

ECO:FACT QUARTERLY

The briefing for E&S risk experts

Editorial	Page 2	→
International standards	Page 3	→
High-risk sectors	Page 4	→
Emerging risks	Page 7	→
Business case	Page 8	→
Peer approach	Page 9	→
New tools & databases	Page 12	→
About this report / ECOFACT	Page 15	→
Subscribe	Page 16	→

Editorial

Are Insurance Brokers' Exposing Themselves to Risk?

Insurers have a key role to play in tackling sustainability challenges. In an **article** written for the blog of the MIT Sloan Management Review a few years ago, we explained why this role might be even more important than that of the banks.

At the international PSI¹-Allianz event held in Munich in late February, senior insurance managers confirmed that they were eager to address sustainability challenges across a variety of issues, ranging from excluding coal² and tobacco³ companies from underwriting and investments to protecting World Heritage sites⁴. Even regulators – from both national and supranational authorities – stated that it was time for insurers to take sustainability challenges seriously⁵.

However, talking to E&S risk experts working at insurers, it becomes clear that implementation is still lagging behind. Why? Insurers⁶ almost always point to brokers, who are important intermediaries in the insurance market. They connect their clients to insurers, who then underwrite the clients' risks. Insurers claim that brokers make it difficult for them to discuss E&S risks with clients, and that brokers often connect clients from controversial sectors with insurers who do not assess E&S risks.

In Munich, broker industry representatives seemed to adopt a defensive stance. One representative of a major broker firm was eager to point out that brokers were concerned that they would lose clients if they addressed E&S risks. He stated that brokers simply advise clients, and compared their role to consulting companies such as McKinsey. This confirmed the assumption that brokers are hesitant, if not reluctant, to make a constructive effort to mitigate E&S risks.

Looking at the regulatory expectations raised by soft law, it is clear that brokers have the same responsibilities as any other company. They are expected to conduct due diligence to respect human rights⁷ and to ensure responsible business conduct⁸. In this context, omission is usually seen as action. Such omission is sometimes interpreted as a deliberate decision to prioritize revenues over political, scientific or societal concerns, or – in other words – a failure to mitigate the “adverse impacts” to which brokers are linked via their business relationships.

As long ago as 2014, in an **article** for the blog of the MIT Sloan Management Review, we explored whether companies or their managers could become vulnerable to claims for losses attributed to climate change. Our point of departure was the assumption that “at some point, affected parties will claim damages [...], especially if insurance is unavailable or unaffordable.” We then asked who could be targeted by such legal action. Plaintiffs may argue that brokers have knowingly undermined the attempts of insurers and their supervisors to support climate policy objectives. In our opinion, brokers, particularly the larger ones, should assess whether they could face such claims in the future. However, regardless of their findings, they should take the existing normative expectations into account and address E&S risks with their clients.

Olivier Jaeggi and Gabriel Webber Ziero

References:

1. The UNEP FI Principles for Sustainable Insurance (PSI): <https://www.unepfi.org/psi/>
2. For example, see the FT article “Insurers go cold on coal industry”: <https://on.ft.com/2FcvPiX>
3. The Tobacco-Free Finance Pledge that now has over 140 signatories and supporters. See here (<https://tobaccofreeportfolios.org/>) and here (<https://www.unepfi.org/psi/tobacco-free-finance/>)
4. The insurance industry's commitment to protect World Heritage Sites: <https://www.unepfi.org/psi/world-heritage/>
5. For example, see “EIOPA seeks evidence on integration of sustainability risks in Solvency”: <https://eiopa.europa.eu/Pages/News/eiopa-seeks-evidence-on-integration-of-sustainability-risks-in-solvency-ii.aspx>
6. For other reasons, see our article mentioned above: <https://sloanreview.mit.edu/article/the-insurance-industrys-renewed-commitment-to-sustainability/>
7. For example, see the UN Guiding Principles for Business and Human Rights (note that the climate change discussion is strongly linked to the human rights agenda): https://www.ohchr.org/documents/publications/GuidingprinciplesBusinesshr_eN.pdf
8. For example, see the corresponding guidance from the OECD: <http://www.oecd.org/investment/due-diligence-guidance-for-responsible-business-conduct.htm>

International standards

Updates on cross-sector environmental and social standards which might be relevant as a benchmark for risk assessments. Scope: key developments related to the most important international environmental and social standards.

→ PRI announces mandatory climate-related financial disclosure in 2020

After almost 500 investors with a total of USD 42 trillion in global investment holdings voluntarily responded to the newly introduced Climate-related Financial Disclosure indicators in 2018, the Principles for Responsible Investment (PRI) association has announced that it will be making it mandatory to report, albeit still voluntary to disclose, the strategy and governance subsection of those indicators as of 2020. Supporting the adoption of the Task Force on Climate-related Financial Disclosures (TCFD)'s recommendations is a high priority for the PRI, as they provide a global framework for translating climate-related information into financial metrics. February 18, 2019.

[Read more](#) →

Why we think it matters: The TCFD's recommendations have been endorsed by the G20 and financial regulators across the globe. Financial regulators see the recommendations as a key framework to support the financial sector in its contribution to achieving the goals of Paris Agreement, i.e. the transition to a low-carbon economy.

→ PSI issues draft guidance on the integration of ESG risks into insurance underwriting

Open for public consultation until June 20, 2019, the Principles for Sustainable Insurance (PSI) has issued the first guidelines on the integration of environmental, social, and governance (ESG) risks in insurance underwriting. The initial focus of the guidelines is the non-life insurance business (i.e. property and casualty insurance business). The guidelines intend to support insurance companies that are developing their approach to ESG risk integration in their core business and decision-making processes. February 27, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

Coming soon:	Expected by:
Equator Principles (EP): Targeted review	Mid-late 2019: Finalization and launch of the EP4
World Bank Group Environmental, Health, and Safety	Revision ongoing Revised guidelines on some industry sectors available Second consultation on general EHS Guidelines planned
Principles for Responsible Banking	Open for consultation until May 31, 2019
International Organisation of Pension Supervisor's Supervisory guidelines on the integration of ESG factors in the investment and risk management of pension funds	Draft available

High-risk sectors

Developments relevant to six specific high-risk sectors, such as news on risk factors and trends, the relevant regulations, and best practices. The table below contains an update on controversies, and comments on the corresponding reputational risk for financial institutions.

		Information based on RepRisk data				Analysis based on RepRisk data, combined with insights gained in ECOFACT's consulting practice				
		<p>RepRisk runs the most comprehensive database on environmental, social and governance (ESG) risk. RepRisk systematically collects and analyzes negative incidents, criticism, and controversies about companies and projects worldwide, and offers information on activities related to human rights violations, breaches of labor standards, corruption, environmental damage, and violations of international standards. www.reprisk.com</p>				<p>The grades take into consideration the degree of reputational risk to financial institutions that is associated with investments in the subsectors mentioned. An "A" indicates that transactions related to this topic present comparably low reputational risk, while an "E" indicates high reputational risks.</p>				
		Level of controversies		FI exposure		ECOFACT summary		ECOFACT risk rating		
		# of RepRisk risk incidents per quarter and trend of the last three months ¹				Share of news criticizing banks and / or insurers				
		MAM	JJA	SON	DJF					
Agriculture	Mono-cultures					33%		Deforestation, loss of biodiversity, excessive pesticide use, genetically modified crops, negative effects on the livelihoods of local communities, violations of indigenous peoples' rights, land-grabbing, and child labor are some of the issues with which large monocultures of such commodities as tea, cocoa, rubber, soy, sugar, and other biofuels are often associated. Projects not complying with best sustainability practices may expose FIs involved with monocultures to high reputational risks.		C
	Palm oil					8%		The palm oil sector is the subject of severe criticism owing to issues such as deforestation, threats to endangered species, and poor working conditions. NGOs, and even companies, increasingly deem the Roundtable on Sustainable Palm Oil's (RSPO) current certification scheme to be insufficient. It remains to be seen if recently adopted changes, such as zero-deforestation requirements and a ban on peat removal, will strengthen the framework and increase acceptance by NGOs. FIs involved with palm oil companies perceived as non-compliant with best practices face considerable reputational risks.		D
Defense	Cluster munitions					0%		Many FIs have policies stating that they do not offer financial services to manufacturers of cluster munitions. Regulations banning investments in cluster munitions manufacturers have been implemented in some countries and are being discussed in others. FIs that do not have such policies or fail to implement them thoroughly are subject to major reputational risks.		D
Forestry	Pulp and paper					7%		The overuse and contamination of water, environmental pollution, and the ensuing health risks for local communities are some of the concerns faced by pulp and paper companies. In addition, the sector's supply chain is frequently associated with unsustainable practices, including deforestation and land-grabbing. Sustainability certification schemes are often criticized for being inadequate or lacking enforcement mechanisms. FIs linked to companies engaged in operations viewed as unsustainable face significant reputational risks.		C
Mining	MTR mining					0%		While few coal mining companies still engage in mountaintop removal (MTR) mining in the United States, the MTR method continues to face opposition from NGOs and locals owing to its severe impact on the environment and communities' health. Many FIs have either excluded MTR companies from their portfolios or committed themselves to phasing out their involvement. FIs failing to pursue such an approach expose themselves to high reputational risks.		D
	Seabed mining					0%		With rights granted for growing numbers of seabed mining projects, the sector seems to be gaining momentum. Scientists, environmentalists, and industry representatives are highly concerned about the unknown consequences seabed mining could have for marine ecosystems, and projects face strong opposition. NGOs have already warned FIs against involvement in such projects, and some countries have imposed temporary moratoria. Any FI associated with seabed mining companies or projects will thus face considerable reputational risks.		D
Oil and gas	Arctic drilling					40%		Environmentalists maintain that Arctic drilling is too risky for oil and gas development, and local communities are concerned about the impact the practice may have on their livelihoods. The Trump administration has initiated the process of opening the national Arctic wildlife refuge to oil and gas drilling. Increasing numbers of FIs are explicitly excluding involvement in Arctic drilling projects. Any institutions that do not pursue an exclusion policy or are associated with companies engaged in Arctic drilling will be exposed to high reputational risks.		D
	Deep sea drilling					n/a		NGOs are concerned about the risks of accidents and oil spills from offshore drilling and their consequences for surrounding ecosystems. Opposition from NGOs and local communities is particularly strong in ecologically or economically valuable areas. New projects launched in such zones will involve reputational risks for FIs.		C
	Hydraulic fracturing					0%		Oil and gas companies continue to face criticism for the impact of fracking activities, such as excessive water consumption, the risk of ground-water contamination, and a suggested link between fracking and increased seismic activity. The practice is opposed by communities in large parts of Europe, where some countries have introduced temporary bans. Some banks have announced that they will limit their associations with fracking companies. FIs involved in fracking and related infrastructure projects face reputational risks.		D
	Oil sands					75%		The development of oil sands and oil pipeline projects continues to be opposed by communities and civil society groups owing to concerns about their environmental and social impact, including climate change, pipeline safety, and their effect on indigenous peoples' rights. FIs involved with oil sands producers or related pipeline projects face significant reputational risks. Moreover, some FIs fully or partially exclude oil sand projects and/or companies from their portfolios.		E
Utilities	Coal-fired power					14%		Coal-fired power remains highly controversial due to its impact on human health and the environment, and particularly to its contribution to climate change. FIs involved in financing coal-fired power plants or associated companies are often targeted by NGOs. Increasing numbers of FIs are distancing themselves from coal-fired power projects and companies.		E
	Large dams					4%		Large-scale resettlements, severe impacts on ecosystems and the livelihood of local communities, including indigenous peoples, are some of the concerns associated with large-scale hydropower projects. If located in sensitive areas, projects often face strong opposition from communities and NGOs. FIs, especially development finance institutions, are regularly implicated in criticism of such projects.		D
	Nuclear power					0%		Nuclear power remains a highly controversial sector, the subject of concerns regarding safety risks, radioactive contamination, and the management of nuclear waste in the absence of permanent disposal facilities. These concerns are not restricted to areas of limited regulatory supervision, and FIs involved in new nuclear power plants face reputational risks, regardless of project location.		E

¹The green / red arrows mean that the number of RepRisk risk incidents has fallen or risen by more than three risk incidents in the last three months, whereas the orange arrow means that the change in the number of RepRisk risk incidents in the last three months has been smaller than three.

High-risk sectors



Best practice 

ICMM aligns membership principles with UN Guiding Principles on Business and Human Rights

The International Council on Mining and Metals (ICMM) announced that the group was instituting new requirements to align its membership with the UN Guiding Principles on Business and Human Rights. It intends to advance the sustainability performance of the sector with this “far-reaching initiative,” the largest in the sector’s history and supported by all CEO-level company members. Developed with multiple stakeholders, the environmental and social benchmarks will affect the group’s combined assets: close to 650 mines in 50 countries and half of the world’s iron ore and copper production. An associated document, entitled *Mining with Principles: Performance Expectations*, has been issued to offer further information on the ten principles as they relate to the sector. November 26, 2018.

[Read more](#) → [Benchmark](#) →

Risk factor 

Mining companies urged to do more to manage tailing dam risks

The recent, devastating carnage caused by the failure of another tailings dam in Brazil is a tragic example of the fact that while tailing dams used to store mining waste are cheap, they also create high-stake risks. Upstream tailing dams are constructed using a slurry that can weaken and liquefy. Yet the 2018’s Responsible Mining Index (RMI) shows that many global mining companies are failing to address these dangers. Fifteen of the 30 companies questioned show little evidence of risk management, and few release safety data. Given that a 2001 report found that all previous 221 dam failures were preventable, the Responsible Mining Foundation (RMF) urges mining companies to follow Vale’s example and decommission all upstream dams. For the future, RMF strongly recommends conducting independent safety assessments to ensure that cost is not the deciding factor. February 5, 2019.

[Read more](#) → [The Index](#) →

Risk factor 

Australian coal mine application rejected by court on climate change grounds

Rejected on appeal due to its likely effects on climate change, a proposed open-cut coal mine project located in Gloucester, NSW, Australia has been halted by the courts. NSW Chief Judge Brian Preston ruled that the mine’s negative impact on that town’s community and health, as well as rising greenhouse gas emissions, dwarfed any potential economic benefits. The NSW Independent Planning Commission having rejected the Rocky Hill project in late 2017, the proposed mine’s operator, Gloucester Resources Limited, took the NSW Planning Minister to the Land and Environment Court to appeal against the decision. Many see Chief Judge Preston’s appeal ruling as a landmark decision offering hope for future action against fossil fuel projects. According to Climate Council chief executive Amanda McKenzie, the court ruled that coal “is bad for us.” February 12, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

Risk factor  

Aluminum industry’s climate performance under scrutiny

Climate change efforts in the aluminum industry have come under scrutiny in a new study released by the Transition Pathway Initiative (TPI). The report examines how the sector’s emissions performance compares to international climate goals. Although individual performance results vary widely (largely due to the sources of electricity being used), the recent performance of the 12 largest aluminum producers is closely comparable with the average company in TPI’s database. The aluminum sector outperforms carbon-intensive manufacturing sectors such as cement, paper and steel. However, only three producers have an emissions intensity currently aligned with the Paris Agreement benchmarks, and only two companies have a target to reduce their emissions intensity extending to at least 2020. February 20, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

Risk factor 

West Africa’s cocoa industry fails to meet deforestation promises

“Companies have talked the talk but not walked the walk,” says Etelle Higonnet, the lead author of *Behind the Wrapper: Greenwashing in the Chocolate Industry*, a report by global forests campaigner Mighty Earth on the cocoa industry’s continuing failure to meet public pledges to stop deforestation. According to the report, the major chocolate companies, which purchase 80 percent of West Africa’s cocoa, continued to cause the deforestation of tens of thousands of acres during 2018, even in supposedly protected areas. Following 2017 investigations by *The Guardian* in collaboration with Mighty Earth, the West African Ivory Coast and Ghanaian governments planned to block all new deforestation and replant degraded forests. Mighty Earth’s most recent report shows that both governments are failing to keep these promises, with chocolate makers still buying cocoa from “dirty producers” who continue to uproot any remaining patches of rainforest. December 7, 2018.

[Read more](#) →

Risk factor 

Has Brazil’s new president placed indigenous land in agribusiness hands?

Brazil’s newly installed president, Jair Bolsonaro, has given the Ministry of Agriculture power to decide the future of lands claimed by Brazil’s indigenous peoples. The Ministry of Agriculture has strong ties to Brazil’s powerful farming sector, so this move indicates that the ban currently protecting Brazil’s tribal lands in the Amazon from commercial exploitation will be dismantled. In order to promote cultural integration over cultural maintenance, Bolsonaro has simultaneously decided to funnel indigenous affairs agency FUNAI into a new ministry for family, women, and human rights. While a clear victory for the nation’s agribusiness sector, critics say that Bolsonaro’s plans will destroy native cultures and further endanger an area that is vital for climate stability. January 2, 2019.

[Read more](#) →

High-risk sectors



Risk factor

Nearly half of the world's coal plants are running at a loss

Due to recent taxes on CO2 emissions and stricter air-pollution laws, the coal industry is becoming increasingly unprofitable. With 70 percent of the industry expected to be running at a loss by 2030, Carbon Tracker's latest report, *Powering Down Coal*, shows that it is now cheaper to build a new, renewable energy supply (such as wind and solar) than to maintain existing coal plants. After analyzing 95 percent of all coal capacity worldwide across 6,685 coal plants, 42 percent of which are running at a loss, Carbon Tracker advises that it now makes better economic sense for countries to set strict targets and shut down plants in line with the Paris Climate Agreement. November 30, 2018.

[Read more](#) → [The report](#) →

Best practice

New hydropower sustainability guidelines from the IHA

The International Hydropower Association (IHA) has issued the reference document *Hydropower Sustainability Guidelines on Good International Industry Practice*, targeting the needs of consumers, lenders, and regulators. The 26 guidelines define good practice for the hydropower sector in terms of sustainability performance and relevant "environmental, social, technical and governance topics." The guidelines are overseen by the 100-member Hydropower Sustainability Assessment Council, which consists of NGOs and industry and governmental organizations from all over the world, including the IHA. The Hydropower Sustainability Assessment Protocol and ESG Gap Analysis Tool, released earlier in 2018 by the council, is compatible with the project performance assessments in the guidelines. Furthermore, standards from the World Bank, International Finance Corporation, and the Equator Principles have all been incorporated. December 14, 2018.

[Read more](#) → [Guidelines](#) →

Regulation

New EU legislation forces safer, greener ship recycling

On December 31, 2018 a pioneering law was introduced to ensure that EU-registered vessels, which make up roughly a third of the world's ships, will now be recycled only in greener, safer ship recycling facilities. When decommissioned and dismantled, these vessels are sold as valuable scrap material to countries like Bangladesh, India, Pakistan, and Turkey. While the use of scrap metal can reduce the impact of mining, these ships have also historically been dismantled in South Asia amid dangerous and environmentally damaging conditions. Most of the 26 yards included on the official, pre-authorized yard list are in the EU, but there are also some in Turkey and the USA, and it is expected that this list will grow. January 8, 2019.

[Read more](#) → [The regulation](#) →

Regulation

Thailand ratifies ILO's Work in Fishing Convention

One of the world's leading exporters of seafood, Thailand has committed to the International Labour Organization's (ILO) Work in Fishing Convention. Promising to ensure acceptable living and working conditions aboard fishing ships, Thailand is the first country in Asia to make this commitment. It is hoped that its lead will inspire other countries in the region to do the same. The 2007 Convention sets standards for decent living conditions for fishing workers while on board, including occupational safety and health, medical care, rest periods, written labor agreements, and social security protection. Thailand's fishing workforce includes many migrant workers vulnerable to exploitation. The Royal Thai Government's ratification of the Convention signals a new commitment to ensure that working conditions in its domestic fishing industry meet ILO standards. Local ratification comes into force in 2020. January 30, 2019.

[Read more](#) →

Risk factor

Migrant "slaves" in Irish fishing industries

Migrant fishing workers in Ireland have reported exhausting and hazardous conditions that the Migrants' Rights Group has linked to a modern form of slavery. In sworn statements tabled in a High Court action, tales of widespread exploitation include working weeks of 100 hours and more, and average pay rates of EUR 2.83 an hour. According to worker statements, non-EEA fishermen endure racial and physical abuse, including threats of deportation and unpaid wages if workers complain. They are sent out to sea on sub-standard boats and forced to exceed official quotas. Following such complaints, the International Transport Workers' Federation (ITF) launched legal proceedings against the Irish state over a 2016 work permit scheme that they say allows this level of exploitation to occur. ITF claims that more than a dozen cases of human trafficking currently under investigation have arisen as a result of the scheme. November 22, 2018.

[Read more](#) →

Risk factor

Water desalination is harming the environment

A UN-backed study estimates that 16,000 desalination plants worldwide are producing higher than anticipated volumes of toxic, hyper-salty waste water. Together, these plants serve arid regions and produce 95 million cubic meters of fresh water daily – at the cost 142 million cubic meters of salty brine waste. Brine is water comprising about five percent salt, including harmful toxins like chlorine and copper that damage marine life. This excess waste is 50 percent above previous estimates. The study, conducted by the UN University's Canadian-based Institute for Water, Environment and Health (UNU-INWEH) estimates that 55 percent of this brine is created in Saudi Arabia, the United Arab Emirates, and Qatar. January 14, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

[The paper](#) →

High-risk sectors



Risk factor



The dark side of fun: Why toys are a nightmare for Chinese workers

China produces about 80 percent of the world's toys, which means that children across the globe are playing with tortuous legacies, according to the latest report

from China Labor Watch (CLW). Entitled *A Nightmare for Workers*, the report reveals disturbing trends in the nation's toy industry, unearthed when four campaign groups, including CLW and Solidar Suisse, went undercover to investigate four factories creating toys destined to be sold at Walmart, Costco, Target, and other major international retailers. The undercover

investigators discovered dangerous working conditions, poor safety training for employees handling toxic chemicals, forced signing of blank employment contracts, excessive overtime, and poor living quarters.

December 7, 2018.

[Read more \(1\)](#) → [Read more \(2\)](#) →

[The report](#) →

Emerging risks

Risks that may become material in the near future or are relevant when looking into a company's business model, but are not yet considered as highly significant risks from a financial institution's reputational risk perspective, or are not related to a high-risk sector.

Climate Change

→ Companies grossly underestimate climate change's impact on business

Climate risks include storms, droughts, wildfires, sea level rises, species extinction, and crop failure, but businesses still do not appear to be taking the threats seriously. A recent study published in the journal *Nature Climate Change* by scientists working with environmental non-profit organizations Conservation Internationals and the Carbon Disclosure Project shows that the corporate world has been massively underestimating the impact of climate change on business. Companies either don't report risk, or if they do report, they grossly underestimate the risks. Assessing 1,630 company disclosures, researchers discovered that the aggregate self-reported corporate climate change risk only adds up to tens of billions of dollars. Most experts counter such claims, estimating the real cost of climate change to business is likely to climb up to USD 2.5–24.2 trillion. This anomaly indicates a major disconnect between perceived and actual risk. December 10, 2018.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Read more \(3\)](#) → [The study](#) →

Why we think it matters: Companies' ignorance of climate change is also a risk for investors, who are warned that businesses that are ill-prepared for climate change will be stuck with stranded assets. According to a report by global investment manager Hermes, the financial case for climate action is becoming ever clearer, with growing investor awareness of ESG factors. Firms unable to implement climate change strategies may find their investment backing withdrawn.

→ 2019 *Global Risks Report* indicates intense geopolitical concerns

The latest edition of the *Global Risks Report* outlines rising macro-level risks and global threats through 2019 and into the next decade. Prepared by the World Economic Forum (WEF) with the support of Marsh & McLennan Companies and other partners, the report indicates that environmental risks continue to dominate for the third year in succession, but that concern about geopolitical issues is also on the rise. Of the top ten risks forecast to deteriorate over 2019, seven are linked to political environments. More than 90 percent of respondents anticipate economic confrontations/frictions between major powers, with similar numbers expecting the erosion of multilateral trading rules and agreements. Ongoing climate risks include extreme weather events as well as failed climate mitigation and adaptation. WEF estimates that the world has 12 years to stay below 1.5C, but notes that a lack of political will is stretching global targets to cut emissions. January 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

→ Royal Dutch Shell ties executive remuneration to sustainability performance

The board of Royal Dutch Shell announced that it has linked executive pay and bonuses to the achievement of short-term carbon emissions targets for 2020. The company is using a combination of multiple metrics and non-financial targets to incentivize its senior management, which comprises more than 1,200 individuals, to reach a variety of reduction targets. External analysts have noted that using multiple goals can help bypass the manipulation of corporate performance. It was pointed out that the company's CEO would be facing tough strategic decisions to balance the annual and long-term goals while meeting targets for 2019. December 14, 2018.

[Read more \(1\)](#) → [Read more \(2\)](#) →

Business case

Information that underlines the business case for environmental and social risk management in financial institutions.

→ **Two leading corporate credit rating agencies introduce stringent environmental ratings**

S&P Global Ratings and Fitch have introduced systematic Environmental, Social and Governance (ESG) scores. S&P Global has already introduced ESG considerations in its oil, gas and utilities sector ratings reports, and will now re-consider ESG exposure more broadly. Fitch Agency launched its ESG frameworks by making all its scores public, and aims to continue to share the relevance and materiality of ESG issues to individual corporate ratings. These initiatives are described as a “remarkable” turnaround by Carmen Nuzzo, senior consultant with The Principles for Responsible Investment (PRI) advisory committee, which has been working with credit rating agencies since 2016 to ensure that ESG considerations are explicitly signposted in rating reports. Distinguishing between credit ratings and stand-alone ESG scores, PRI recommends that investors set up internal measurement frameworks in line with developing standards and monitor long term risks. February 5, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Read more \(3\)](#) → [Read more \(4\)](#) → [Read more \(5\)](#) →

→ **EU Commission publishes draft rules to ensure that investment and insurance clients consider sustainability concerns**

The European Commission (EC) has issued draft rules on how investment firms and insurance distributors should account for environmental, social and governmental (ESG) considerations and sustainability issues when advising their clients. First initiated in May 2018, this is the next step in the Commission’s Sustainable Finance Action Plan. Once disclosure provisions on sustainable investments and EU-wide definitions for ESG considerations have been agreed, these rules can enter into force. The Sustainable Finance Action Plan is part of a broader Capital Markets Union (CMU) initiative to green European finance, driving efforts to implement the Paris Agreement and the EU’s agenda for sustainable development. Furthermore, EU Finance ministers have endorsed three sustainability measures agreed by the EU’s Economic and Financial Affairs Council. These include a report by the European Banking Authority on potential brown and green factors for banks’ capital, and on the inclusion of Environmental, Social and Governance (ESG) risks in finance regulators’ reports. There is also a plan to make bank disclosure on ESG risks mandatory over three years, which policymakers argue is essential for lowering default risk, protecting assets, and identifying long-term risks to EU banks. January 11, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Read more \(3\)](#) → [Read more \(4\)](#) → [Read more \(5\)](#) → [Read more \(6\)](#) →

→ **ECOFACT Policy Outlook users can find additional information [here](#), [here](#), and [here](#).**

Policy Outlook, a monitoring and implementation package, covers regulatory change pertaining to ESG and corporate responsibility issues. Click [here](#) for further information.

→ **ASFI: a multi-stakeholder platform to transition Asia’s finance towards sustainability**

Through “partnerships and collective action,” the WWF-founded Asia Sustainable Finance Initiative (ASFI) aims to assemble diverse organizations from the fields of finance, academia, and science to help Singapore-based and regional finance institutions to develop and expand sustainable finance products and services, and share expertise with their peers. It has been projected that approximately USD 5 trillion of investment is required in the Asia region to fund the transition to more sustainable economies. The ASFI sees finance as a “critical lever” to tackle the growing vulnerabilities in the region, and hopes to accelerate the integration of environmental, social, and governance (ESG) criteria into decision-making. January 22, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) →

→ **Researcher finds that ESG investing does not increase costs**

A Dutch research consultant, Gaston Siegelaer, has found that pension fund asset management costs are no higher for funds managed for environmental, social, and governance (ESG) factors than management costs related to traditional investments. He found no correlation between the level of asset management costs for 50 of the Netherlands' largest schemes and the Association of Investors for Sustainable Development (VBDO) ranking. Referencing data from 2016 and 2017, Siegelaer noted that there is no link between company size and costs. He suggested that smaller operations concerned with costs could begin to adopt an ESG approach by issuing asset managers with specific instructions to incorporate ESG issues (to avoid/postpone developing new policies), using indices that integrate EGS criteria, and combining engagement with passive strategies. February 19, 2019.

[Read more](#) →

→ **WWF report looks at European asset owners' alignment with Paris Agreement goals**

European Asset Owners: Climate Alignment of Public Equity and Corporate Bond Portfolios presents the results of climate scenario research WWF conducted with 88 of Europe's largest asset owners. The report examines the results of a forward-looking climate scenario analysis of portfolios containing coal power, renewable power, coal mining, and oil and gas production technology held by 33 of these asset owners. There are three key findings discussed. Firstly, no asset owner was found that had aligned all investments for the considered technologies with 2°C goals – more effort is needed to meet this target. Secondly, an asset owner's willingness to disclose information was related to their country. Finally, there is growing recognition of climate-related risk and opportunities, as 61 percent of asset owners are "actively engaging in forward-looking climate scenario analysis." December 11, 2018.

[Read more](#) → [Report](#) →

Peer approach

New sector and issue policies that financial institutions have recently adopted. The table below gives an overview of the number of sector and issue policies produced by financial institutions.

→ **Barclay's Energy and Climate Change Statement asserts the bank's goal to support transition to lower-carbon economy**

Noting that banks' activities have an environmental and social impact, and that addressing climate change is a global challenge, Barclay's issued its Energy and Climate Change Statement, which outlines its ambitions for and approach to facilitating change. The statement focuses on three areas of activity: 1) financing businesses and renewable energy sources; 2) responsible management of financing necessary, carbon-intensive energy sources; and 3) lowering the bank's carbon footprint, including within its supply chain. Barclay's states that it will restrict exposure to some sensitive energy sectors, such as thermal and mountain top removal coal mining, but intends to support oil and gas companies if they meet specific environmental and social expectations, including adherence to the Equator Principles and other minimum criteria. Sensitive energy sector companies (coal, Arctic oil & gas, oil sands, etc.) will be subjected to an Enhanced Due Diligence (EDD) process on a case-by-case basis. January 14, 2019.

[Read more](#) → [Statement](#) →

→ **Five big banks agree to align investments with Paris Agreement commitments**

In an open letter, which they call "The Katowice Commitment," BBVA, BNP Paribas, ING, Standard Chartered, and Société Générale announced their collective intention to "measure the climate alignment of our lending portfolio, and to explore ways to progressively steer financial flows through our core lending towards the goals of the Paris Agreement." Between the five of them, their financing assets are valued at more than EUR 2.4 trillion. They identify the key characteristics of their pledge as being co-created, impact-driven, engagement-focused, sector-specific, forward-looking, and science-based. The signatories aim to design financial services that support the transition to a low-carbon economy, and will start the process with carbon-intensive investment areas (e.g. aviation, shipping, road transport). They state that their goal is climate neutrality, and aside from "de-risking," they aim to make a positive impact. December 4, 2018.

[Read more](#) → [Commitment](#) →

→ **PCAF's financial institutions improving methodology to calculate CO2 impact of their assets**

Consisting of 12 financial institutions, the Platform Carbon Accounting Financials (PCAF) has issued a report on progress made towards developing and implementing a shared methodology to calculate their assets' CO2 impact. *Paving the way towards a harmonised Carbon Accounting Approach for the Financial Sector* looks at methods to set and measure CO2 targets for "listed shares, project funding, government bonds, mortgages, corporate financing, property and [...] corporate loans and indirect investments." The PCAF group collaborates to solve problems and shares best practices in the hope that this will raise awareness of the need for the "redeployment of capital to green activities." November 29, 2018.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Report](#) →

→ **Norway's government pension fund warns that it will ask for climate disclosure information from investee companies**

As annual general meeting season approaches, the world's largest sovereign wealth fund has cautioned its 9,000 investee firms that it plans to press for delivery of more comprehensive information on emissions and climate change adaptation, while also expecting reporting to be shown against targets and broken down as far as regional or asset level. The group continues to develop software called Angle, which enables it to make predictions for a company's future success based on a combination of non-financial and earnings data. In 2018, the information gathered by Angle was used to initiate divestment from 30 companies that were deemed unsustainable over the long term. February 7, 2019.

[Read more](#) →

→ **Formation of USASF announced, plans to identify, encourage, and streamline climate-friendly initiatives**

The 15 founding members of the US Alliance for Sustainable Finance (USASF) announced its launch and asserted that climate financing is vitally important to lowering emissions and meeting the Paris Agreement goals. The group has also joined the global network of Financial Centres for Sustainability (FC4S), and aims to work with private-sector participants to "encourage more climate-friendly and sustainable finance innovation across the US capital markets." Their inaugural meeting was scheduled to take place in January 2019. December 6, 2018.

[Read more](#) → [USASF](#) →

→ **Banco Santander updates sustainability policies, commits to ending direct financing of certain coal-related projects**

Spain's largest bank, Santander, updated its sustainability policies in November 2018. It has made changes to the activities it designates as "prohibited" and "restricted" – activities for which the bank refuses to offer products or services in any circumstance, and activities subject to additional environmental and social scrutiny, respectively. Among the bank's many new commitments is the prohibition of financing new coal-fired power plants, financing new clients who have coal-fired power plants anywhere in the world, anything related to oil sands in non-designated countries, nuclear plant financing that does not meet specific conditions, any thermal coal project worldwide, and any new client with thermal coal projects anywhere. In addition, the group also updated its policies for the soft commodities and defense sectors. November 2018.

[Read more](#) → [Energy](#) → [Mining / minerals](#) → [Soft commodities](#) → [Defense](#) →

→ **Sector and issue policies adopted by insurers**

(A) indicates the number of insurers among the 9 Systematically Important Insurers which have adopted a policy, guideline, or commitment addressing the corresponding sector or issue for their investments. (B) indicates the number of insurers which have adopted a policy, guideline, or commitment addressing the corresponding sector or issue in underwriting. Only the sectors or issues covered by policies are included in the table.

Sector policies	A	B
Agriculture	2	1
Palm oil	2	1
Tobacco	3	2
Forestry	2	1
Infrastructure	1	1
Defense	3	1
Cluster munitions	5	1
Metals and mining	1	1
Coal mining	3	2
Oil and gas	1	1
Arctic drilling	1	1
Oil sands	1	1
Utilities	-	-
Hydropower	1	1
Nuclear power	1	1
Coal-fired power	3	2

Issue policies	A	B
Climate change		4
Agricultural commodities	2	1
Human rights	5	5
Child labor	2	1
Forced labor	2	1
Indigenous peoples' rights	1	1

This table includes the 9 global systemically important insurers (G-SIIs) according to the Financial Stability Board: Aegon N.V., Allianz SE, American International Group, Inc., Aviva plc, Axa S.A., MetLife, Inc., Ping An Insurance (Group) Company of China, Ltd., Prudential Financial, Inc., Prudential plc. Source: fsb.org

→ **Sector and issue policies adopted by banks**

(C) indicates the number of banks among the 30 Systematically Important Financial Institutions which have adopted a policy, guideline, or commitment addressing the corresponding sector or issue and disclose its content. (D) indicates the number of banks which disclose that they have adopted a policy, guideline, or commitment, but do not disclose the corresponding content.

Sector policies	C	D
Agriculture (general)	8	5
Biofuels	3	2
Palm oil	16	2
Soy	7	3
Tobacco	2	-
Fisheries	5	2
Chemicals	4	3
Defense (general)	10	3
Cluster munitions	14	-
Nuclear weapons	10	1
Forestry (general)	15	3
Metals and mining (general)	10	5
Coal mining	13	3
Mountaintop removal mining	16	1
Oil and gas (general)	10	6
Arctic drilling	5	9
Fracking	8	6
Oil sands	10	6
Utilities (general)	10	5
Coal-fired power	14	4
Hydropower	12	2
Nuclear power	12	2

Issue policies	C	D
Biodiversity	1	3
UNESCO World Heritage Sites	17	1
Human rights	20	2
Indigenous peoples' rights	11	1
Water	2	-

This table includes the 30 Systematically Important Financial Institutions (SIFIs) according to the Financial Stability Board: Agricultural Bank of China, Bank of America, Bank of China, Bank of New York Mellon, Barclays, BNP Paribas, China Construction Bank, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Groupe Cr dit Agricole, HSBC, Industrial and Commercial Bank of China Limited, ING Bank, JP Morgan Chase, Mitsubishi UFJ FG, Mizuho FG, Morgan Stanley, Nordea, Royal Bank of Canada, Royal Bank of Scotland, Santander, Soci t  G n rale, Standard Chartered, State Street, Sumitomo Mitsui FG, UBS, Unicredit Group, Wells Fargo. Source: fsb.org

New tools and databases

This section presents new tools and databases that can help to identify or manage environmental and social risks.

→ Launch of the world's first Water Risk Index

Financial water risk is said to affect USD 145 trillion worth of global assets. As population pressures create competition for water, global groundwater supplies are declining and climate variability is increasing – leading to longer droughts and more intense floods. These risks are hard to ignore, but challenging to quantify. In recognition of the need for more systematic benchmarks, the LIMEYARD TSC Water Risk Index prices water risk relative to industry-specific benchmarks. These calculations are based on share pricing, curated corporate financial accounting, and voluntary disclosures of environmental risk attributes. Where data is unavailable, learning models are used to impute sector-specific values. Rather than forcing asset managers to make their own interpretations of operational reports and resource management scenarios, the index translates the key metrics of water risk into financial measures that can be readily incorporated into financial models. December 11, 2018.

[Read more](#) →

→ Cambridge Impact Framework: a new toolkit to compare fund impact against SDG themes

Organized into six themes based on the UN Sustainable Development Goals (SDGs), the Cambridge Impact Framework is a toolkit to help fund managers to measure social and environmental impact and evaluate progress towards meeting the SDGs more accurately. It was developed by the University of Cambridge Institute for Sustainability Leadership's (CISL) Investment Leadership Group (ILG), including representatives from PIMCO, Union Bancaire Privée, and Zurich Insurance. Noting that there are currently no industry-wide standards to perform this type of analysis for all funds, the ILG is hoping that its tool will bridge the gap until something else is developed. Using open-source metrics, the tool generates an indication of impact based on a traffic light system ranging from red (very negative) to dark green (very positive). Their report, *In search of impact: Measuring the full value of capital*, explains the framework and suggests base and ideal open-source target metrics for each of the themes: basic needs, climate stability, decent work, healthy ecosystems, resource security, and wellbeing. February 6, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Read more \(3\)](#) → [Read more \(4\)](#) → [Report](#) →

→ New investors' guide for a "just transition" to low-carbon economy

In *Climate change and the just transition: A guide for investor action*, readers are offered insight into ways that social justice can be taken into account when investors adapt their strategies to respond to climate change. It is jointly written by the London School of Economics and Political Science and the Gantham Research Institute on Climate Change and the Environment. The guide notes that transitional challenges exist for workers, communities, as well as at country level. Investors are encouraged to consider the "full range of environmental, social, and governance (ESG) dimensions" when investing responsibly. They identify five strategic motivations that should spur investors to take action: 1) the systemic nature of climate change risks; 2) fiduciary duty needs reinvigorating; 3) new material value drivers are being recognized; 4) there are investment opportunities to be discovered; and 5) a chance to contribute to societal goals. They suggest five areas of action to support progress: investment strategy, corporate engagement, capital allocation, policy advocacy and partnerships, and learning and review. The guide delivers a framework applicable to individual institutions as well as collaborative initiatives. December 6, 2018.

[Read more](#) → [Guide](#) →

→ UN issues first Environmental Rule of Law report, finds enforcement is an issue

Despite the fact that the number of environmental laws around the world have increased 38 times since 1972, the UN Environment has found that "failure to fully implement and enforce these laws is one of the greatest challenges to mitigating climate change, reducing pollution and preventing widespread species and habitat loss." In *Environmental Rule of Law: First Global Report*, the group notes that laws consistently "fall short" in addressing the challenges they were intended to solve. Underfunding and environmental ministries' lack of power were identified as contributing factors. The report proposes a framework of indicators and shares existing datasets that could be used to standardize evaluation of global environmental rule of law in order to facilitate the measurement of countries' performance. January 24, 2019.

[Read more](#) → [Report](#) → [Executive summary](#) →

→ **CRO Forum position paper for insurance sector focuses on climate-change issues**

The CRO Forum, a group of multi-national insurance companies interested in advancing risk management practices, has released a position paper targeting industry professionals and other stakeholders. It outlines the implications of climate change for the industry. In *The heat is on: Insurability and Resilience in a Changing Climate – Emerging Risk Initiative*, the group explores the physical and transition risks of a changing climate as well as the need to build resilience into insurance. They discuss the role of insurers and the scale of the challenges that lie ahead. Current efforts have yet to make a measurable difference – emissions are higher than ever. Public opinion needs to be swayed towards a “tipping point” to prompt tougher actions and triple the rate of transition to a low-carbon economy. January 2019.

[Read more](#) → [Paper](#) →

→ **New initiative combines satellite monitoring, data science, and financial services**

The Spatial Finance Initiative aims to integrate geospatial data into financial theory and practice. Founded by the Alan Turing Institute, Green Finance Initiative, Satellite Applications Catapult, and the University of Oxford, the group aims to advance geospatial analysis as a core competency of financial analysis. It indicates that there are “very significant implications for information markets, financial products, and risk management” as earth observation and remote sensing are combined with machine learning on an increasingly routine basis. This approach holds great potential for the finance industry to measure environmental degradation due to industrial practices, as well as the impact of climate change. February 1, 2019.

[Read more](#) → [Initiative](#) →

Why we think it matters: This new initiative is in line with the need to move from “assuming” environmental compliance based on clients’ statements to “knowing” about high risk clients’ environmental performance on the ground. “Hard data” collected by third parties will enable both financial institutions and regulatory agencies to assess whether statements made by companies are true and to actively monitor their performance.

→ **Discussion paper proposes a climate stress-test scenario**

Currently, there are no recognized comprehensive regulatory stress tests for the physical and transition risks of climate change. The 2 Investing Initiative has released *Storm ahead: A proposal for a climate stress test scenario*, a discussion paper that puts forward a stress test to measure the predicted resilience of assets to unexpected, but “highly material tail events” in a +4°C and +6°C world. Key indicators and metrics to facilitate modelling are provided, as well as example applications. The group hopes to inspire financial supervisors as they design or update their own stress tests, and is in the process of building partnerships with financial supervisors in order to roll out the approach to regulated entities. January 2019.

[Read more](#) → [Paper](#) →

→ **Guide to realizing climate impact across asset classes**

Aiming to inform investors about decarbonization of the real economy and the influence their investments can have on climate change, the 2°Investing Initiative has published *Climate Impact: What it is and how to achieve it – a guide to realizing climate impact across asset classes*. It suggests ways to leverage the specific mechanics of different asset classes to generate outcomes that are climate-focused. The asset classes it addresses are: listed equity, private equity, venture capital, real asset investments, and debt investment instruments (bonds and loans). After defining impact pathways, the guide goes on to map this concept for different asset classes and analyzes the EU Sustainable Finance Action Plan. February 13, 2019.

[Read more](#) → [Guide](#) →

→ **NCFA explains how to conduct rapid natural capital risk assessment**

A detailed guide published by the Natural Capital Finance Alliance (NCFA) provides instructions on how to perform quick risk assessment for natural capital. Targeting financial institutions and tested by Colombian, South African, and Peruvian banks, the guide is designed to complement and be used alongside the NCFA's online tool ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure). It also uses data-based drivers to look at sectors and assets to determine "the likelihood of disruption of relevant ecosystem services." Hoping that providing banks with better ways to understand the risks they face from environmental degradation and climate change, NCFA has included case studies on how the finance sector is using ENCORE to figure out their level of dependence on natural resources. January 16, 2019.

[Read more \(1\)](#) → [Read more \(2\)](#) → [Guide](#) → [Tool](#) →

Why we think it matters: According to a report by PricewaterhouseCoopers (PwC) in collaboration with the Natural Capital Finance Alliance (NCFA), the United Nations Environment Programme (UNEP), and NGO Global Canopy, most financial service providers still fail effectively to assess the financial risks of environmental degradation. While banks have made progress in disclosing risks connected to their businesses, many still fail to assess the sustainability of their entire portfolios. The report argues that natural capital risk analysis will enable financial institutions better to tackle new risk.

→ **Global ban achieves significant reduction in financing cluster munitions**

Between 2017 and 2018, there was an increase in the number of countries (from 38 to 46) taking steps to ban the financing of cluster munitions. *Worldwide Investments in Cluster Munitions: a shared responsibility*, a report published by NGO PAX, reveals that investment in these weapons has also drastically decreased. Between 2017 and 2018 the global level of investment fell from USD 31 billion to USD 9 billion. Additionally, the number of financial institutions that explicitly prohibit investment in cluster munitions producers has grown to 110. Seven companies from four countries were identified as producers of cluster munitions; three of these were newly added in 2018. It has been 10 years since the international Convention on Cluster Munitions was signed, and all indicators point to great gains being made in the elimination of these indiscriminate weapons. The group called on investors to continue to divest and to ban future investment. December 3, 2018.

[Read more](#) → [Report](#) →

About this report

This briefing is tailored to the needs of individuals and teams in charge of assessing and controlling environmental and social risks in corporate banking, investment banking, and commercial insurance. It aims to provide an update on risks, standards, tools, and best practices that are relevant primarily from a reputational risk perspective.

The content is organized into four levels: each item of information is headed by a title which allows the reader to digest the report in less than five minutes. Subsequently, a brief abstract summarizes the key facts. Additionally, if appropriate, a short comment illustrates why this information might matter and, finally, a link to the original source allows the reader to drill down further into the subject.

Our research process consists of four steps: firstly, ECOFACT collects information from international newspapers and specialized periodicals. Secondly, the websites of the most relevant NGOs, international organizations, private and academic research centers, environmental and sustainability think-tanks, and government agencies are visited regularly. Thirdly, specialized newsletters to which we subscribe are screened, and finally, organizations in charge of international environmental and social standards are contacted.

Selection criteria for the content of the briefing: a) information on environmental and social risks that b) was published (in most cases) over the past quarter, and c) is relevant from the reputational risk perspective of a financial institution. The scope covers the ten principles of the UN Global Compact.

About ECOFACT

ECOFACT has addressed the risks and opportunities that environmental, social and governance issues present to the financial sector since 1998. We work primarily for banks, insurers, institutional investors, and international standard-setters.

We help our clients to improve their understanding of credit, reputational, compliance and liability risks in the context of sustainability, ESG and responsible business conduct.

Due Diligence

We assist our clients in designing processes and conducting due diligence:

We provide solutions for issue monitoring, policy development, portfolio screening, individual risk assessment, and engagement services.

Research Products

In addition to the *ECOFACT Quarterly*, ECOFACT also produces the *Policy Outlook*. The *Policy Outlook* covers regulatory change pertaining to ESG and corporate responsibility issues. It a monitoring and implementation package that consists of an online tool and provides access to a network of peers.

[Read more](#) →

Knowledge Sharing

ECOFACT hosts three events that facilitate knowledge sharing among peers and experts:

- The *Policy Outlook Conference* gives you the chance to join peers and experts from the fields of public policy, legal & compliance, corporate responsibility and sustainability in exploring how financial firms are addressing corporate responsibility regulations.
- The *Environmental and Social Risk (ESR) Roundtable* provides an opportunity for peers to discuss the challenges that arise as environmental and social issues are further integrated into financial institutions' business with corporate clients.
- The *Reputational Risk Management (RRM) Roundtable* is a platform for dialog and knowledge sharing on common and best practices in reputational risk management in the financial sector.

ECOFACT is a signatory to the *United Nations Global Compact* and the *Principles for Responsible Investment*, and a member of *Swiss Sustainable Finance*.



Subscribe

For a subscription

Fax this page to **+41 44 350 6020**, or e-mail your contact details to contact@ecofact.com.

Please sign me up for a one-year subscription to the ECOFACT Quarterly at the rate of CHF 2,000* (4 issues at CHF 500 each). I would like the subscription to start with

the current issue.

the next issue.

Issues may be shared with the environmental and social risk experts working within your organization (a maximum of approximately 20 persons). To share the report with a larger group of recipients, please contact us for a group subscription: contact@ecofact.com or call **+41 44 350 6060**.

Name:

Department:

Company:

Address:

Postcode, city:

E-mail address:

You will receive the invoice as a pdf file by e-mail. Please let us know if you need a signed hardcopy.

We also accept credit cards.

** As a contribution to sustainable banking practices in emerging markets, ECOFACT offers reduced rates to organizations headquartered in countries classified by the World Bank as upper-middle-income economies (CHF 800), or as lower-middle-income or low-income economies (CHF 200).*

ECOFACT Quarterly

Production: Jenifer Guillemin, Bronwin Patrickson, and Anna Reimann.

Additional editors and contributors: Deborah Attolini, Simone Hutter, Olivier Jaeggi, and Gabriel Webber Ziero.

Design: **Naomi Atkinson Design**

Produced and distributed by ECOFACT AG, Stampfenbachstrasse 42, 8006 Zurich, Switzerland.

Tel: **+41 44 350 6060** | Fax: **+41 44 350 6020** | contact@ecofact.com | www.ecofact.com

Copyright © 2019 ECOFACT AG. All rights reserved. Reproduction in whole or in part on paper, online, or in information storage and retrieval systems without written permission is prohibited. ECOFACT® is a registered trade mark. The views expressed in this report are not necessarily those of ECOFACT AG. Editors and contributors may have business relationships with companies they discuss.