

# AXA AND CLIMATE RISKS

Why does climate change  
warrant our attention?

redefining / standards



# Climate change is increasingly impacting the world's populations and economies

The latest scientific findings have reinforced the message of global warming<sup>(1)</sup>. A 2°C temperature increase, the commonly accepted limit beyond which unforeseeable consequences on the environment cannot be excluded, is becoming increasingly likely. It is clear today that the impacts of climate change are happening now and that they are global.

## Direct impacts

Climate change directly impacts the weather system and is associated with extreme natural events such as storms, floods, hurricanes, typhoons, droughts, and other climate risks. Over the past 50 years, the frequency of climate-related natural disasters was multiplied by more than 5<sup>(2)</sup> and the cost for the society was multiplied by more than 10<sup>(3)</sup>. Intensified development in highly exposed regions, combined with the increasingly material effects of climate change, is behind this rise. More broadly,

the overall cost of the risks associated with climate change has been estimated at 5% of global gross domestic product (GDP); this rises to as high as 20% of GDP when indirect impacts are included<sup>(4)</sup>.

(1) [www.ipcc.ch/report/ar5/wg2/](http://www.ipcc.ch/report/ar5/wg2/) - (2) EM-DAT database - (3) Munich Re reports on the cost of natural catastrophes - (4) Stern Review on The Economics of Climate Change (2006) - (5) Towers, Sharon, Climate Change and Influenza - PLOS Currents (28 January 2013) - (6) [www.iom.int/migration-and-climate-change-0](http://www.iom.int/migration-and-climate-change-0) - (7) [www.whitehouse.gov/blog/2014/04/03/combating-climate-change-secretary-hagel-hosts-us-asean-defense-forum](http://www.whitehouse.gov/blog/2014/04/03/combating-climate-change-secretary-hagel-hosts-us-asean-defense-forum) - (8) *Risky Business: The Economic Risks of Climate Change to the United States* (2014).

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# x5

Over the past 50 years, the frequency of climate-related disasters was multiplied by more than 5

# x10

Over the past 50 years, the cost for the society due to climate-related disasters was multiplied by more than 10

# 5%

The overall cost of the risks associated with climate change has been estimated at 5% of global gross domestic product (GDP)

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**“As our business is about understanding risks and managing them for our clients, insurers are uniquely positioned to provide innovative solutions in partnership with public authorities but also relevant private players.”**

**Henri de Castries,**  
Chairman and Chief Executive Officer of AXA Group

## **Indirect impacts**

The indirect impacts of climate change on human systems encompass multiple risks for the economy, society, health, migrations, and geopolitics. As an example, the spread of disease is closely related to climatic conditions: as weather variations become more unpredictable, so does the impact of pandemics<sup>(5)</sup>. Similarly, climate change could trigger growing population movements within and across borders due to extreme weather events or changes in weather patterns, sea-level rise, and environmental degradation, all of which in turn impact food security. While there are no precise estimates of climate-

induced migration, current estimates vary from 25 million to 1 billion environmental migrants by 2050, moving on a permanent or temporary basis, with 200 million being the most widely cited estimate<sup>(6)</sup>. This figure equals the current estimate of international migrants worldwide, and the implications for political stability are self-evident<sup>(7)</sup>. Individual countries are now developing precise estimates of the impact of climate risk on their economies: in the US, as an example, USD 106 billion in coastal property will lie below sea level by 2050, USD 730 billion of property will be at risk for flooding, and crop yields (corn, soybeans, wheat) are expected to plummet between 50% and 70% leading to food shortages and price spikes<sup>(8)</sup>.

**200** million

migrants by 2050  
because  
of climate risks

**\$ 730** billion

In the US, USD 730 billion  
of property will be at risk  
for flooding by 2050



# The insurance industry has a role to play

As part of the global safety net behind the world's economy, and as some of the world's largest investors, insurance companies, across all lines of business (health, life, property) will be on the front line when it comes to the economic consequences of climate risk. Therefore, the sector has a role to play in anticipating and mitigating these risks.

## Insurance industry

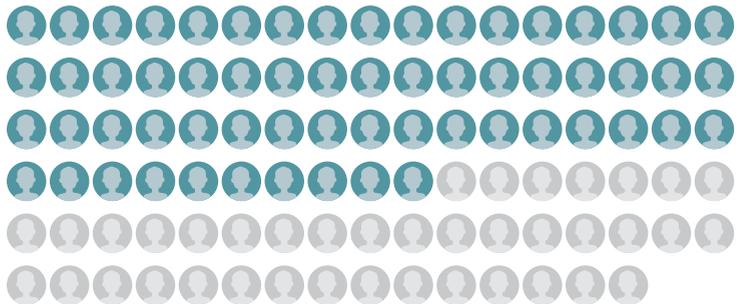
Managing climate risks will require collective action, and the insurance industry has a key role to play. With its combined financial and risk management expertise, the insurance sector is at a crossroad and has an important economic and societal role to play in helping people to better manage climate risks. In a 2012 AXA/Ipsos survey, 61% of the population declared it expected insurers to play a role and limit the risks related to climate change. The insurance sector has a role to play and is seen as part of the answer, as it can help, thanks to its risk management expertise, facilitate adaptation

to and mitigation of the many risks associated to climate change. It can implement prevention measures customized for specific needs at a reasonable cost. It can promote and incentivize much needed positive behavioral change through the products and services it can offer. It can foster a greener economy in many innovative ways, namely thanks to green products and investments, as well as to knowledge sharing that will lead to greener behaviors. Indeed, the industry can play an important role in educating people about climate risks and in providing governments with risk expertise to inform public policy, as collective action is clearly required to tackle these present and future societal challenges.

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# 61%

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# AXA is determined to take action to reduce climate risks

AXA has an important role and vested interest in helping society manage climate risks and in protecting people. We aim to contribute to increasing society's resilience to climate change, as a provider of risk management and prevention expertise, and as a partner in financing sustainable and low carbon economies. Our ultimate ambition is to protect people, from our clients to the communities in which we operate, more broadly. There are three key areas in which we are determined to take action: knowledge, prevention and solutions.

OPEN DATA INITIATIVES  
METEOROLOGICAL PREVISIONS  
SHARING KNOWLEDGE AXA RESEARCH FUND  
METEOROLOGY CLIMATOLOGY EXPERTISE  
PROJECTS GRANTS ACADEMIC RESEARCH  
**KNOWLEDGE** INTERNATIONAL METRICS  
FLOOD DEFENSE SYSTEMS SOCIO-ECONOMIC RISKS  
PARTNERSHIP WITH CARE **PREVENTION** AXA MATRIX  
ENVIRONMENTAL RISKS DISASTER RISK REDUCTION  
RISK ZONING, LIFE RISKS PUBLIC-PRIVATE PARTNERSHIP  
DISASTER RISK REDUCTION PROJECTS **SOLUTIONS**  
COLLECTIVE ACTION IMPACT INVESTMENT FUND  
PARAMETRIC INSURANCE CLEAN ENERGY  
LOW-CARBON ECONOMY AXA IMPACT FUND  
SUSTAINABLE DEVELOPMENT GREEN ECONOMY  
BEHAVIORAL CHANGE GREEN INSURANCE  
WEATHER-BASED COVERAGE  
CLEAN ENERGY FUND

# ENHANCE KNOWLEDGE ON CLIMATE RISKS

A better understanding and a broad public awareness of climate risks are critical to design a resilient economy. AXA invests in and promotes climate risk research at a large scale. Through the AXA Research Fund, the science philanthropic initiative of the Group, we support global fundamental research to understand and better prevent environmental, human life and socio-economic risks.

As of today, one-third of the granted research projects are related to climate and environmental risks because enhanced knowledge on such risks is a way to make up for the loss of historical data (rendered invalid by climate change). We are well equipped with a vast range of relevant tools

to analyze climate risks (handling of geographical information, meteorology and climatology expertise, building codes and ad hoc vulnerability analyses, etc.), which we may use to provide quality service to our clients.

We are also working towards sharing this knowledge more broadly with governments, academics, and the general public. The Group stands ready to take part in private sector discussions on climate change and to develop common actions with other insurers, and encourage the share of best practices within the sector.

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€35  
million

Funding of academic research on climate and environmental risks between 2013 and 2018

143

number of academic projects dedicated to environmental risks the AXA Research Fund has currently committed to

+25%

increase of our IT and human resources between 2014 and 2016 to better understand the impacts of climate risks on our insurance activities

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## How does AXA take action?

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### **6<sup>th</sup> Asian Ministerial Conference on Disaster Risk Reduction**

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In June 2014, at the 6<sup>th</sup> Asian Ministerial Conference on Disaster Risk Reduction, Bangkok, Thailand, the AXA Research Fund organized a roundtable featuring researchers, AXA colleagues and other public sector representatives on the “Private Sector Engagement in supporting Research on Risks” to deliver the latest research findings regarding disaster risk reduction.

### **Facilitating the presence of researchers**

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The AXA Research Fund facilitated the presence of researchers (such as Laura Munro, London School of Economics) at the United Nations World Conference on Disaster Risk Reduction that took place in Sendai in March 2015, during which was adopted a new global disaster risk reduction framework.

### **“Make It Work”**

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The AXA Research Fund also plays a role in educating the general public on the urgency of taking action on climate change. We have partnered with Sciences Po’s initiative “Make It Work” designed to have students simulating the negotiations ahead of the COP21, with a testing and learning innovative approach. Some of the students took part in a multi-stakeholder Climate Risks Workshop organized by the AXA Research Fund on April 2<sup>nd</sup> and researchers supported by AXA coached some students to help them prepare for the negotiations simulation.

For further information, click [here](#).

# REINFORCE CLIMATE RISK PREVENTION

AXA contributes to foster behavior change and to push for better prevention practices vis-a-vis climate risks, thanks to dedicated advisory services for its private and corporate customers, as well as public authorities, especially for storms, floods and droughts.

As recognized risk experts, we are determined to leverage and share information to improve risk management for all, and have created dedicated operational units offering prevention services to clients (AXA Matrix, AXA Assistance), as well as to the general public (AXA Prévention in France). All of our 57 global subsidiaries are engaged in providing risk education, including a focus

on climate risk, to the local communities in which they operate. As such, we are reinforcing our climate risk modelling techniques by investing €20 million by 2020 in geographical underwriting tools to better anticipate where these risks can materialize and where they would cause significant damage.

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68%

of climate risks could be avoided through cost-effective adaptation measures

1.2 million

vulnerable people in developing countries have been supported with our NGO partner CARE

+25%

increase of R&D in AXA Matrix, our business unit dedicated to prevention, to expand climate risk advisory services to the corporate sector between 2015 and 2020

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## How does AXA take action?

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### Risk prevention and education with CARE

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An AXA Group partnership with CARE, an international humanitarian NGO, was established in 2011 to help vulnerable populations better prepare for climate-related risks. In 2014, this partnership was renewed for three more years. We will provide to CARE more than 2.3 million euros to support two main projects: climate change adaptation projects (based on the international research program “Where the Rain Falls”, for example in India and Thailand), and disaster reduction projects (already led in Benin, Indonesia and Vietnam that will be extended to Central and South America).

### Risk consulting

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AXA Matrix is an AXA Corporate Solutions subsidiary with 40 years of experience in supporting clients in their risk management policies. It provides expertise in risk assessment and training in 18 countries. We commit to increasing AXA Matrix’s R&D by 25% to expand climate risk advisory services to the corporate sector by 2020.

### Global resilience

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In 2013, AXA was selected to be a member of the UNISDR’s Private Sector Advisory Group. This initiative aims to secure global resilience by designing a global and governmental disaster reduction framework (the new Hyogo Framework for action) and to ensure synergies among disaster reduction activities with an important focus on risk prevention. In this regard, we have sought to provide our expertise in the context of the adoption of the new Hyogo Framework, and were in particular present at the UN World Conference on Disaster Risk Reduction in Sendai in March 2015 when the Framework was adopted.

For further information, click [here](#).

# DEVELOP INSURANCE AND INVESTMENT SOLUTIONS

AXA contributes to the transition towards a low-carbon economy in several innovative ways. First, we continue to support the “green” economy with insurance products and services for retail customers as well as for corporations, notably for the wind-powered energy sector. We also offer dedicated crop insurance, and are committed to extend weather index-based insurance coverage notably in emerging countries. Moreover, we support the so-called “sharing economy”, and strongly believe this emerging trend shall favour society’s resilience.

As a financial investor, AXA accompanies the development of the renewable energies sector

through different dedicated funds and works to incorporate environmental factors across its investment decisions.

It is our responsibility, as a long term institutional investor, to consider carbon as a risk and to accompany the global energy transition. We have decided to divest from the companies most exposed to coal-related activities for the assets managed internally. We also have committed to integrating environmental, social and governance (ESG) footprint in all relevant asset classes of our General Account by end 2015.

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€165  
million

worth of “green” commercial insurance (eg: for renewable energy) provided to the market Group-wide by 2020

+55%

by 2016 of our Gross Written Premiums (GWP) on off-shore wind power compared to 2013

€450  
million

added to our internal reinsurance offshore wind power capacity (80% increase compared to 2013)

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## How does AXA take action?

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### Parametric insurance

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In 2013, AXA Corporate Solutions decided to launch a parametric insurance business in order to provide a response to “atypical climate events” such as a very hot winter or a very rainy summer, which can put a stress on business and vulnerable populations, especially linked to food security. Combining the use of satellite imaging and a new economic model with quick compensation and very low claims administration costs, parametric insurance allows us to extend weather-based coverage notably in emerging countries.

### Responsible Investment

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As an institutional investor, the Group accompanies the development of the renewable energies sector through different dedicated funds such as our pioneering “Impact Investment” Fund and our CleanTech Fund financing renewable energy production infrastructures. More broadly, our Responsible Investment strategy encourages our asset managers to integrate environmental, social, and corporate governance (ESG) considerations into our investment processes and ownership practices, and to use benchmarked ESG performance metrics. AXA and its Asset Management affiliates are UN Principles for Responsible Investment signatories.

### Environmental management

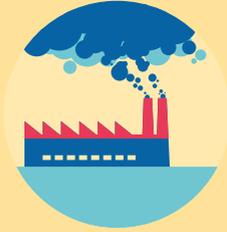
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We strive to reduce our direct environmental footprint and contribute to enhance our positive impact through indirect activities. We have achieved significant results in terms of energy, paper and water consumption, as well as carbon emissions and waste over the past years. Our environmental data are audited annually by our external auditors. AXA's current target is to achieve a 25% carbon emissions reduction per FTE over the 2012-2020 period.

For further information, click [here](#).

# AXA's commitments Climate Finance Day May 22, 2015

## COAL DIVESTMENT

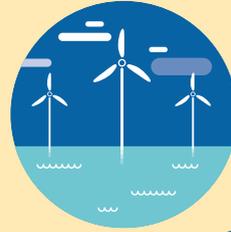


We have decided to divest from the companies most exposed to coal-related activities.

This initiative represents a divestment of

**€ 0.5 billion**

## "GREEN" INVESTMENTS



We commit to **our green investments**

**x3**

aiming to reach over

**€3 billion** by 2020



## ESG\* INTEGRATION AND SIGNING THE "MONTREAL CARBON PLEDGE"



We have committed to measuring the ESG (environmental, social and governance) footprint of all relevant asset classes of our general account investments by the end of 2015. And we are the first global insurer to sign the Montreal pledge, an initiative to disclose the carbon footprint of our investments, launched under the auspices of the UN Principles for Responsible Investment.

## AFRICAN RISK CAPACITY

We have joined in May 2015 the African Risk Capacity initiative.



**A regional insurance pooling mechanism** that helps mitigate the short-term cash flow problems that cripple developing countries after natural disasters.

Find more information on : [www.axa.com/en/climate-change](http://www.axa.com/en/climate-change)



redefining / standards

