



UNEP FRONTIERS 2016 REPORT

Emerging Issues of Environmental Concern





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The Financial Sector: A Linchpin to Advance Sustainable Development

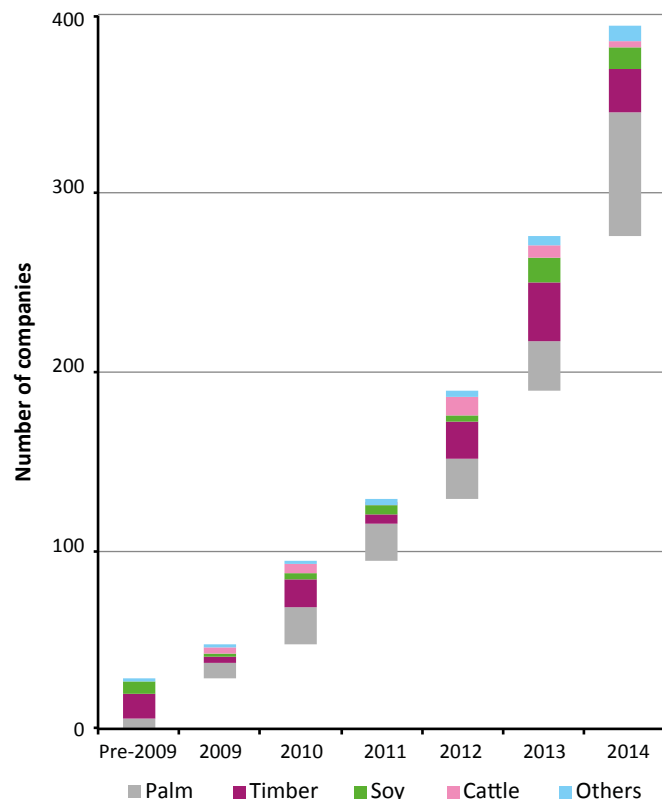
The complex relationship between the private sector and the environment

According to the economic theory of the “tragedy of the commons”, the earth’s natural resources become overexploited when they are considered free, whereby individuals behave against to the common good. Business as usual expects government will create a suite of laws and regulations to manage the free-for-all. However, a growing number of private sector enterprises are moving ahead of government regulation because they understand their own self-interest is realized through efforts to reduce environmental damage and even to encourage tougher environmental regulation.

Climate change, ecosystem degradation, water scarcity, waste management, and other environmental challenges increasingly force the private sector to consider how are *damaging the environment*, for example through deforestation or greenhouse gas emissions as they and their suppliers conduct business; or how they are *dependent on the environment*, for example by using water for agricultural production or mineral extraction and processing. These activities can expose companies to a variety of risks including market, regulatory, and reputational risks as well as the physical risks from climate-related threats. A growing number of industries and individual companies acknowledge that diminishing exposure to these material risks is in their collective self-interest and requires them to reduce environmental damage.¹



Number of companies making pledges to reduce deforestation and ecosystem impacts



Source: Adapted from Forest Trends (2015)⁶ with additional unpublished data provided by Forest Trends Association in January 2016

Perhaps one of the best-known illustrations comes from Unilever. The company's 2010 "Sustainable Living Plan" pledges to cut the company's damaging environmental impact in half by 2020. It also vows to improve the health of one billion people and enhance livelihoods for millions, all while doubling Unilever's sales. By the end of 2014, Unilever's factories emitted 37 per cent fewer greenhouse gas compared to 2008 while producing more goods. In February 2016 the company announced that over 600 of their factories in 70 countries now generate zero waste to landfill.²

Private Sector

The private sector is the part of the economy that is not government controlled, and is run by individuals and companies for profit⁷

Risks

Market risk is defined as "the possibility for an investor to experience losses due to factors that affect the overall performance of the financial markets"⁷

Physical risk or operational risk A hurricane that damages a house is a physical risk that the homeowner and hence the insurance firm need to take into consideration. Water scarcity due to overuse by agriculture can be a physical or operational risk because reduced availability of water can lead to lower production levels

Regulatory risk refers to a change in laws and regulations that will materially impact a business or market by increasing the costs of operation, reducing the attractiveness of investment or changing the competitive landscape⁷

Reputational risk is defined as "a threat or danger to the good name or standing of a business or entity"⁷

Video: We Mean Business



© We Mean Business

Video Link: <http://www.wemeanbusinesscoalition.org/about>

These types of pledges are increasingly adopted at industry-level to stimulate sector peers to take action as well. A coalition of over 554 global companies and investors, with combined revenue of US\$7.8 trillion, called We Mean Business, are committed to decarbonising their businesses through efforts including purchasing electricity from renewable sources, reducing short-lived climate pollutants, or investing in low carbon assets.³

The Consumer Goods Forum—an association of over 400 large retailers, manufacturers, and service providers across 70 countries with combined sales of around US\$3 trillion—recommends that its members adopt a policy of “zero net deforestation” in their supply chains by 2020.⁴ As a result, Wilmar, Cargill, Golden Agri Resources, Nestlé, Unilever, Mars and other companies have made commitments to deforestation-free sourcing, essentially decoupling production of vegetable oil, beef, or other commodities from forest damage. This effort got a boost during the 2014 UN Climate Summit when 130 governments, companies, civil society, and indigenous peoples’ organisations signed New York Declaration on Forests. The signatories pledge to cut the loss of forests in half by 2020 and to end forest loss completely by 2030.⁵ So far, 243 companies have pledged their commitments to reduce deforestation and ecosystem destruction when producing or procuring agricultural commodities.⁶

Global water challenges, and associated risks to business growth and viability, also invite private sector activism. The Water Stewardship initiative of the CEO Water Mandate has attracted over 140 leading companies from a wide range of industries in 40 countries to adopt water sustainability practices that are responsible to the environment and the society.

These different initiatives are significantly accelerating corporate commitments to advance towards environmental sustainability, which can minimise material risks in the present and enhance a company’s financial stability and growth over the future.

Zero net deforestation

Zero-net deforestation pledge allows companies to offset the impacts of their practices on forests by replanting the deforested areas that can largely maintain forest ‘quantity, quality and carbon density’ in order to have an overall zero-net effect on deforestation

Zero deforestation pledge commits companies to completely remove deforestation from their supply chains

Decoupling

The concept of decoupling can be applied to sustainable development in two dimensions:

Impact decoupling means maintaining economic output while reducing the negative environmental impact of any economic activities that are undertaken

Resource decoupling means reducing the rate of use of resources per unit of economic activity. Absolute reductions of resource use are a consequence of decoupling when the growth rate of resource productivity exceeds the growth rate of the economy²⁴



Photo Credit: Curraheeshutter/ Shutterstock.com



The underlying but influential role of the financial sector in environmental sustainability

Banks, pension funds, insurance companies, and other financial institutions provide a range of services that are an essential part of our daily lives such as offering cash, credit, and other forms of capital; saving and investment accounts; and insurance policies. Credit and liquidity provision as well as other risk management tools and services are core activities of the financial sector.⁸

Engaging the financial sector to advance environmental sustainability is justified by the value it adds to the global economy and the role it plays in our economy. At present, the industry contributes roughly 15 per cent to global GDP.⁹ In terms of managed assets, banks, pension funds, insurance firms and others control around US\$300 trillion.¹⁰ The financial sector has an essential role in advancing environmental sustainability. Ultimately, the challenge is to shift capital away from unsustainable companies, projects and other assets that negatively affect the environment and towards 'sustainable assets' that operate with minimal environmental costs or even with environmental benefits.

Video: What is financial sector?



© Investopedia

Video Link: <http://www.investopedia.com/video/play/financial-sector/>
Photo Credit: Katjen/ Shutterstock.com

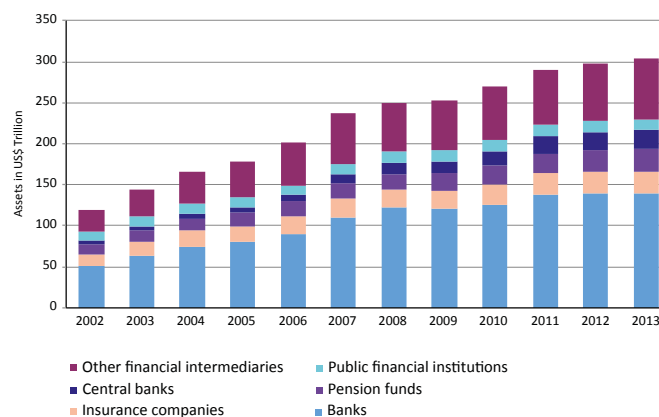
Credit

Credit is defined as “a contractual agreement in which a borrower receives something of value now and agrees to repay the lender at some date in the future, generally with interest. The term also refers to the borrowing capacity of an individual or company”⁷

Liquidity

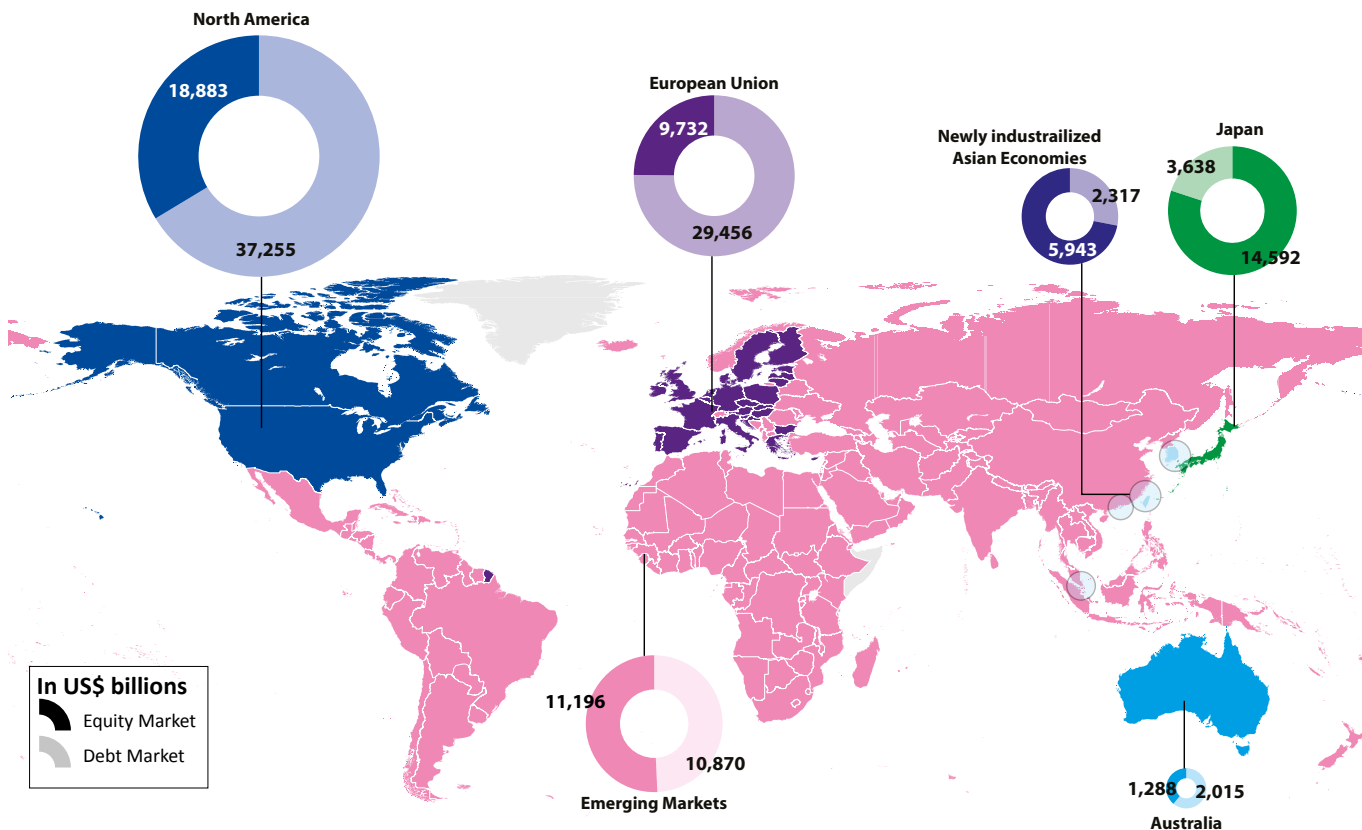
Liquidity describes “the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset’s price. Market liquidity refers to the extent to which a market, such as a country’s stock market or a city’s real estate market, allows assets to be bought and sold at stable prices. Cash is the most liquid asset, while real estate, fine art and collectibles are all relatively illiquid”⁷

The Financial Sector: Growth in assets by type of institution from 2000-2013



Source: Statista (2016)¹⁰

How large are capital markets?



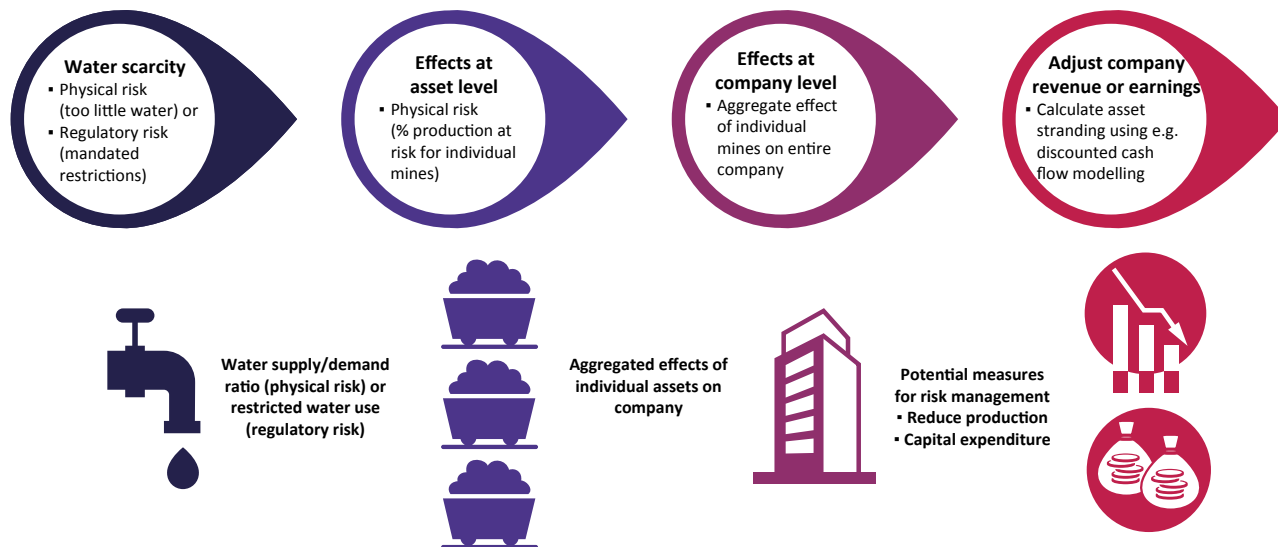
Source: Adapted from Goldman Sachs Interactive Guide to Capital Markets
<http://www.goldmansachs.com/s/interactive-guide-to-capital-markets/>

A rising number of financial institutions have developed environmental policies on a voluntary basis. However, the way the financial system is currently designed, and the way financial institutions currently allocate capital, discourages change – particularly the transformational change to a low-carbon, resource-efficient economy. The inclinations that create this inertia include short-termism and excessive leverage. These tendencies produce fast turnover of profit to pay off debt; and they emerge as significant drivers of instability throughout the economy. In this investment context, longer-term sustainability-related options are ignored in financial decision-making.¹¹

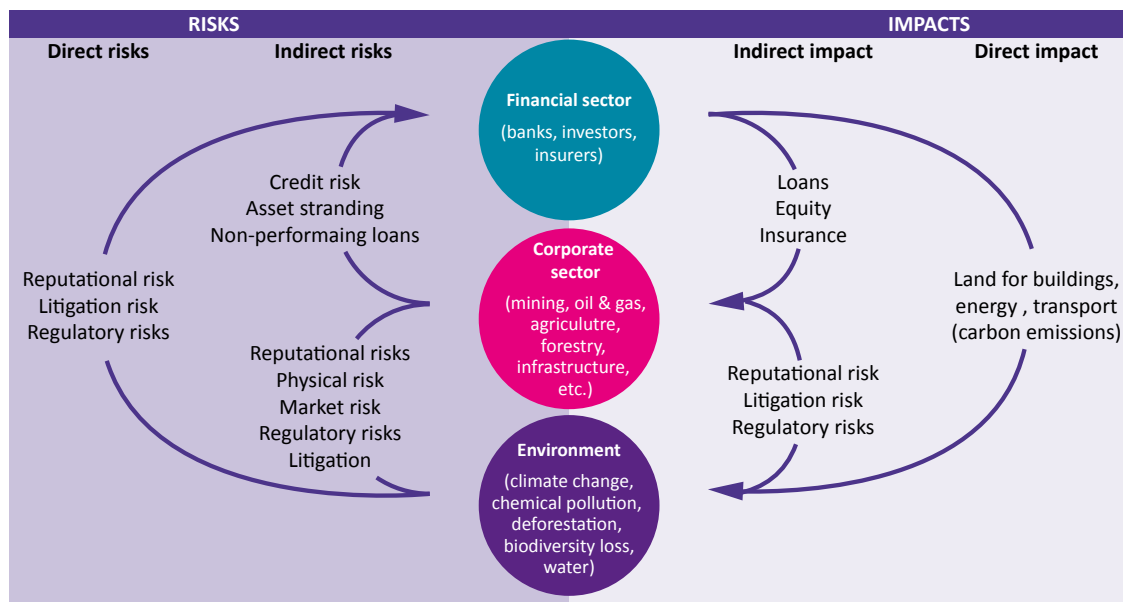
Without changes in regulations and in costs, it is unlikely that the financial industry as whole will transform into a responsible mode. Concerted public-private sector initiatives are needed to encourage financial institutions to shift investments into low carbon, resource efficient, and environmentally sound assets. *Pricing environmental risk* and *regulatory changes* are two important levers to motivate banks, pension funds, and other actors in the financial system to accelerate towards environmental sustainability. Both supply and demand drivers need to be applied to enable a global transition to a low carbon, resource efficient and equitable economy.



Example of risks associated with water scarcity



The interlinkages between the financial sector, real economy and the environment



Levers to align the financial sector with sustainable development

There are multiple ways the financial industry can facilitate the transition to a green economy. Sustainability standards, such as the IFC Performance Standards, are the traditional way for the financial industry to self-regulate on environmental issues. However, additional levers are needed to further stimulate the financial sector to allocate capital differently. Two related solutions are emerging.

1. Pricing environmental risk

A number of initiatives, such as CarbonTracker and the Natural Capital Declaration, are developing models that quantify how the risks of climate change, ecosystem degradation, water scarcity, waste management, and other environmental challenges can affect company revenues. In extractive industries, energy, agriculture, and other sectors, environmental risks can be included in the cost of capital to borrow money or in the market value of public and private companies. Investors who fail to factor in such risks could potentially face legal action for failure to comply with their fiduciary duty.

Consider the fossil fuel sector: the December 2015 Paris Agreement presents a monumental challenge for the global community to shift, systematically and rapidly, away from fossil fuels towards renewable energy. In addition, efforts to reduce emissions from deforestation, forest degradation, and other sources of greenhouse gas must be amplified.

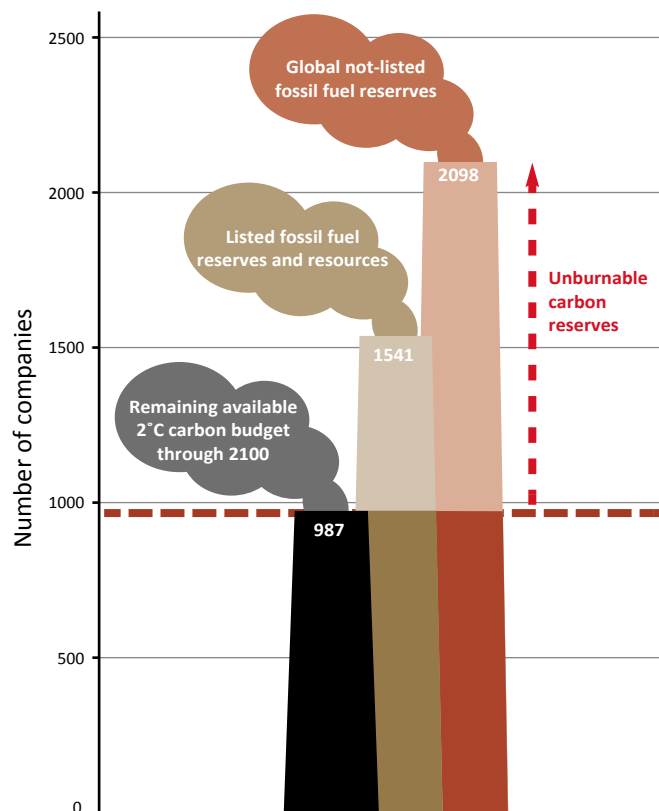
The European Union is committed to at least a 40 per cent domestic reduction in greenhouse gas emissions by 2030 compared to 1990, as outlined in its Intended Nationally Determined Contribution or INDC.¹³ The EU must enhance the process of decarbonisation in major carbon emitting sectors, including energy and transport, by stimulating greater investments in renewable energy technologies, as well as in energy storage solutions. At the same time investments in coal and other forms of carbon-intensive energy generation

become riskier and less financially viable. In other words, these fossil fuel assets could become **stranded assets**.

Stranded assets

Stranded assets refer to investments becoming less profitable due to premature write-down, devaluations, or conversion to liabilities, which could be due to environmental issues²⁵

Fossil Fuel Assets at Risk



Source: Ceres and CarbonTracker (2013)²³
<http://www.ceres.org/issues/carbon-asset-risk>



Water is another natural capital that must be factored into corporate risk assessment. Pervasive drought can strand assets, especially in water dependent industries including mining, energy, agriculture, and food processing. Mining companies worldwide spent about US\$12 billion on water infrastructure in 2014, a 253 per cent increase of the US\$3.4 billion spent in 2009.¹⁴ A pioneering effort by Bloomberg LP and the Natural Capital Declaration enables financial analysts and portfolio managers to integrate water risks in the valuation of mining companies through a discounted cash flow model. The Water Risk Valuation Tool adjusts a mining company's future revenue and costs based on how much production may be affected by water.¹⁵

2. Reforming the regulatory regime

Financing the transition towards more sustainable development will require a redirection of capital flows towards critical priorities, and away from assets that deplete natural capital.¹⁶ Without regulatory changes to the financial system this is unlikely to happen at the scale needed.

Climate change, water scarcity, and other forms of environmental risk do affect the economy and are a potential source of systemic material risk for the world economy. This risk threat in turn can provide the basis to engage bank supervisors, such as the Basel Committee on Bank Supervision, to stress test financial institutions on their exposure to material environmental risks and to identify opportunities for reform to reduce exposure.¹⁷ The 2015 UNEP Inquiry into the Design of a Sustainable Financial System found over 100 exemplary policy measures across 40 countries that facilitate financial system support of sustainable development.¹¹

In China, for example, greening finance is a growing focus through the promotion of green credit, green securities, and green insurance. Green credit has been the key policy for green finance in China's banking-dominated system.¹⁸ In 2007 the State Environmental Protection Administration, the People's Bank of China, and the China Banking Regulatory Commission jointly called on banks to make compliance with environmental laws and regulations a necessary condition for loan approval. As a result green investment in China exceeded US\$200 billion in 2012 or about 2.4% of China's GDP.

While these government initiatives are encouraging signs, more financial regulatory reforms are needed to accelerate the shift towards a green economy. Ultimately this means that the risk-adjusted return of an investment or loan will have to favour environmentally-sound assets.

IFC Performance Standards

The Performance Standards issued by the International Finance Corporation are a set of qualitative environmental and social standards, which are endorsed by financial institutions that cover about 80% of the project finance market effectively creating a level-playing field

Water Risk Valuation Tool

The Water Risk Valuation Tool (WRVT) maps specific mine assets against water scarcity indicators projected through 2030. Water risk is then integrated into the model through two primary pathways:

1. **Revenue:** the value of potentially unextractable ore due to water scarcity can be calculated;
2. **Cost:** a so-called "shadow price" is modeled based on a holistic value of water for citizens, agriculture and ecosystems

Video: Fossil Fuels: A Risky Business?



© Carbon Tracker Initiative

Video Link: <https://www.youtube.com/watch?v=hZOnTKHopS4>

Amplifying and diffusing best practices

Many innovative financial initiatives are emerging. The Portfolio Decarbonization Coalition has engaged 25 institutions in decarbonizing the US\$600 billion worth of assets in their portfolios by redirecting investments from carbon-intensive to carbon-efficient companies. Such developments have led to the rapid expansion of a new asset class, green bonds.

Green bonds are financial instruments to raise capital to tackle climate change and protect the world's natural capital. In 2015, the total value of climate-aligned bonds stood at US\$598 billion, a 20 per cent increase from the previous year.²⁰ Most current green bonds focus on financing low-carbon assets in the transport and energy sectors; however, pioneering efforts targeting the agriculture and forestry sectors are also rising.

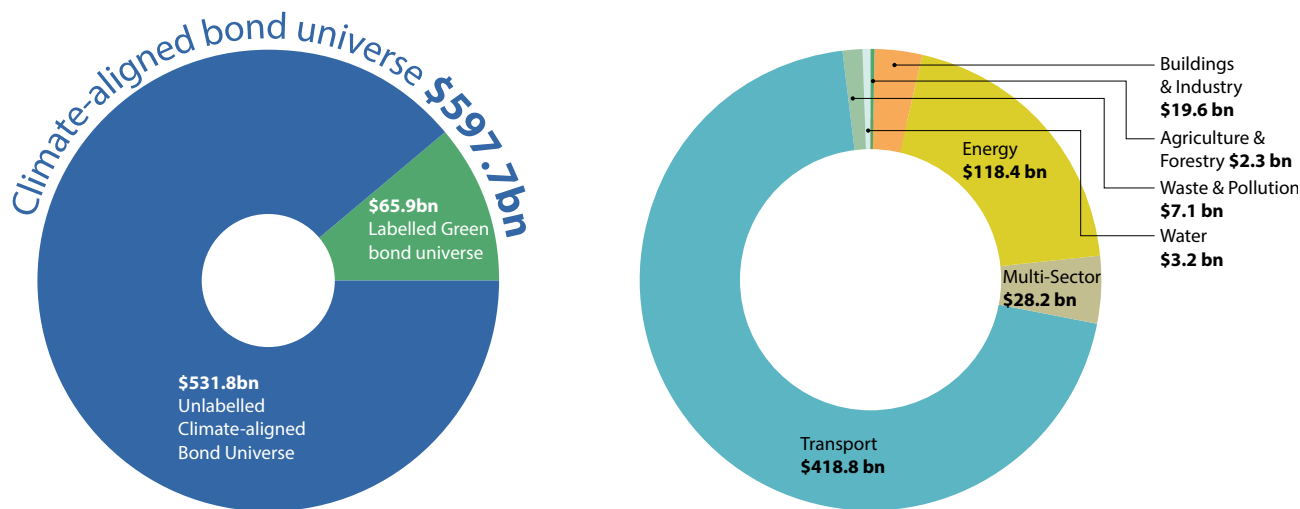
On the banking side, a promising development has been the call for a business-driven approach to finance by the **Positive Impact Manifesto**. Despite existing policy and regulatory misalignments, the Manifesto encourages banks, the broader finance sector, and stakeholders to go beyond risk-based approaches to sustainability and to focus on positive impacts

on the economy, society, and the environment.²¹ Another business-driven development is the proposal from the Financial Stability Board to establish an industry-led disclosure task force to develop voluntary climate-related disclosures necessary for lenders, insurers and investors in assessing material financial risks.²²

2015 may be the year financial markets started their transition towards solutions for sustainability challenges. Many leading individuals and initiatives are guiding financial markets down this path. All of this necessary preparatory work produced widespread recognition that sustainable investing is an essential mechanism, not only to accomplish sustainability solutions, but also to stabilize and maximize financial value.

This is manifesting itself in many ways, with a 'race to the top' of commitments emerging—from Goldman Sachs committing to US\$150 billion of clean energy investment through 2025 to the Bank of America Merrill Lynch US\$125 billion commitment to invest in environmental sustainability. A bottom-up race

Green bonds on the rise



Source: Climate Bonds Initiative (2015)²⁰



is also underway to develop the positive impact investing. Finally, a wave of other interested parties have emerged, from students on campuses campaigning for fossil fuel divestment to members of pension funds demanding more transparency from their fiduciaries.

Continuing to accelerate this transition to a low carbon future must remain in focus, not only through investment practices, but also through policies. For example, if the global economy is dedicating a trillion dollars a year into new infrastructure, it must be environmentally sound infrastructure: Who builds it, with what materials, and to what end determines whether it contributes to sustainable development. To truly work towards sustainable development, efforts must consider not only changing climate, but also address water security concerns, deforestation, achieve ecosystem integrity, establish resource efficiency, foster social equity, and entrench the principles of a circular economy.

Green bonds

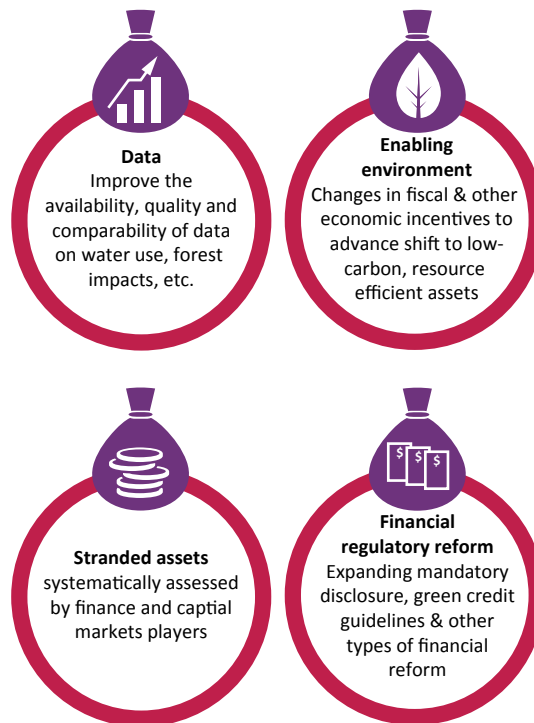
Green bonds refer to a fixed-income financial instrument (bond) that finances low-carbon and resource-efficient activities

Positive Impact Manifesto

The Manifesto provides a roadmap to establishing a new impact-based approach to banking and financing that produces a positive impact on the economy, society or the environment and contribute to the achievement of sustainable development. It is a result of the unique partnership between UNEP and the global financial sector under the UNEP Finance Initiative programme

UNEP Finance Initiative

Created in the context of the 1992 Rio Earth Summit, the UNEP FI works to understand today's environmental challenges, why they matter to finance, and how financial institutions can actively participate in addressing them. The UNEP FI partnership today includes a global network of over 200 banks, insurers and investors from over 50 countries.



Video: Climate change and financial stability speech by Mark Carney, Governor of the Bank of England



© Bank of England
Video Link: <http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx>

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