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Why renewables are winning the 'carbon war'

Katharine Earley

Katharine Earley speaks to Jeremy Leggett about his views on the rise of renewables.

Jeremy Leggett, University of Oxford (Image courtesy of Solarcentury).

''It's an existential battle of belief systems,'' Jeremy Leggett told a packed audience at Oxford University's Environmental Change Institute, describing the raging 'carbon war' between the respective proponents of renewable energy (the 'insurgents') and fossil fuels (the 'incumbents'). The social entrepreneur and renewable energy expert, who founded solar business Solarcentury and charity SolarAid, went on to share, in an electrifying manner, why he believes that finally, the insurgents are on 'the winning side'. Hurling fact after fact at a relentless pace, he described three major trends in what he said was an epic drama: society mobilising for climate action, the exponential growth of renewables, and the steady decline of the fossil fuel industry.

Catching up with him for Renewable Energy Focus, I asked him about key turning points, the risks and opportunities of the global energy transition, and why he is cautiously optimistic.

''The net sum of these trends is what's encouraging,'' says Leggett. ''Taken together, they are mutually reinforcing. The transition [to clean energy] is also increasingly being called 'irreversible'. Politicians used the word 'irreversible' in Marrakech [to describe global momentum on climate action]. Business leaders, too, including utilities, are increasingly using that word.''

After nearly 25 years in climate change and energy, it was only during the 2013–2015 period that transformational change began to unfurl, he believes. Prior to that, hoping for a breakthrough had felt like ''banging your head against a brick wall''. Vested interests in fossil fuels had made for a prolonged conflict on what Leggett describes as a ''brutal battlefield'', allegedly resulting in the active sabotage of the renewable energy sector by fossil fuel companies. But now, the tables are turning. World leaders have unanimously agreed to move away from fossil fuels this century, a commitment enshrined in the Paris Agreement, the most ambitious global agreement on climate action to date. In this new political landscape, replacing fossil fuels with renewables will be vital in limiting global warming to 1.5 °C.

And with climate risks escalating, air pollution on the rise, and a UN Sustainable Development Goal to ensure that everyone has access to clean energy by 2030, renewables stand poised to take the lead.

So how is the drama unfolding?

Global society mobilising for climate action

The unanimous position among political leaders to accelerate progress towards decarbonisation is momentous, Leggett believes. And the stance of the new US President has only served to galvanise their resolve, with China emerging as a potential leader in the race to secure renewable energy.

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''Politicians are normally unwilling to move ahead of the curve,'' says Leggett. ''They're favourable towards climate action now because they understand the dynamics of the trends at play.''

The action is not limited to politics. All over the world, states, cities, businesses and communities are taking a stand. States are expected to lead climate action in the US, with 33 states cutting carbon emissions while expanding their economies. Cities account for more than 70% of the world's carbon emissions, and with two thirds of the global population predicted to be living in cities by 2050, there is a pressing need for change. Urban priorities include renewable energy in buildings, sustainable transport and smart, integrated energy systems, according to the International Renewable Energy Agency (IRENA). Five major cities have vowed to ban diesel vehicles by 2025, while Copenhagen aims to become the world's first carbon neutral capital by 2025. Additionally, community energy is going from strength to strength, with citizens investing in local, community-owned renewables projects to promote greater self-sufficiency.

In the business world, the RE100 initiative (whose members include Google, Unilever and IKEA) is uniting business leaders in pursuit of 100% renewable energy. Google expects to hit 100% renewable power in 2017, while Ikea has made renewable energy part of its core offering – selling solar panels for residential homes. The furniture giant has vowed to become a net exporter of renewable energy by 2020.

Unprecedented legal cases are also pushing businesses – and governments – to up their game. The Volkswagen emissions scandal triggered legal action from multiple stakeholders including governments, investors and motorists, plunging the disgraced carmaker into its biggest ever loss, with tens of billions of dollars paid out in fines and compensation. Elsewhere, a Dutch citizen-led group won a landmark case against its government, arguing inadequate climate targets, creating a blueprint for citizens around the world.

Importantly, the 'translation' of climate change impacts into measurable financial risks is shining a light on the long-term viability of fossil fuel investments. For example, the 'Carbon cost curves' tool, created by financial think tank Carbon Tracker, helps investors identify the risks involved in oil and coal investments, and avoid 'stranded assets' (fossil fuel resources that lose their value as projects are cancelled to curb global warming). In 2014, Carbon Tracker identified $1.1tn of potential capital expenditure on oil projects up to 2025 that will never see a return, if governments act on their climate pledges. Despite this progress, far greater transparency is needed across the board in order for investors to make pro-climate decisions, according to the G20 Financial Stability Board's Taskforce on Climate-Related Financial Disclosures. Its findings echo the World Bank's and Bank of England's calls for greater disclosure of climate risks and clearer data for investors.

But change is underway, with fossil fuel divestments doubling in just over a year to reach $5.2tn in 2016. High profile 'divestors' include Deutsche Bank and Norway's $900bn sovereign wealth fund, the world's largest. Elsewhere, one of Sweden's largest pension funds has committed to decarbonising its $14.7bn global equity portfolio by 2020. In the academic world, Glasgow University became Europe's first university to divest from fossil fuels in 2014.

Solar becomes the cheapest form of electricity

Solar and wind overtook fossil fuels as the cheapest form of power for the first time in 2016, according to the World Economic Forum. Indeed, unsubsidised solar is increasingly outperforming coal and natural gas in energy 'auctions', finds Bloomberg New Energy Finance, with solar now the cheapest form of new electricity. Importantly, it has fallen below the cost of wind in 58 emerging markets including China, India and Brazil ($1.65 per MW compared to $1.66 per MW), providing a potential springboard for

Solar and wind overtook fossil fuels as the cheapest form of power for the first time in 2016, according to the World Economic Forum (Image courtesy of Shutterstock).