

Report on Historic Climate Change Agreement, Fossil Fuel Divestment & Civil Society Role

Paris, 21st Conference of the Parties: Agreement delivered at 19:20hrs (GMT +1) on Saturday, 12th December, 2015.

Written in Paris, London & Horwich, by Richard A Shirres, 13th - 20th December, 2015



Introduction

All the leading representatives of planet Earth's humanity, acknowledged the science, worked together and, on Saturday 12th December 2015, finally reached agreement on one single document that gives the essence of hope for the future salvation of civilisation. The Agreement is a valuable start. It comes only after a long journey made possible by the unrelenting United Nations organisation, specifically under the UN Framework Convention on Climate Change (**UNFCCC**). Tragically, it was an unnecessarily long one due to fossil fuel corporations impeding the political process and, ultimately, will cost millions of lives in the future due to retarded action.

The understanding of the science began in the nineteenth century with Fourier (1824) and Tyndall (1862), with the implications increasingly affirmed by successive scientists: Arrhenius (1896), Callender (1938), Plass (1956), Revelle, (1957), Broecker (1975). The United Nations' first steps began with the first Earth Summit in 1972, which led to the constitution of the UNFCCC and formation in 1988 of the Intergovernmental Panel on Climate Change (**IPCC**), then two further Earth Summits within nearly two decades, a period that also included twenty Conference of the Parties (**COP**) events as well as production of five herculean scientific reporting stages, culminating in the fifth assessment report in 2013/2014 and the 21st COP meeting in Paris. It was more than 36 years since *The Charney Report*, the first scientific prognosis on climate change and one consistent with later IPCC reports, had been submitted to an American President.

Within that same period, we now know that Exxon Oil scientists also produced an assessment in the late 1970s that predicted, in essence equivalent to the latest IPCC reports, where climate change was headed. Within a decade, that scientific prognosis was not just buried but was undermined and denied by successive executives of Exxon. From the 1990s Exxon, along with many other fossil fuel corporate interests, stoked doubt and debilitated the political imperative to act, aided by a complicit media. For two decades various corporate interests, including the billionaire Koch brothers, bred and infected this doubt and denial of the science amongst both the U.S. public consensus and amongst the UK's politicians, media and wider society.⁵

It is in this recent historical context, of those with power and influence focussing on short-term interests and being antagonistic to humanity's future welfare, that the Paris Agreement should be seen. This is a victory for diligent scientific and strategic endeavour, albeit some decades late.

By 2015, globally the hottest year on record, the clock was already ticking on virulent climate change. The work from years of conferences now culminated in two weeks at COP21 where 195 of the world's countries came to interact, tortuously argue and compromise towards an agreement, overseen by their French hosts. Everyone said this wasn't going to be a replay of Copenhagen's 15th COP15 (2009), when only a vestige of a deal was done. In the first two weeks of December, national delegates and members of civil

societies across the globe all immersed themselves for a common cause to save humanity from runaway climate change. And it all happened at a big exposition shed complex, at Le Bourget, 8km north-east of central Paris. The required COP21 outcome was an agreement to rein-in urgently global greenhouse gases (**GHGs**) emissions and ultimately avoid catastrophic change to the biosphere.

The United States, as might be expected, was particularly active in driving forward an agreement, albeit moderated by the French hosts. Yet, the volunteered 2015 emission pledges from the United States, EU, China, and India imply that, to be consistent with even a 2°C target, the 'Rest of the World' would need zero per-capita emissions by 2030. To understand the U.S. imperative at COP21: of the ten largest economies, the United States has one of the highest CO₂ emissions per capita, in excess of 17tCO₂/p, in contrast to China (7tCO₂/p), India (2tCO₂/p) & EU (6.6tCO₂/p).

Would the Agreement eventually usher in a new world paradigm, where instead the developing world, the majority of mankind, has its future safeguarded, and equitable treatment is assured? The presence of so many environment-championing NGOs and indigenous people groups presumably meant that the over-whelming weight of the rights of the world's poor and politically most weak would not be forgotten. Under the United Nations charter all countries are equal. But to paraphrase Orwell: some nations are more equal than others. Sadly, thus it proved in Paris.

With several versions of an agreement in the closing week of negotiations, wordsmithery was tested as small island states, indigenous people and other people from already climate-changed impoverished lands, pushed back on future 'loss and damages', equity and the need for the under-pinning of human rights. From these voices and the science itself, there would be an implicit challenge to the westernised-centric economic paradigm: an economic model that has already feasted on fossil fuels and emitted unsafe amounts of GHGs. The 'Business-as-usual' model seemed not to be the option.

The challenge came in the form of a simple concept. Mankind now has an extremely limited carbon budget remaining for the future and starkly, as with the sand in an hourglass, the measure of safe remaining budget is fast shrinking. Two thirds of this budget, compatible with a 2°C goal, has already been used. Between 1850 and 2014, the United States alone has used more than 21 per cent of that. According to the IPCC, **the total remaining carbon emissions' budget from 2015 onwards, for only a "likely" chance (ie. 66% or better) of limiting global average temperature to 2°C is now around 860 GtCO₂.** At current emission rates this will be used up in around 20 years. One important note on the IPCC analysis is that 95 per cent of their modelled scenarios assume some degree of unproven industrial-scale application of negative emission technologies (ie. Carbon capture & storage).

The key to operationalising an equitable approach would be to focus on the remaining carbon budget and the

apportionment of responsibilities between historical and future GHG emissions, particularly of the largest economies: eg. United States, the EU, China & India, which account for 62 per cent of global emissions. This scientific framing of the issue, within the Agreement, would have clearly highlighted the unambitious and inequitable pledged contribution of the United States, particularly in consideration of historical emissions. This approach would also have been highly relevant to consideration of 'Loss & Damage' (Article 5). Even 'till 9th December, Article 3 did include a crucial clause about meeting the global temperature goal through, "**Equitable distribution of a global carbon budget based on historical responsibilities and [climate] justice**". However, this and any reference to carbon budget was lost with the final version.

Civil society groups expressed their concerns about the failure to attain a higher level of ambition, and called for all parties to revisit their pledges to reduce CO₂ emissions, as well as to scale up the finance and technology needed to put developing countries on a low-carbon path. The Agreement fell short of **the basic test** laid down by civil society, indigenous peoples and climate-impacted communities, in that the outcome should: **catalyse urgent action, commit adequate finance to support transformation, deliver justice & equity through the share of carbon budgets.**

Yet, if the Paris COP21 had failed to reach a tangible agreement, our tenuous window of opportunity for an effective global response to catastrophic climate change may have been lost completely.

It should not be omitted that during the two week COP21 event, a tremendous range of local governments, businesses, trade unions, NGOs, low-carbon energy companies and International agencies, among many others, held conferences and meetings, serving as an intense exchange network, which will have given rise to and grown constructive synergies.

On December 4th, the Mayor of Paris and Michael Bloomberg, the UN Secretary-General's Special Envoy for Cities and Climate Change – in partnership with the global networks of cities, local governments for climate action and Local Governments for Sustainability (ICLEI) – co-hosted the Climate Summit for Local [city] Leaders. This was the largest global convening of mayors, governors and local leaders ever focussed on climate change, representing 62 countries and 553 million people, or 8 percent of the global population. The 2nd Urban Climate Change Research Network (UCCRN) Assessment Report was presented. This promoted transformative actions for local and sub-national leaders in response to climate science. ICLEI is Europe's and the world's leading network of over 1,000 cities, towns and metropolises and at COP21 reasserted its commitment to advancing sustainable development.

The Agreement: A brief overview

Under **Article 2 [PURPOSE]**, in the context of sustainable development, the aim is to limit global average temperature rise to "well below 2°C" and to "pursue efforts" towards a 1.5°C limit. The Agreement is not explicit about an emissions' trajectory, instead simply stating the aim should be to peak global greenhouse gas emissions as soon as possible. **Article 2** acknowledges the Agreement will be implemented "to

reflect equity and the principle of common but differentiated responsibilities and respective capabilities" of member states.

The Agreement does not call, as a near final draft did, for "reaching greenhouse gas emissions neutrality in the second half of the century," it seems oil-producing countries fiercely resisted this provision. Instead, **Article 4 [MITIGATION]** seeks to achieve "a balance" between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, "on the basis of equity".

Whilst the Agreement recognises the "urgent need" to address the significant gap between the sum of the pledged Nationally Determined Contributions (NDCs) and the total actually required, the Agreement timetable for initiating the review mechanism lacks the urgency needed to stimulate the early action needed up to 2025. Under **Article 14 [GLOBAL STOCKTAKE]**, the first global stocktake of the Agreement is not scheduled until 2023, by which time, as Steffen Kallbekken, Director of the Centre for International Climate and Energy Policy, has explained, "*we will probably have used the entire carbon budget consistent with 1.5°C warming*". Nevertheless, as part of the IPCC reporting cycle, starting in 2018, the IPCC will be in a position to report on the implications of the combined effect of the NDCs. This should transform the specifics of IPCC reporting because it can take account of the politically committed NDCs and, thereby, furnish a more tangible report on the implications of the sum global intent on mitigation.

It is clear though that once the report and review process is underway, albeit from the early 2020s, the requirement for member states, under **Article 4 [MITIGATION]**, to up-date NDCs should work to ratchet up the targets following the stocktake, with peer pressure between states a positive factor. But the significant shortfall in delivery, on declared emissions' cuts, is a serious concern and still a recipe for a 3.0°C plus world, possibly even above 4.0°C plus if climate feedbacks are triggered.

The Agreement does recognize the importance of conservation and enhancement of [carbon] sinks, specifically in **Article 5 [REDUCING EMISSIONS FROM DEFORESTATION]**. Significant recognition is given to the role forests play in offsetting human actions and this helps give a political signal that countries should enact policies for conservation.

The preamble notes the importance of ensuring the integrity of all ecosystems and the protection of biodiversity. **Article 7 [ADAPTATION]** stresses that adaptation needs to consider ecosystems.

For the first time, the term 'Loss and Damage' has been used in an international agreement. This was to meet the demands of the small island states about acknowledging the climate change impacts but it stops short of any mention of liability, due to opposition from westernised countries, notably the United States, with its disproportionate climate legacy from its historical emissions. It is, therefore, focussed on parties to the Agreement averting 'loss and damage' associated with the adverse effects of climate change.

Whilst the Agreement, **Article 9 [FINANCE]**, charges developed countries with taking a lead in mobilizing "urgent

and adequate" finance from diverse sources for climate adaptation and mitigation, the developing and smaller countries were very concerned about the lack of commitment to a specific and sufficient figure, largely to address impacts triggered by historical emissions. Collectively, developed countries only pledged \$19 billion to help developing countries although they did vouchsafe a funding floor of at least \$100 billion by 2020. This was no more than had been discussed at Copenhagen. The scale of funding required for developing countries is probably well in excess of \$600 billion by 2025, which is quite similar to the total subsidies given over to fossil fuel development and sourcing worldwide.

Article 13 [[TRANSPARENCY](#)] establishes that in order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility will take into account Parties' different capacities and will build upon collective experience.

An important omission in the Agreement, despite being included in the draft agreement for Copenhagen COP15, was aviation and shipping emissions. Together these are as large as the emissions of Britain and Germany combined and today account for five and three percent of global CO₂ emissions, respectively. The immediate reaction from Marie Bruun Skipper, deputy director at the Danish Shipowners' Association was, "*It's grotesque to have an industry directly asking to be included in a climate agreement, but which is not allowed to.*" It is understood Ban Ki-Moon has implied these omissions will be addressed at COP22, in 2016.

Under Article 21 [[ENTRY INTO FORCE](#)], the 32 page Agreement comes into force once at least 55 member states have signed up and account for, in aggregate, at least 55 per cent of the total pledged global greenhouse gas emissions reductions of parties to the Agreement. This is expected occur to in April 2016.

[Sample of responses to the Agreement](#)

Kevin Anderson, Deputy Director of the Tyndall Centre for Climate Change Research, shortly after the Agreement was finalised, commented "***It is weaker than Copenhagen' and 'not consistent with the latest science'***"

Hans Joachim Schellnhuber, Germany's advisory committee on climate change and advisor to Pope Francis, quoted in New York Times (Dec13, 2015): "***This is a turning point in the human enterprise, where the great transformation towards sustainability begins.***"

James Hansen, the former NASA scientist, famed for his 1988 insightful testimony before the U.S. Congress warning of climate change, took the view that, "***the idea that the world is 'making good progress' is baloney.***"

Felipe Calderon, former President of Mexico, one of the world's biggest oil producing countries, said, "***From now, on, the smart money will no longer go into fossil fuels, but into cleaner energy, smarter cities, and more sustainable land use.***"

Bill McKibben, of 350.org, tweeted: "***This agreement won't save the planet. It may have saved the chance to save the planet (if we all fight like hell in the years ahead)***"

[Divestment from Fossil Fuels: Now pushing at an open door?](#)

The Agreement emphatically sends a clear signal to the fossil-fuel industry investors. The scientific evidence is that some 80 per cent of the world's remaining reserves of coal, oil and gas must stay in the ground and cannot be burned. In 2014 world coal consumption accounted for 26% of the growth in global emissions, with oil at 41%, gas 11%, and cement 22%.

For global production of fossil fuels, the G20 governments provide, at least, \$452 billion a year in subsidies. Certainly to be consistent with a 1.5°C climate target, the vast majority of existing proven reserves of oil, gas and coal need to be left in the ground. In 2009, leaders of G20 countries pledged to phase out fossil fuel subsidies. According to the International Energy Agency, \$452 billion was almost four times the global subsidies dedicated for renewables in 2013.

In the UK, fossil fuel government subsidies amounted to \$9 billion in 2013 and 2014. The UK is one of the few G20 countries, despite its pledge in 2009, increasing its levels of fossil fuel subsidies. Before COP21, the UK announced severe cutbacks in its support for renewable energy investments, the abolition of a £1 billion competition for carbon capture and storage and the abandonment of its commitment for a zero-carbon building standard. Moreover, recently the UK Government has enabled and provided £170 million of subsidies for numerous diesel generator 'farms' to be created, each falling under a 20MW threshold that avoids EU pollution standards applying. Shale gas, or Fracking, is receiving every encouragement, despite mounting scientific evidence that fugitive emissions from methane (A GHG 72 times more potent, initially, than CO₂) may be significant and, therefore, threaten to exacerbate climate change.

In contrast to this, the Governor of the Bank of England, Mark Carney, has warned in recent speeches about investment in fossil fuels. He endorses the idea that fossil fuel assets could be stranded as governments try to curb global warming. In an October 2015 speech he said, "*The exposure of UK investors to these shifts is potentially huge. Once climate change becomes a defining issue for financial stability, it may already be too late.*" Yet several oil and gas companies argued against the stranded-assets concept because, from their pre-COP21 perspective, it overlooks projected demand for energy, especially in fast-growing developing countries.

Thomas Piketty, the French economist, has said investors should divest from a sector with a business model "*at odds with physical realities*". The divestment movement was already gaining traction well before COP21. It now claims 500 institutions around the globe that are committed to divest \$3.4 trillion in assets from fossil fuels. In England, local authorities Cambridge, Kirklees and Norwich recently passed motions supporting divestment and calling on their pension funds to divest. Amongst UK universities the campaign is also gaining ground with several having committed to divest, others including Durham and Lancaster are considering their positions. Even the UK's Environment Agency (a government regulator) Pension Fund has started to take steps by significantly reducing its fossil fuel investments.

U.S. coal consumption was already falling well before COP21, in the face of changes in power generation performance (efficiency), use of alternatives (natural gas) and renewables (solar & wind). Five years ago the United States burned almost a billion tonnes of coal; now it is close to 850 million tonnes. U.S. coal production is forecast a 3% fall in 2016.

In the United States, on average over the last five years, a coal company has gone bankrupt every month. The second largest U.S. coal company, Alpha, after one bankruptcy and reorganization, was taken off the NY Stock Exchange because its share price fell below \$1.00. The Paris Agreement should render a closing chapter for coal production in the western economies. Coal consumption in China appears to have peaked, with a fall of at least 2.3 per cent over the first nine months of 2015, which is now impacting Australian coal exports.

So what about U.S. oil and gas? The Huffington Post reported in July 2015, "*Federal banking regulators have begun warning lenders that many of the loans made to drillers at the height of the shale rush must be treated as "substandard"*".

A recent analysis by Chatham House, London, suggested, "*Even before the 2014 oil price collapse, equity investors were concerned that, with few exceptions, many companies in the oil sector were heavily committed to high-cost projects for which they had a poor record of execution.*"

As oil prices fall (as of writing, Brent Crude is trading below \$40 per barrel), companies are relentlessly cancelling investment projects. Canadian tar sands now have to confront what seems to be an unsympathetic policy environment from the new Trudeau administration; it was the Canadian minister in close-door session at COP21 who helped champion the 1.5°C aspiration. For North Sea Oil, HMG Treasury now expects a paltry £130 million income for 2015/16, down from £2.2bn in 2014/15 whilst four years ago it was close to £11 billion.

There continues to be plenty of cheap to pump legacy reserves, indeed storage is becoming a constraint. But the capacity to replace this oil is being crippled by low returns. The global oil distribution infrastructure, including refineries, needs constant expensive maintenance. The trend of the ratio of: the investment needed per unit of energy, is only likely to go upwards, especially as alternative investment futures in renewables starts to grip the market; an example being the foremost leadership of China's huge \$83.3 billion (2014) investment programme.

Thus, worldwide before COP21, there were already signs that investment was beginning to shift out of fossil fuels, initially the Agreement will serve as a modest catalyst. But further accelerants to the transition are needed before 2020 to provide the best hope of meeting even the climate target of 2°C. Citizen engagement, in helping to promote divestment, is increasingly an effective way to influence that change.

Staving-off Catastrophic Climate Change: the role of the 21st Century citizen

Behind the Agreement, there are unjustified hidden premises about unproven 'negative emission technologies' (eg. Carbon

capture & storage), which underpin any prospect of a 1.5°C goal in the absence of early aggressive measures. By the time of COP21, 188 countries had submitted their *ad hoc* intended NDCs. If delivered, these still imply a global average temperature rise of around 3.5°C by the end of the century; always remembering that 2100 is not the end of the story. With such a temperature rise the risks begin to loom large of triggering serious exacerbating feedbacks to the climate system. Yet, a 3.5°C rise will be catastrophic.

If every person on the planet - especially those with any political, managerial or technical influence at all - could actually grasp what a +3.5°C world would look like, with all its implications: the extremes of weather, the built-in sea level rise, the ocean acidification, the land degradation, mass species extinctions and, above all, the human impoverishment: food insecurity, people displacement on a massive scale and loss of life, how exactly would that change us? Is our own steadfast myopia destined to drag civilisation towards catastrophe?

At a citizen level, the 21st Century civil society mission now must be to engage with one another about the future we actually do want. Our modern system is still one geared up to deliver climate change and, at best, simply the management of environmental degradation. The Agreement in Paris is, perhaps, the first step to changing the system, perhaps even one that delivers an equitable approach to decarbonisation. The more we can take possession of the problem, the more hope we have. Whilst we can all choose to consume in ways that minimise our carbon footprint, it is the decisions of our politicians and government bodies that can lock us into communities of high-energy needs that, in turn, feeds the fossil fuel consumption.

Every citizen is now faced with climate change by stealth. If we respond with wishful passivity it is no longer consistent with civilisation. We truly need to confront our plight before we will act. Discussing the possible futures that the science foretells must not be taboo. As a citizen of the 21st Century, the mission must be to understand and do whatever an individual can reasonably do: to consume less, to engage with others, to influence for change, to make it happen, differently, and above all ecologically sustainably. The imperative for the fundamental transition away from fossil fuels is now urgent or, perhaps, in hindsight the right word instead will be 'desperate'.

There's a very apposite quote from Martin Luther King Jnr. "***We are now faced with the fact that tomorrow is today. We are confronted with the fierce urgency of now. In this unfolding conundrum of life and history, there 'is' such a thing as being too late. This is no time for apathy or complacency. This is a time for vigorous and positive action.***"

At the Paris demonstrations, on 12th December 2015, one 100m long banner read: 'It's up to us – keep it in the ground'. And clearly, it is up to us: whether we forsake the future and betray those that passed before, or we confront the truth of our situation and strive for a future our recent ancestors would have seen the sense to make a stand and fight for.

