/cr-en

www.munichre.com/cg-en in
This presentation contains forward-looking statements that are based on current assumptions and forecasts of the management of Munich Re. Known and unknown risks, uncertainties and other factors could lead to material differences between the forward-looking statements given here and the actual development, in particular the results, financial situation and performance of our Company. The Company assumes no liability to update these forward-looking statements or to make them conform to future events or developments.