BRIEFING

Energy&Climate
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Paris climate conference: the business & finance story

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The global transition to a low carbon economy is one of the emerging, and so far under-reported, business stories. Energy sector change is happening fastest in the giant economies, particularly in China, with the UK at risk of being left behind. Regardless of how strong the Paris climate agreement turns out to be many aspects of this global transformation may be virtually unstoppable.

The clean energy transition

Renewable energy used to be considered as marginal and expensive. This is rapidly changing: since 2013 more renewable electricity capacity was added than fossil fuel and nuclear electricity combined. This has been driven by national policies to promote renewables, and a drop in prices for solar photovoltaic (PV) – with the most dramatic fall of around 75% since 2009 – and wind power.

Unilateral commitments that over 160 countries have made ahead of the Paris climate conference could spur an even more remarkable shift to clean energy – a doubling of renewable energy supply in eight major economies, 18% higher in 2030 than previously projected growth rates. But regardless of what is agreed in Paris, over 145 countries have supportive measures for renewables already in place, which is nine times more than ten years ago, according to the IEA's World Energy Outlook 2015. This includes the US, the European Union, China, India and emerging economies such as South Africa, Brazil, Mexico and others.

China already has the world's largest installed capacity of wind and hydroelectric power, as well as the largest installation of solar heating and biogas. In 2013, China installed more solar PV capacity than the whole of Europe. By 2020, China plans to install 200GW of wind energy and 100GW of solar PV. India has a target – unrelated to negotiations in Paris – to install 100 GigaWatts (GW) of solar by 2022, up from about 4GW now.

Private companies are also taking a lead. Amongst them 100 companies including Ikea, Johnson & Johnson, Mars & Nike have committed to powering their operations with 100% renewable energy by 2020.

Financial risk to incumbent businesses and investors

The Governor of the Bank of England, Mark Carney, has spoken of the 'tragedy of the horizons' and called for better disclosure of climate change risk. In his role as Chair of the Financial Stability Board he has proposed to the G20 an industry-led Climate Disclosure TaskForce, modeled on the FSB's Enhanced Disclosure Task Force (EDTF). The Prudential Regulation Authority, in a September 2015 report on the impact of climate change on UK insurance sector, identified three primary risks from climate change on financial sector – physical risks, legal liability risks, and transition risks.

The transition risk: carbon bubble & stranded assets

This ongoing, major process of transformation is already having an impact on high carbon intensity companies. Germany's EON and RWE are making major changes to their businesses models to adapt to the renewable energy transition, while Enel of Italy has recently moved to step away from coal.

There are risks for companies that ignore these trends. Mark Lewis, Head of EU utilities at Barclays Bank, has said that 10 years ago the utility sector ignored the signs of the huge imminent growth of renewables and that many of those utilities lost 60-80% of their value. "Sell side" analysts completely misread the way the market would shift on renewables, he added.

This has been called the "carbon bubble" effect, which can lead to "stranded assets". Stranded assets are those that lose value or turn into liabilities before the end of their expected economic life. In the context of fossil fuels, this means those that will not be burned – they remain "stranded" in the ground because of expectations about climate change policy and regulation. This concept can also be applied to fossil fuel power stations (e.g. coal) retired or mothballed before the end of their economically useful lives.

According to KPMG, the steadily declining cost of solar panels will undermine coal's dominance in the electricity industry in India and as PV installations surge towards the country's target, so the coal sector has to transform and scale back production. Three international coal companies have filed for bankruptcy in the past six months, and the sector is generally seen as undergoing a difficult transition. Peabody Energy, the world's largest private sector coal company, is trading at about 10% of its value a year ago, and about 1.5% of its value in 2011.

Investors are taking notice. Mercer, a leading global provider of investment advice, said that climate-related risk factors should be standard considerations for investors because climate change will inevitably have an impact on investment returns. The report added that average annual returns from the coal sub-sector could fall by 18%-74% over the next 35 years.

HSBC is another mainstream financial institution that believes stranded asset risks are growing. Rating agency Standard & Poor's said in October that climate risks are increasingly impacting

Peabody share price. Credit: Bloomberg

corporate credit ratings, giving the downgrade of Volkswagen as an example. The rating company also identified 299 cases where environmental and climate developments were a significant factor in influencing a revision or rating analysis.

This is one of the reasons the so called "divestment movement" is growing so fast. By September 2015, investors with £1.7 trillion assets under management (AuM) had adopted policies for full or partial divestment from fossil fuels. Other moves by investors include the Montreal Carbon Pledge on carbon footprinting signed by 92 investors with $6tn AuM, while 347 investors with $24tn AuM signed the 2014 Global investor statement on climate change. In May, insurance giant Axa said it would divest from companies most exposed to coal risks, commenting that while "a 2°C world might be insurable, a 4°C world certainly would not be". And Aviva's new strategy is to consult with companies in its portfolio on what they are doing to minimise risks from high-carbon investments, and, if it is not satisfied, to divest.

The legal risk: exposing individuals and companies to liability risks

A major emerging risk is legal liability, or the potential impact of climate related lawsuits. Exxon in particular is coming under fire for its well documented funding of climate denial groups. While major lawsuits such as those that hit the tobacco industry are yet to take off, many legal experts predict that governments and businesses will be increasingly challenged for failing to address climate change. The New York State Attorney recently obliged Peabody Energy to improve its disclosure of climate risks to investors, stating that the company "…has a responsibility to be honest with its investors and the public about the risks posed by climate change, now and in the future".

According to Abyd Karmali, Bank of America's head of climate finance, talk of such litigation risks "*is setting off alarm bells that there could be long tail risks*" for those not incorporating such issues into their analysis".

The physical risks: left unchecked climate change would put asset value at risk

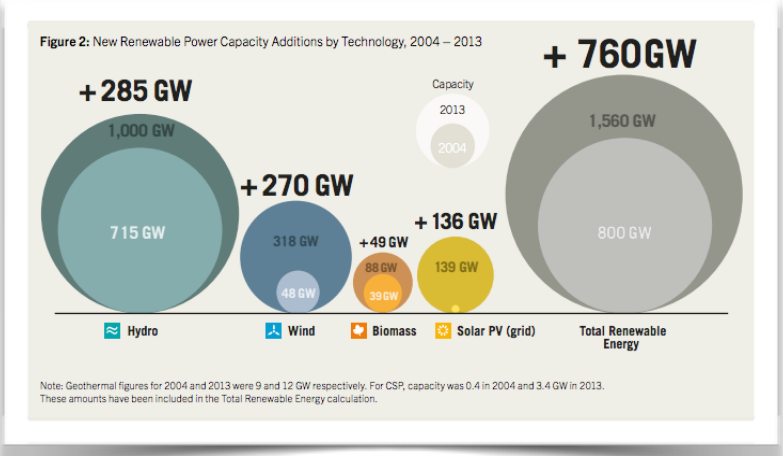
The Economist Intelligence Unit, in a report for Aviva and based on analysis by Vivid Economics, found that by 2100 the value at risk (VAR) from climate change could be $4.2tn in discounted, present value terms – roughly on a par with Japan's entire GDP. Warming of 5°C could result in $7tn in losses, while 6°C could lead to $13.8tn of losses, roughly 10% of global total.

What does it mean for the UK?

The London Stock Exchange has welcomed 24 "green" bonds to its markets, including those denominated in renminbi and rupees. In 2015, the London Stock Exchange launched a range of dedicated green bond segments on its fixed income market. No other global exchange has such a comprehensive offering.

According to a UK government report, the international market for low-carbon goods and services – including alternative fuels, wind power, efficient building technologies, and low-carbon transport – is now worth more than £3.4tn and is growing at 2-3% a year. Agreement in Paris may grow this further, but there is a risk of the UK being left behind.

This is a story to watch. Many new entrants are disruptive and can enact quick change – in a similar way to what has happened in the IT and mobile phone sectors. In developing countries in particular, there is a chance that renewable energy may leapfrog conventional forms of energy, which could change the global energy landscape considerably.



A changing energy landscape. Credit: REN21