FOUNDATION FOR DEMOCRACY AND SUSTAINABLE DEVELOPMENT

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Democracy in the face of climate change: exploring the present, 2050, and beyond

Report

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Overview

Progress to avoid dangerous climate change will depend on actions at every level of government, and by multiple political and social actors. Democracy, in both politics and society, is an essential part of enabling this shift, providing the means for all actors to realise their potential to contribute effectively, and offering transparency and accountability as parts of the system's core characteristics.

This report provides a resource for anyone who wants to play a role in the process of rethinking the relationship between democracy and climate change. It summarises and updates the analysis in five FDSD papers from early 2010 to early 2012 (all of which are available on the FDSD website). The papers explore the relationship between democracy and climate change, as well as the drivers of change that might impact on that relationship over time. The papers conclude with four scenarios for the future of democracy in the face of climate change up to 2050 and beyond. This storytelling approach about possible futures can be used imaginatively to enable strategic planning, and better decisions by concerned individuals and organisations.

The review of the relationship between climate change and democracy found three main implications:

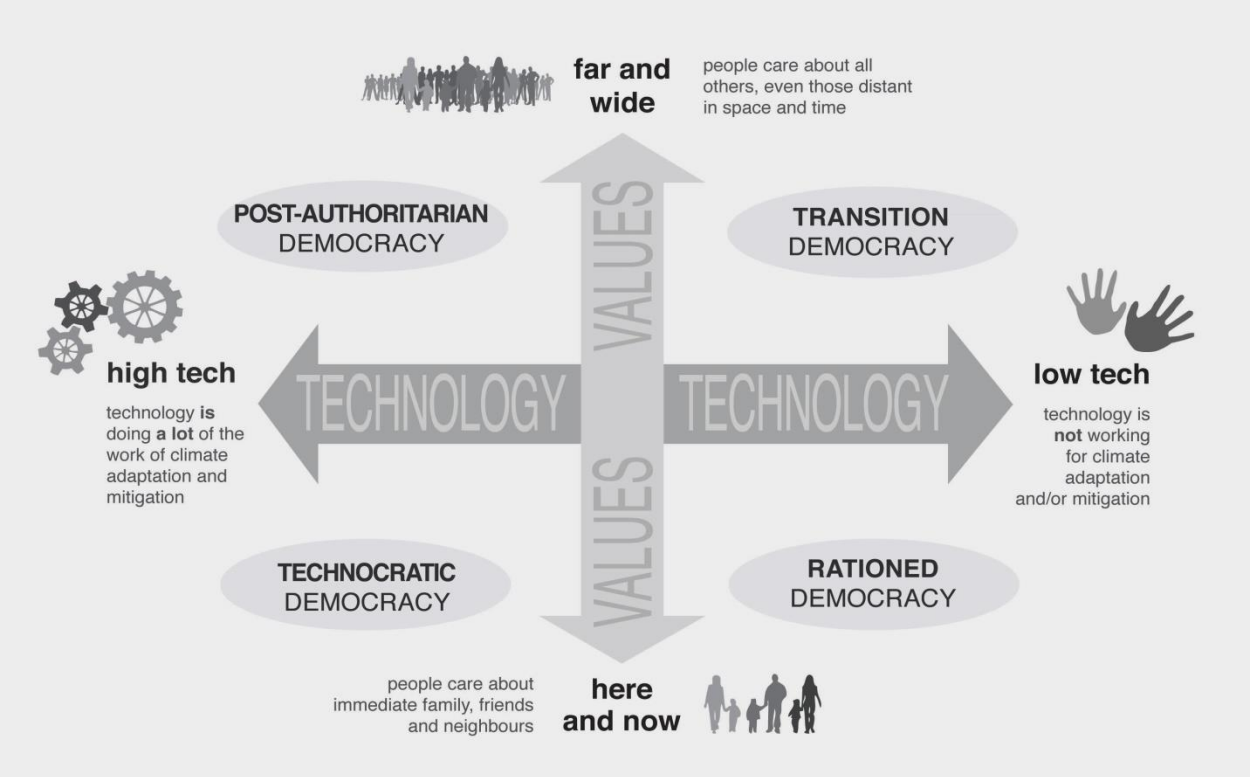
- that climate change could put democracy under strain because the negative impacts of climate change have profoundly disruptive economic and social implications;
- there are significant tensions between democracy as it is currently practised and effective action to forestall climate change. These include:
    - short-termism;
    - exclusion of un-represented interests;
    - the close connection between liberal democracy and economic liberalism;
    - the challenges of providing space for expertise and science;
    - and, managing trade-offs across multiple levels of decision-making.
- whether a climate crisis triggers widespread erosion or even collapse in democracy, or instead improves and accelerates democratic practices, will depend on a wide range of drivers aside from climate change.

The four scenarios for the future of democracy in the face of climate change are anchored in two drivers of change which have both highly uncertain trajectories, and significant impacts on the question of how democracy might evolve to cope with the challenges of climate change by 2050 and towards 2100. The two drivers of change are: the relative extent and availability of **effective technology** to mitigate and adapt to climate change; and the kinds of **values** in society that are most prevalent, particularly with respect to the future and caring for other people, ranging from short-term and narrow, to long-term and wide (see Diagram 1).

The four scenarios are:

- **Rationed democracy** – 'here and now' values; technology isn't working for climate adaptation and/or mitigation
- **Transition democracy** – technology isn't working for climate adaptation and mitigation; but people's values are 'far and wide', caring about all others, even those who are distant in time or geography
- **Post-authoritarian democracy** – technology is doing a lot of the work of climate adaptation and mitigation, and values extend to those distant in space and time
- **Technocratic democracy** – technology is doing a lot of the work of climate adaptation and mitigation, but values are 'here and now', with people caring principally about immediate family, friends and neighbours

Diagram 1 Scenario framework on the future of democracy in the face of climate change



Graphic: Joe Short for FDSD

We also wrote stories to illustrate these scenarios which result from the interplay between the two dimensions of technology impact (from 'high technology' to 'low technology'), and values ('here and now' to 'far and wide').

These stories, which you can download and read in full through the links below, are told from the point of view of characters, from an imagined 2050, thinking about their world, what lies ahead, and what could have been.

Rationed Democracy

Possible future: The world did little to mitigate climate change and has had to deal with its effects without developed adaptation capacity. Resource scarcity and climate refugees have triggered a huge rise in nationalism and protectionism around the world, and this fuels further conflicts. Many countries have abandoned democracy entirely. Overcrowded cities are squalid and lawlessness is rife. Central government, in what remains of the UK, has been scaled back. It confines itself to administering rations to meet basic needs through a variety of external 'expert' agencies, each nominally headed by an elected representative. Community decision-making is fragmented, and, whilst community democracy committees exist, they are unable to manage trade-offs between neighbouring communities, let alone the global impacts of their decisions. There are glimmers of hope though, even in this worst case scenario. In the aftermath of the worst rioting ever seen across the islands of the UK, a Minister for Future Generations is appointed. Her mandate is to encourage people, politicians and businesses to focus on the long-term and to drive positive efforts to build a better future.

Story from the future: Septima Tulisa, a newly appointed Minister for Future Generations urges young people in the present to take steps now to avert the 2050 future from which she has travelled back in time. The scenario was delivered as a speech at a TEDx event on Intergenerational Justice and Future Generations on 20th November 2011, Universal Children's Day. Whilst in some respects it is a 'worst case' scenario, it also represents a point at which Septima's society might shift from 'here and now' to 'far and wide' values.

You can watch a video of Septima Tulisa's speech and read the transcript.

Post-authoritarian democracy

Possible future: Against a background of austerity and an enforced shift to technocracy in parts of Europe, political leaders recognise that tough measures to mitigate climate change are essential. They are prepared to lead the way even without public support, and frequently make use of climate crisis rhetoric, but significant conflict results from the authoritarian tendencies of this period. A transition to low-carbon infrastructure is secured through state-backed investment vehicles, and a global tax on currency transactions resources further investment. As governments emerge from authoritarianism with economic recovery, a values shift gradually takes shape, supported by a revival of public faith in democracy. Civil society and some charismatic political leaders provide leadership on simple living. The new cultural values sustain a next generation of investment in mitigation and adaptation and significant advances are made through open source innovation that is based on a belief in the values of blended civic and technological innovation. Gradually, carbon-intensive activities are driven underground. But by 2050 a revisionist 'gas guzzlers' movement has begun to build which threatens to undermine progress on climate change over the coming period.

Stories from the future:
Voice One: an enthusiast's story. This narrator feels lucky that global climate catastrophe has been averted through a combination of environmental technology and shared commitment to ensuring that future generations do not inherit a catastrophically overheated planet. Business advocacy on climate change made a period of climate authoritarianism in Europe possible. Many decisions are now taken on the basis of bioregional governance; the limit on the maximum working week has been lowered; and regional government has mushroomed, alongside clear rules on where to site key infrastructure. It is a society, though, that hasn't fully dealt with the legacy of inequality built up in the early years of the 21st Century, and refugees do not have full rights of participation. Tough decisions also lie ahead on who lives longest. With 'tranhumanism' on the horizon, who will count as a 'person'?

Voice Two: a critic's story. The second narrator is 'completely sick of the eco-fascists who seem to think they can dictate everything'. He has been in and out of employment, from automotive engineering to stressful work as a traffic warden, and sees climate change as a massive scam. Our narrator reveals that he is a member of a secret gas guzzler's club, part of a movement that is preparing to 'play the eco-terrorists at their own game'.

Transition democracy

Possible future: This is a world that has witnessed a massive shift in values triggered by the aftermath of multiple financial and sovereign debt crises. The early years were difficult, and there was significant unrest and a rise in 'guerrilla' social movements as public investment was withdrawn. By 2050, constitutions and decision-making processes have substantially reformed, and the focus is on community-level decision-making. Whilst local government appears absent in day to day life there are plenty of opportunities for local decision-making and city mayors to exhort residents to take action and lead by example. Businesses have become hubs for democratic engagement and consciously work for social goals. Global governance has also evolved to allow greater opportunities for direct citizen engagement, particularly through mechanisms for multi-stakeholder expert groups to contribute alongside governments. International decision-making by governments is now restricted to a few key areas. But there is still a real possibility of a mean temperature rise of 3^0C by 2100. And there are also significant questions about whether shared values and community cohesion will survive the rationing and the increase in climate refugees that are on the horizon.

Story from the future: Frances, from the UK, has worked for not-for-profit organisations for most of her adult life. She reflects back on the changes she has seen in global governance, geopolitics, values and the state of national and community democracy: *"whilst our hard technology for dealing with climate change … hasn't evolved hugely, our social technology has come on in leaps and bounds"*. For the past year everyone has been paid an allowance for a day so that they can participate in their local 'House of the Future'. Frances concludes by sharing her worries about the immediate future. Older people remember the bad old days when markets dictated what happened, but her society now may not be making the most of the innovation potential of business. There is no guarantee that current shared values will be sustained, and she worries that somebody could try to push change from the top.

Download Frances' story.

Technocratic democracy

Possible future: This is a world in which eco-technocrat elites and their business backers dominate politics and the practice of democracy. There is a huge emphasis on tackling climate change through big technology fixes. These include geoengineering, partly financed through military budgets. There is no going back on this huge experiment with the earth's systems: no-one can be sure what would happen if geoengineering were halted and the impacts are hard to prove, despite massive investment. Voter participation in democracies is at an all-time low, though formulaic opportunities for direct 'customer-feedback-style' engagement abound. Economic and social crises dominate everyday politics. Experiments in sustainable living have failed to gain ground in the world's affluent countries. Meanwhile, a powerful Global Environmental Innovation Panel issues highly contentious technology investment rulings which are binding on governments. Mean global temperature rise is at 2^0C above pre-industrial levels. The prospects are for anywhere from 3-5^0C by 2100, depending on the effects of geoengineering.

Story from the future: Dmitry, who is approaching seventy, is a Russian energy diplomat. He looks back on his international career as he contemplates joining a Global Environmental Innovation Panel. The global population is approaching 9 billion, and migration has generated multiple crises. China and India have suffered significant climate-related agricultural losses. Dmitry reflects on these and other climate impacts, and the resource nationalism of the 2030s. Political long-termism in Europe was sustained by multiple long drawn-out crises delivering successive coalition governments. Geoengineering began to be the new oil in the 2020s (with opposition quickly stifled), and carbon trading took off in the 2030s as carbon prices increased. Dmitry looks to the UK, where he studied, and where *"there's a lawlessness in the badlands of coastal Essex and parts of Suffolk that…erupts from time to time".* For the immediate future, nations are desperately looking for guaranteed techno-fixes. Power stations based on nuclear fusion are only about ten years away, led by China, and with Turkey and Germany a few years behind. In Europe, 'consumer democracy' reigns. People are as sceptical about local politics as national. India is one of the great hopes if democracy is to survive a worsening climate crisis, but there are huge challenges convincing a sceptical electorate of the benefits of climate mitigation measures.

Download Dmitry's story.

Introduction

In October 2010, a group of 33 Chilean miners emerged from more than two months' incarceration deep under the Atacama Desert following a cave-in at the gold and copper mine where they had been working. Foreman Luis Urzúa revealed that they had used a system of democratic decision-making during their ordeal. *"You just have to speak the truth and believe in democracy,"* he said, adding *"[e]verything was voted on. We were 33 men, so 16 plus one was a majority."*[1]

It seems that there is something enduring about the idea of democracy. But this dominant organising political system of the twenty-first century is now under pressure. Its take-up hasn't accelerated in the way many anticipated when the Berlin Wall fell a quarter of a century ago.

Sclerosis puts existing democracies at risk. What's more, democracy's antitheses are on the rise in parts of North Africa, the Middle East and Africa. The promise of the Arab Spring has not delivered greater democracy. In democracies of Europe and North America, electorates are disappointed by their experiences of democracy. Crime is corroding democracy in Latin America. In sub-Saharan Africa, the Economist Intelligence Unit in 2015 judged just one sub-Saharan country, Mauritius, to be a full democracy at the end of 2014. Only in Asia and Australasia has democratisation made significant progress over the past decade – with China a notable exception (Economist Intelligence Unit, 2015).

Climate change will create new stresses for democracy, because its negative impacts have profound economic and social implications. The aftermath of the 2008 financial crisis in democracies of Western Europe showed how even modest economic slow-down can disrupt democracy. Responses to terrorism in democracies demonstrate that restrictions on civil liberties can be a response to crisis.

Climate change-induced floods, storms and drought, crop failures, new disease and pest vectors, homelessness, economic and physical displacement, economic turbulence, unemployment, and new distributions of poverty may all be part of democracy's possible futures. There is almost no field of human endeavour that is immune from climate change impact. The risk is that it will be the most vulnerable and marginalised people, who democracy promises to empower, who will bear the brunt of the worst impacts.

From late 2009 to early 2012, the Foundation for Democracy and Sustainable Development worked to answer the question: *'How might democracy and participatory decision-making have evolved to cope with the challenges of climate change by the years 2050 and 2100*?' The result was a series of stories (or scenarios) about possible democracy and climate change futures. This report revisits that work, summarising and updating some of its key insights.

The present can only offer the faintest guide to what may lie ahead. Scenarios shine a light on 'what might be' not 'what will be'. They can inspire and provoke. Within organisations or networks they can help strengthen strategic planning, and stimulate efforts to build the skills and capabilities to chart a clear course through turbulence and uncertainty. Then what is desirable can become possible.

[1] See http://www.guardian.co.uk/world/2010/oct/14/chile-miner-luis-urzua-interview, 14th October 2010.

On climate change

The work of the Intergovernmental Panel on Climate Change (IPCC) is an anchor for getting to grips with the 'climate science' side of the evolving relationship between democracy and climate change. The most recent IPCC report, its Fifth Assessment Report, was published in 2014 (IPCC 2014). This concluded that *"warming of the climate system is unequivocal"* with many observed climatic changes *"unprecedented over decades to millennia"*[2] and that it is *"extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010"* was caused by human activities.[3]

The Fifth Assessment Report incorporates a series of four plausible greenhouse gas concentration trajectories to guide decision-making. Key variables are population size, economic activity, lifestyle, energy use, land use patterns, technology and climate policy. In the worst trajectory, average global temperatures might increase by as much as 5.4^{0}C by 2100 relative to a pre-industrial baseline of 1850-1900. If this is alarming, it is also important to note that the range of temperatures represented by a *global* average may also mean significantly higher increases in some parts of the world. At the high end, temperatures would bring impacts that the IPCC says can, with high confidence, be projected to be associated with substantial species extinction. [4]

Warming of a further 0.3-0.7^{0}C above 1986-2005 levels is likely to be already wired into the climate over 2016-2035 as 'committed warming' due to the time-lag between emissions of greenhouse gases and warming effects.[5] By the middle of this century, however (the stopping-off point for FDSD's 2050 scenarios), temperature increases will be substantially affected by today's emissions choices.[6]

One consequence of this lag is that any climate impacts in scenarios for democracy and climate change by 2050 are affected to only a relatively limited extent by today's policy and behavioural choices. By 2100, however, climate impacts and outcomes depend quite substantially on choices made now and in the coming years. In turn that means that shifts in the practice of democracy could have major impacts on climate change over the medium to long term.

Many scientists consider that even a 2^{0}C average increase in temperature is potentially insufficient to prevent dangerous consequences. A 1.5^{0}C target is supported, most emblematically, by small island states that are amongst the most vulnerable to climate change.[7] Its achievement would require decarbonisation to the point of zero net emissions by 2030-2050, putting great pressure on technology to deliver.[8]

In the extreme situation of warming above 5^{0}C, scenarios for the future of *democracy as a political system*, as distinct from a system of social organising applied by a few survivors, would probably need to include the story of its disappearance by 2100. This possibility has not been included in the FDSD scenarios but it is one that is worth thinking about.

Many aspects of climate change and its impacts, such as sea level rise, would last for centuries beyond efforts to stabilise global mean temperatures.[9] Scientists also worry about climate change triggering various kinds of 'tipping points' or critical thresholds in ecosystems with dramatic and

[2] IPCC 2014, SPM 1.1
[3] IPCC 2014, SPM 1.2
[4] IPCC 2014, SPM 3.2
[5] IPCC 2014, SPM 2.2
[6] IPCC 2014, SPM 2.2
[7] See for example http://allafrica.com/stories/201512161242.html
[8] See e.g. http://edition.cnn.com/2015/12/08/opinions/sutter-1-5-degrees-climate-cop21/index.html, and http://www.theguardian.com/environment/2015/dec/14/eu-says-15c-global-warming-target-depends-on-negative-emissions-technology
[9] IPCC 2014 SPM 2.4

unforeseen effects, such as sudden gas releases from the huge reservoirs of methane stored in rotting vegetation and peat under the earth's permafrost.

According to Climate Action Tracker, an online tool which tracks countries' climate mitigation commitments, policies in place at early December 2015 are projected to reduce baseline emissions and result in about 3.6°C warming above pre-industrial levels. Adding in unconditional pledges or promises that governments have made as of 7 December 2015 would limit warming to about 2.7°C above pre-industrial levels.[10]

On Democracy

The essential idea of democracy is that people, collectively and at different levels from local to national to international, govern themselves. Democracy's promise is to empower all people, wherever democracy exists, to make meaningful choices in dignity about the course that their lives take. This 'rule by the people' can be supplemented by 'of the people' and 'for the people'; lending democracy both its representative dimension, and an ultimate objective.

FDSD's work on democracy and climate change asked: '*What democratic system would be most likely to deliver effective climate mitigation and adaptation"*? And whilst FDSD is primarily concerned with democracy as a political system, its future will also depend on how democracy works in society, between people in day-to-day life and within, for example, businesses and voluntary organisations.

One helpful way to think about the differences between democratic political systems, is the balance in each between representative and direct democracy, as well as the relative inclusion of various forms of public participation and deliberation. The idea of participatory democracy stresses the need for participation. But it doesn't generally address how best to ensure that participation is adequately secured, and that participants are adequately informed. And it has generally not addressed the barriers to participation in public life (Held, 2006). A body of work on the idea of deliberative democracy offers important contributions here (see for example Smith, 2003). Deliberation is particularly relevant to climate change because it offers a potential response to the challenge of finding space for expertise, and science, without compromising the idea of 'rule by the people'.

Deliberative democracy is just one response to a number of systemic flaws in democracy that are not specific to climate change. As John Keane (2009) points out, democracies are plagued, in their actually-existing forms, by stagnation and complacency. Formal equality before the law (even where it exists) isn't matched by equal access to public goods, such as education, that enable effective participation and deliberation. Elites capture decision-making spaces and lack of transparency means they can continue to do so.

For all its flaws though, there need be no apology for borrowing Winston Churchill's much-quoted insight that *"democracy is the worst form of government except all the others that have been tried".*[11] Democracy breeds possibility. It is the best, although often clumsy, political system so far devised to enable humans to make well informed and accountable decisions, and to arrive at accommodations among competing values and ideas. It is the best available form of government. It also makes development more likely (Sen, 1999), though democracies don't consistently outperform dictatorships in achieving economic growth (Keane, 2009).

[10] See http://climateactiontracker.org/global.html (visited 1 January 2016)
[11] The Official Report, House of Commons (5th Series), 11 November 1947, vol. 444, cc. 206–07. Available online at http://hansard.millbanksystems.com/commons/1947/nov/11/parliament-bill#column_206

Democracy offers spaces for feedback far more effectively than authoritarian systems that can be flawed by self-deception (Runciman, 2013). Citizens in democracies enjoy freedoms which allow them to express their concerns over environmental protection or degradation, to influence political processes, and to hold elected representatives to account. No alternative political system currently in play is a serious competitor to democracy when it comes to enfranchisinge the weakest people in any given society.

However democracy, let alone the ways in which it is currently practised, is not universally supported within the climate change or scientific communities (Stehr, 2015). In a 2010 interview, for example, James Lovelock, one of the pioneers of geophysiology, amplified ideas in his book *Revenge of Gaia* (2006) when he argued that: *"even the best democracies agree that when a major war approaches, democracy must be put on hold for the time being. I have a feeling that climate change may be an issue as severe as a war. It may be necessary to put democracy on hold for a while."*[12] A 2007 book by David Shearman and Joseph Wayne Smith – *The Climate Change Challenge and the Failure of Democracy* – argues that authoritarianism is inevitable and should be made to work for humanity as a whole. The authors contend that the future lies with 'eco philosopher kings', and an education system that will convey *"knowledge on sustainability – correct, uncensored, unedited, and scientifically correct knowledge"* to provide "*the technocratic leaders of the future"* (Shearman and Wayne Smith, 2007).

More autocratic political systems won't be better than democracies at climate action, but the risk is that they could give the impression that they are. Autocratic rulers can, for the short-term at least, given a relatively stable setting, simply overrule dissent to take a long-term perspective, adopt policy approaches that hold back economic growth, or keep scientific evidence and any discussion of it away from the people. But it is hard to think of any modern regime, whether authoritarian or autocratic, that has shown itself capable of doing all these things for any prolonged period of time without people's backlash.

Tensions between democracy and climate change

Some political challenges associated with climate change will exist *whatever* political system is in play. But four sets of tensions are particular to the relationship between liberal democracy and effective climate adaptation and mitigation (see also Westall, 2015).

The first concerns **the short-termism of liberal democracy and the associated difficulty that it has in accounting for unrepresented interests and needs**. The fact that climate change impacts are considerably dispersed in space and time can easily take the urgency out of effective action and reinforce free-riding or the belief that 'someone else will do it'. Climate changes impact well beyond relatively short-term electoral timetables. Political parties proposing radical action now are easily outvoted by those proposing action later, or not at all. The reality of relatively short election cycles means that effective political action on climate change demands sustained cross-party consensus over many decades.

Closely related to the problem of short-termism, liberal democracy can struggle to take proper account of the needs of future generations and the interests and needs of people without a vote. Many (even most) people who are likely to be affected by climate change do not have a vote in the spaces or moments when preventive action needs to be taken; because they are too young, or not yet born, or they are too far away from decision-making power.

[12] See http://www.guardian.co.uk/environment/blog/2010/mar/29/james-lovelock

A variety of formal institutional and policy responses have emerged as ways to address such issues. For example, Hungary's Ombudsman for Future Generations addresses a wide range of environmental and associated social issues through investigation of complaints, litigation and research. And in 2015, the Welsh Assembly adopted the Well-being of Future Generations (Wales) Act 2015, with a Future Generations Commissioner appointed by the Welsh government[13] who is charged with acting as guardian for the interests of future generations in Wales and supports public bodies as they work towards wellbeing goals (see Smith, 2015).

The second set of tensions arises out of the fact that **liberal democratic ideals are closely connected to economic liberalism**. Technology-based approaches to climate change that could allow current economic models of consumerism to continue to flourish appear seductive to elected representatives because they don't require the values shift, or need the high degree of political intervention, to make huge shifts in behaviour. At their most extreme, big technology fixes might see geoengineering implemented on a large scale to remove CO_2 from the atmosphere (for example by introducing iron or other scarce nutrients into the upper ocean, increasing the growth of photosynthetic algae which take up CO_2 at the oceans' surface) or to manage solar radiation (for example by positioning shields or deflectors in space to reduce the amount of solar radiation reaching the Earth).

It can be hard to imagine democracy without the promise of continuous improvements in living standards. But, given the possibility that technological innovation alone may fail to come up with effective responses to climate change, dramatic lifestyle changes may be precisely what *is* required to mitigate and adapt to climate change.

The third set of tensions is that of **retaining and nurturing an active commitment to vibrant democracy whilst allowing expertise, and science, space to offer insights and inform policy**. Participatory and democratic decision-making is more difficult where science is uncertain, or where available scientific evidence challenges deeply held cultural values (such as those associated with consumerism which means that vast numbers of people are 'the problem'.) Climate scientists under the media spotlight have not always been the best advocates for their own work. These considerations, coupled with the problem that representative democracy rarely provides opportunities for meaningful deliberation, and voting publics and their representatives don't always place scientific evidence centre-stage when making decisions, mean that evidence alone cannot resolve tensions between democracy and climate change. Happily, experiments with the application of deliberative processes to issues of climate change, such as the Alberta Climate Dialogue,[14] are now showing real promise (see Kahane, 2016).

Fourth is **the challenge of scale**: how to ensure that trade-offs and synergies between local, national and global decision-making add up to more effective action on climate change, not simply the chaos of a poorly connected complex system. Globalisation renders national politics less significant, with a tendency to narrow the effective range of policy options and identities offered by the main political parties. Equally, poorly visible and uncoordinated local *or* national level action without a sense of broader connection to climate-impacted communities and individuals wherever they are, is unlikely to deliver change on the scale that is required.

[13] See http://www.fdsd.org/sophie-howe-appointed-first-future-generations-commissioner-for-wales/, 4 November 2015 for a comment
[14] See http://www.albertaclimatedialogue.ca/

Climate change as a trigger for both roll-back and acceleration of democratic practice

Climate change could trigger a democracy crisis, but if concerned people seize the moment, it might also accelerate democracy's evolution in positive ways.[15]

Responses to terrorism or natural disaster can indicate how much climate crisis might erode freedom of expression or the protection of citizens from state interference. The US Patriot Act swiftly followed 9/11. Following major earthquakes in Christchurch, New Zealand, in 2010 and 2011, many residents protested against what they saw as a significant erosion in democracy as authorities dealt with the aftermath.[16] Whilst half the world's population are privileged to live in some form of democracy, they may increasingly find their democratic rights and freedoms eroded by climate change impacts (Economist Intelligence Unit, 2015). In another example, democratic activity was curtailed by the French government when it cancelled climate marches in public spaces in Paris after the terrorist attacks of November 2015.[17]

Climate change could also impact on democratic 'goods' (such as income equality and human development). The democratic ideal that all people are equal, for example, has troubling implications in a world adversely affected by resource scarcity and climate change.

It is useful to distinguish between the possible effects of mitigation and adaptation of climate change on democracy. Arguably, effective *mitigation* of climate change is more challenging for democracy than *adaptation* to the effects of climate change once they have begun to be felt. Mitigation demands more of what Peter Singer has dubbed a 'one world' sentiment; of peoples' altruism, imaginations, and capacity to engage with the long-term (Singer 2002). By contrast, adaptation actions are more readily activated through appeals to self-interest in the face of current climate impacts at local level. Distributional issues about winners and losers in the allocation of resources (for example who gets better flood defences, who benefits from allocation of scarce public resources) are still challenging, but these are familiar challenges in any democracy.

Both mitigation and adaptation responses to climate change can also be usefully understood in two ways: those that involve changes in *lifestyles* (whether to minimise emissions of greenhouse gases, or to create greater capacity to adapt) and those that flow from *technological innovation*; for example to design energy efficiency improvements into buildings, or to make use of geoengineering to interrupt or forestall processes of climatic change. Policy measures and political choices can have a significant impact on climate outcomes across all of these areas.

Any necessary changes in lifestyle may be more readily mobilised in a majoritarian system of representative democracy when the impacts of climate change have materialised and there is a need to adapt, rather than on an anticipatory basis when the imperative is to mitigate future impacts that may be distant not only in time but also space.

Relying on *technology* to forestall and manage the impacts of climate change may be less politically difficult than lifestyle change or regulation for wealthy countries. But it is not a foregone conclusion that public policy commitment to technological innovation will ensure on its own that innovation emerges. And for nations that cannot afford the up-front capital costs of investment for technology innovation there are great risks. Other countries' innovation in a climate-change-constrained world could become a new source of inequality if it increases the costs of progressive development for those who can least afford it.

[15] Though cf Runciman, 2013, who argues that in crisis democracy simply muddles through
[16] See e.g. http://www.stuff.co.nz/the-press/opinion/8107084/Democracy-neglected-in-Canterbury
[17] See http://www.theguardian.com/world/2015/nov/18/cop21-climate-marches-paris-attacks

If the current threats of severe climate change were to come to fruition, societal innovation and resilience could prove a more useful commodity than business-centred policies for economic growth and technological development. Investment in both *democratic innovation* and *technological innovation* potentially is clearly an optimal approach in which the social capital generated by the former can feed the latter and vice versa.

There is also an opportunity for climate change to accelerate the evolution of democracy. Liberal democracy is still relatively young. Whilst many commentators site the birth of democracy in ancient Athens, its contemporary roots lie with the work of eighteenth and nineteenth century liberals such as John Stuart Mill. It has developed rapidly over the past fifty years and will continue to do so (see in particular Mannermaa *et al*, 2006). Taking just one example, the continued evolution of information and communication technology to support democratic participation, voting, and accountability, will have a significant impact on everyday democracy for those with access to the technologies.

Crisis can bring out both the best and the worst in people – often at the same time. This is behind the calls for a return to the imagined Blitz spirit of Britain to mount a grand effort to tackle climate change.[18] And UK analyst Tom Burke's observation that the politics of climate change will increasingly be driven by events, can also be recognised as a call to seize positive opportunities, including crises.[19]

Naomi Klein wrote, in April 2010, that *"after the Copenhagen debacle, an exceedingly dangerous talking point went viral: the real culprit of the breakdown was democracy itself".*[20] John Dryzek suggests though that *"failure to act effectively on climate change is not a failure of democracy. Rather, it results from the fact that so far we haven't done democracy right."*[21] In times of crisis time itself can seem to speed up, so that what was previously unimaginable becomes a lived reality. There is everything still to play for.

Time to reconsider

In December 2015, 196 parties to the UN Framework Convention on Climate Change (UNFCCC), meeting in Paris, agreed a new framework for efforts to tackle climate change.

Within the climate community, hopes of the Paris meeting were high, though expectations were lower than before the failed Copenhagen Climate Summit in 2009. Then, highly fragmented climate governance and ineffectual intergovernmental discussion, appeared to be the most immediate prospects for future global governance of climate change. Copenhagen can also be seen as the point at which community organising, voluntary business action and city-scale climate initiative began to acquire far more significance, in part because governments had failed collectively to lead. Yet without strong support from national governments, these avenues could not hope to deliver an integrated and concerted response to climate change.

By 2015, the emphasis was on COP21 (the twenty-first Conference of the Parties (COP), to the UNFCCC) as an important staging post, rather than the pinnacle of a long search for solutions to anthropogenic climate change. The 'road from Paris' was as much of a rallying phrase as the 'road

[18] See for example http://phys.org/news/2015-11-blitz-spirit-climate.html (from engineer Dr Hugh Hunt speaking to the Royal Academy of Engineering on the need for a 'blitz spirit' in relation to technology development), or Simms (2011)
[19] See http://tomburke.co.uk/2015/12/17/paris-and-the-future-of-fossil-fuels/, 17 December 2015
[20] Naomi Klein, A New Climate Movement in Bolivia, *The Nation*. Available online via http://www.thenation.com/article/new-climate-movement-bolivia
[21] See http://www.humansandnature.org/democracy-john-dryzek

to Paris' even before COP21 began, reflecting widespread recognition that a UN framework was unlikely to deliver all that is needed to forestall dangerous climate change.

The outcomes of COP21 have three elements.[22] The first is a series of voluntary commitments made or affirmed in Paris. For example, the Lima-Paris Action Agenda, which stems from COP20 in Lima in 2014, has since brought together some 11,000 voluntary commitments from cities, investors, companies and regions in support of a universal agreement at COP21.[23] By the start of COP21, city leaders were able to announce through the Compact of Mayors that the collective impact of their commitments will *"deliver over half of the world's potential urban emissions reductions by 2020."*[24]

The remaining two elements are a combination of provisions that are legally binding on states under international law, and provisions that are not legally binding but reflect statements of political commitment. The international treaty portion of the Paris outcomes is the Paris Agreement. This is an Annex to a draft Decision which sets out how the obligations and goals of the Agreement will be implemented.[25] The Agreement will open for signature in April 2016.

The Paris Agreement commits parties collectively to hold the increase in the global average temperature to "*well below*" 2°C above pre-industrial levels *and* to pursue efforts to limit the increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.[26] In the "*second half of this century*", anthropogenic emissions are to be balanced by removal of greenhouse gases by sinks (such as oceans and forests – but also potentially through hard technologies).[27]

The Paris Agreement incorporates a framework for parties to make successive pledges (so-called 'nationally determined contributions') to achieve the long-term temperature goal, whilst respecting the idea that parties have 'common but differentiated' responsibilities', in light of different national circumstances.[28] The Agreement and a series of supporting commitments provide for pledges to be ratcheted up on a five-year cycle.[29] The Paris Agreement commits the UNFCCC COP to carry out a stocktake of implementation every five years starting in 2023 with a view to enhancing both national actions and international cooperation.[30] The draft decision provides for a 'facilitative dialogue' to be convened in 2018 as an initial stocktake of progress.[31] The IPCC is also invited to report by 2018 on climate impacts and emissions pathways associated with the more ambitious 1.5°C goal.[32] The contentious issue of finance for climate mitigation and adaptation is addressed in a resolution (again politically rather than legally binding) which urges developed countries to scale up financial support to reach a USD100 billion floor by 2020.[33]

COP21 itself has not delivered a fully-formed legally binding framework. A great deal remains to be done that is not mandated and that will be both difficult and politically contentious. But the ambition is beyond doubt. If the 2009 Copenhagen climate talks marked a low point in global diplomacy, COP21 in Paris may emerge as a new point of inflection. The shape of a coherent narrative for a complex web of shared action and dispersed responsibility is crystallising, involving all social

[22] See E3G (2015)
[23] See http://climateaction.unfccc.int/
[24] See http://www.compactofmayors.org/press/announcing-the-collective-global-impact-of-the-compact-of-mayors-at-the-climate-summit-for-local-leaders/
[25] United Nations Framework Convention on Climate Change, *Adoption of the Paris Agreement, Proposal by the President, Draft decision -/CP.21*, 12 December 2015, FCCC/CP/2015/L.9/Rev.1m ('Draft decision')
[26] Draft decision, Paris Agreement, Article 2.1 (a)
[27] Draft decision, Paris Agreement, Article 4.1
[28] Draft decision, Paris Agreement, Article 4
[29] Draft decision, Paris Agreement, Article 4.2 and Draft decision, paragraphs 22-41
[30] Draft decision, Paris Agreement, Article 14
[31] Draft decision, paragraph 21
[32] *Ibid*
[33] Draft decision, paragraph 115

economic and public actors, wherever they might be. Democracy, in both politics and society, is an essential enabling part of this web, providing the means for *all* actors to realise their potential to contribute effectively, and offering transparency and accountability as parts of the system's core characteristics.

Scenarios for the future of democracy in the face of climate change

Whether climate crisis triggers a widespread erosion or even collapse in democracy or something quite different emerges or evolves, will depend on a wide range drivers aside from climate change.

In order to investigate possible futures, FDSD used scenario planning. The detailed methodology can be found in Paper Five on the FDSD website. The aim was to answer the question: '*How might democracy and participatory-decision-making have evolved to cope with the challenges of climate change by the years 2050 and 2100?'*

Scenarios are stories about the future. One conventional way to develop these is to start by thinking through the drivers of possible change which might be relevant to the question at hand; in this case the question of how democracy might evolve to cope with climate change. The drivers are then assessed for how uncertain they are, and to highlight the extent to which those uncertainties might impact on the central question.

A simple scenario approach is to develop a two-by-two matrix where the two axes are the two dimensions of uncertainty. This gives rise to four quadrants, or spaces, which push the scenarios to their extremes. We took this approach and used it to generate a series of stories.

Each democracy and climate change scenario takes the form of a narrator's voice (or in one case two voices) looking back from 2050 and reflecting on the society that he or she is in, and where it might go next. One of the 2050 scenarios, 'rationed democracy', is different in tone since it reflects on what ordinary concerned citizens might do now, in the UK particularly, to ensure that the world that our narrator inhabits does not transpire.

We analysed literature on sustainable development and the future of democracy, as well as thirty distinct drivers of change in the *relationship* between democracy and climate change. The summary table in Appendix 1 identifies the critical areas of uncertainty in how each of the thirty drivers of change affects the relationship between democracy and climate change. We then narrowed down these drivers of change to two that could form the possible axes, or dimensions, for future scenarios. These were:

A. Technological innovation for climate mitigation and adaptation (from **low tech** to **high tech**)

B. Values over time (from **'here and now'** to **'far and wide'**)

We then used these two axes of uncertainty to create four scenarios to 2050 which we labelled:

- Post-authoritarian democracy
- Transition democracy
- Rationed democracy
- Technocratic democracy

Whilst this two-by-two approach to scenario development is sometimes considered over-simplistic, it enabled us to develop stories about the future that aim to blend multiple drivers of change together with inspiration from the project's earlier analysis of democracy, climate scenarios, democracy and

sustainable development futures, and literature on the relationship between democracy and climate change.

You can find the summaries of each of the scenarios on pages 3 and 4 and ideas on how to use them in Appendix 2.

The scenario storylines were developed in late 2011. At that time, they incorporated imagined climate impacts based on a fairly crude IPCC Fourth Assessment Report filter. The Fourth Assessment Report was published in 2007, but the stories hold up reasonably well alongside the IPCC's most recent Fifth Assessment Report of 2014. Each scenario takes an imagined 2050 end point, but also hints at what could lie ahead in the years to 2100.

Democracy and climate change scenarios can be used in many different ways by campaigners and active community members, businesses, teachers, policy-makers and analysts, elected officials and public sector officials. We have set out a few ideas in Appendix 2 but you can of course think of your own.

However you use the scenarios, allow yourself to think the unthinkable, because that *may* be what happens. If enough willing people put their minds to it, democracy and democratic practice can evolve in ways that are far better able to address the urgent challenge of climate change.

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Appendix One

Driver of change	Aggregated Scale/Axis		Level of uncertainty over trajectory to 2050?	Uncertainty over cause and effect when in relation to democracy and climate change?	Democracy relevance? (Y/N)	Greenhouse gas emissions relevance? (R = response to emissions not driver of change)
Politics						
Global governance	Strong	Fragmented	High	Medium	Y	R
Democratisation	Arrested	Advancing	High	Medium	Y	Y
Dominant geopolitical locus	West	East	Low	Low	Y	R
Locus of state decision-making	Centralised	Devolved	High	Medium	Y	R
Armed conflict	Global	Localised	High	Medium	Y	R
Style of state governance	'The market state' (Bobbitt, 2002)	'The civil state' (Blond, 2009)	High	Medium	Y	Y
Trust in elected representatives	Trusted	Not trusted	High	Low	Y	R
Belief in value of public participation in context of democracy	Strong	Weak	High	Medium	Y	R
'Warmist' civil society	Strong	Weak	High	Medium	Y	R
Scientific evidence in relation to issues of societal concern	Extensive and generally trusted	Often distrusted	Medium	Medium	N	R
Style of democratic politics	Consensual	Majoritarian	Cannot be generalised	Medium	Y	R
Public monitoring, transparency, accountability	Extensive	Limited	Medium	Medium	Y	N
Relationship between organised religion and the state	Close links	Limited links	High	High	Y	N
Economy						
Economic growth and the global economy	Thriving	Depressed	High	Low	Y	Y
Economic interdependence	High	Low	Medium	Low	Y	Y
Role of business	Vested economic interests dictate	In service to social/policy goals	High		Y	Y

Environment						
Planetary boundaries and ecosystem services	Respected and/or valued	Not respected and/or valued	Low	Low	Y	Y
Overall energy demand	Fully met	Poorly met	Medium	Medium-low	Y	Y
Energy sources	Mostly/wholly renewable	Mostly/wholly fossil fuels	Medium	Medium-low	Y	Y
Society						
Population	High end of projections	Low end of projections	Medium	Low	Y	Y
Demographic shifts and age structure	Within projected ranges	Outside projected ranges	Medium	Low	Y	Y
Urbanisation/urban dwelling	Extensive	Less extensive	Low	Low	Y	Y
Natural and man-made disasters	Widespread and frequent	Localised and infrequent	High	Medium	Y	R
Values, lifestyles and behaviours	Individualistic/competitive	Community-oriented/collaborative	High	High	Y	Y
Religious adherents	Widespread	Limited	High	Medium-high	Y	R
Participatory decision-making and engagement in society	Thriving	Patchy	High	Medium	Y	R
Public willingness to base public climate policy on scientific evidence	High	Low	Medium	Medium	Y	R
Technology						
Technological innovation for climate change mitigation and adaptation (including geoengineering)	Extensive	Limited	High	Medium	Y	Y
Technological innovation applied to the *practice* of democracy	Extensive	Limited	High	Medium-high	Y	R
Other technological innovation	Extensive	Limited	High	Medium	Y	Maybe

Appendix Two

Democracy and climate change scenarios can be used in many different ways by campaigners and active community members, businesses, teachers, policy-makers and analysts, elected officers and public sector officials. Here are just a few ideas, but you can easily get creative and come up with your own. For more detailed versions of each of the four stories, and related timelines, that were developed in the FDSD project, each with a different central character or narrator, take a look at Paper Five in FDSD's democracy and climate change series.

1) In small groups, ask each group to take one of the four quadrants in Diagram 1 (though without the titles that are suggested for each scenario). Come up with a story from each quadrant that features your organisation (or community) in some future time (and place too, if you like) that you are concerned about. Think about what you like, and dislike, about the world that is depicted in each story. You could then go backwards from that story to ask 'what might have to happen for us to get to that point?' and 'what steps can we take to make it more or less likely that that future will transpire'?

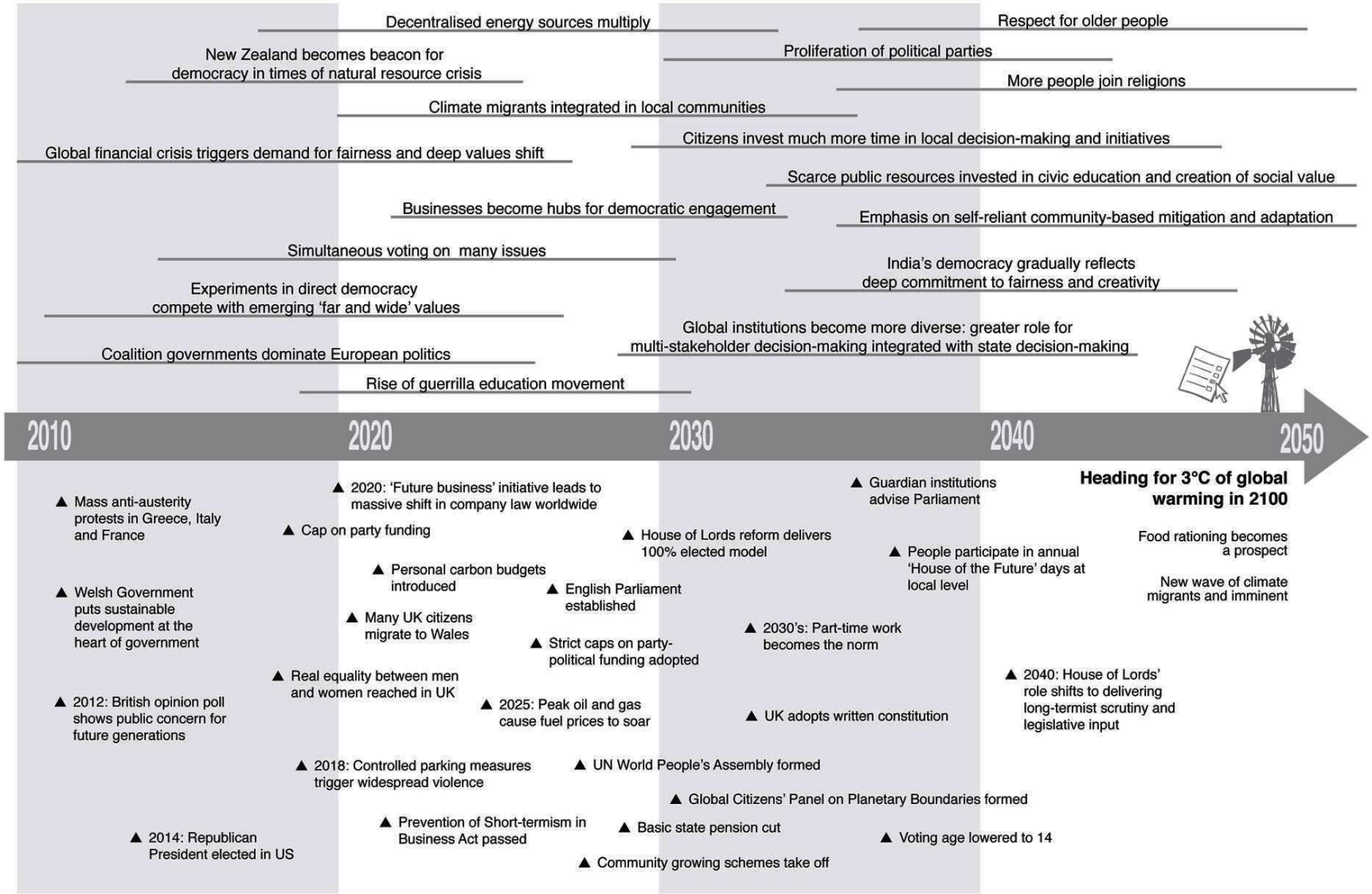
2) Take the summary stories for 2050. Think yourself (or your organisation, or some other set of actors you are interested in) into each story. What does it tell you about democracy? What signs do you already see that this could be the future we're heading for? Are they weak or strong signs? What would it take to shift these signs? What can *you* do to shift them and what skills would you need to develop (either individually or as an organisation) to do that effectively?

3) Come up with a timeline to go with each of the four stories. You can do this in groups or on your own, and you can choose whether your timeline is for you or your organisation, or for some other set of featured actors. On the next page you can find a timeline for *Transition democracy,* to get you started. It was written in early 2012, so you can already see that scenarios are stories about what *might* emerge, rather than accurate predictions (for example, the US election in 2014 was not won by the Republicans).

4) Take each of the summary stories in turn and come up with an 'artefact' from this future (something that might exist there – like a letter, or an advert, or a job description, or a design for a new product). Feel free to change or embellish the stories as you go. You could also use timeline diagrams as a jumping-off point. How can you use each of these artefacts to draw attention to something that you're currently concerned about and on which the relationship between democracy and climate change could matter?

5) If you'd like to encourage reflection on the idea that no target date (such as 2050) is an end point and no process of change is linear, take a look at each 2050 scenario summary in turn. What does the future look like from that vantage point? Does thinking about the future *from* the future uncover any challenges or assumptions that you might have about a strategy or decision that relates to democracy and climate change?

Transition democracy



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The five papers produced for *The Future of Democracy in the Face of Climate Change* FDSD project

Ward, H. (2010) *Paper One: Democracy and climate change: why and what matters*, FDSD.

Ward, H. and Yoganathan, A. (2010) *Paper Two: What is Democracy?*, FDSD.

Ward, H. (with Emma Woods) (2011) *Paper Three: The Futures of Sustainable Development and of Democracy: Literature review and relevance to an enquiry into 'the future of democracy in the face of climate change'*, FDSD, London.

Ward, H. (2011) (with additional inputs from Emma Woods and Anandini Yoganathan), *Paper Four: Climate Change: An overview of science, scenarios, projected impacts and links to democracy*, FDSD, London.

Ward, H. (2012) *Paper Five: How might democracy and participatory decision-making have evolved to cope with the challenges of climate change by the years 2050 and 2100?*, FDSD, London.

References

Blond, P. (2009) *The Civic State: re-moralise the market, re-localise the economy re-capitalise the poor*, Demos, London.

Bobbitt, P. (2002) *The Shield of Achilles: War, Peace, and the Course of History*, Knopf, New York.

Intergovernmental Panel on Climate Change (2014) *Climate Change 2014: Synthesis Report: Summary for Policymakers*, IPCC.

E3G (2015) *Judging COP21 Outcome & What's Next for Climate Action?*, E3G, London.

Economist Intelligence Unit (2015) *Democracy Index 2014: Democracy and its discontents*, The Economist.

Held, D, (2006) *Models of Democracy,* 3rd edition, Stanford University Press, Palo Alto.

Kahane D (2016) *Thinking systemically about deliberative democracy and climate change*, FDSD, London.

Keane, D. (2009) *The Life and Death of Democracy*, Simon and Schuster, London.

Lovelock, J. (2007) *Revenge of Gaia*, Penguin Books, London.

Mannermaa, M. (2007) *Democracy in the Turmoil of the Future,* Eduskunta/Committee for the Future, Helsinki.

The Royal Society and US National Academy of Sciences (2014), *Climate Change Evidence and Causes*, Royal Society, London and National Academy of Sciences, Washington DC.

Runciman, R. (2013) *The Confidence Trap: a History of Democracy in Crisis from World War I to the Present*, Princeton University Press, New Jersey.

Shearman, D. and Wayne Smith, J. (2007) *The Climate Change Challenge and the Failure of Democracy*, Praeger, Westport.

Simms, A. (2011) *The New Home Front*, Caroline Lucas MP.

Singer, P. (2002) *One World: the ethics of globalisation*, Yale University Press, New Haven.

Smith, G. (2015) *The Democratic Case for an Office for Future Generations*, Report, FDSD, London.
Smith G., (2003) *Deliberative Democracy and the Environment,* Routledge, London.

Stehr, N. (2015) 'Climate policy: democracy is not an inconvenience, 22 September, *Nature*.
Well-being of Future Generations Act (Wales) 2015.

Westall, A. (2015) *The Relationship Between Democracy and Sustainable Development,* Briefing, FDSD, London.

Further reading

Boston, J. (2014) *Governing for the Future: how to bring the long-term into short-term political focus*, Paper prepared for seminar at Centre for Environmental Policy, School of Public Affairs, American University, Washington DC.

Brand, S. (1999) *The Clock of the Long Now,* Basic Books, New York.

Burnell, P. (2009) *Climate Change and Democratisation: a Complex Relationship,* Policy Paper, Heinrich Boell Foundation, Berlin.

Center for Humans and Nature (2012) *Can Democracy in Crisis deal with the Climate Crisis?*, Activity and Contributor Responses.

Dahl, R. (1998) *On Democracy*, Yale University Press, New Haven.

Florini, A. (2005) *The Coming Democracy: New Rules for Running a New World*, Brookings Institution Press, Washington DC.

Forsyth, T. (2014) 'Deliberative Democracy and Climate Change', *Public Administration*, 92(4), pp 1115-1123.

Held, D. and Fane Hervey, A. (2009) *Democracy, Climate Change and Global Governance*, Policy Network Paper, London.

Hill, S. (2010) *Models of online activism and their implications for democracy and climate change*, Provocation, FDSD, London.

Mannermaa, M., Dator, J., and Tiihonen, P. (eds) (2006) *Democracy and Futures*, Eduskunta/Committee for the Future, Helsinki.

Mason, M. (1999) *Environmental Democracy*, Earthscan Publications, London.

Niemeyer, S. (2013) 'Democracy and Climate Change: what can deliberative democracy contribute?', *Australian Journal of Politics and History*, 59(3), pp 429-448.

Parkin, S. (2008) *Sustainability and democracy: are political parties getting in the way of the sort of collaborative democracy we need to tackle sustainability? If so, what can we do about it?*, Provocation, FDSD, London.

Weber, E.P. (2008) 'Facing and Managing Climate Change: Assumptions, Science and Governance Responses', *Political Science*, 60(1), pp 133-149.

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