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Is democracy the cause of or solution to climate change?

By Peter WB Phillips, Distinguished Professor, JS GS, University of Saskatchewan.

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Centre for the Study of Science and Innovation Policy (CSIP)

101 Diefenbaker Place

Saskatoon, Canada, S7N 5B8

Is democracy the cause of or solution to climate change?

Peter WB Phillips

People are becoming impatient with their governments. Dissatisfaction with government has a long history, but beginning in 2019 frustrations started to boil over due to the sense of a pending climate crisis. The issue is coming more into focus with the Intergovernmental Panel on Climate Change (IPCC) *AR6 Synthesis Report: Climate Change 2023*, which summarizes five years of reports on global temperature rises, fossil fuel emissions and climate impacts, concluding "There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all."

Climate activism, with Extinction Rebellion's occupation of central London in 2019 and a range of other global cities and Greta Thunberg's global climate strikes, has moved the conversation from government offices and international conference halls to the streets. Although there was a break in direct action due to Covid 19, there are signs activity is rising.

Along with this shift in venue, the message became more strident. Advocates have become louder critics of their government's unwillingness or inability to act decisively. Given that many of these demonstrations were centred in the capitals of the world's democracies, the focus has been on democracy as either the cause of or at least an impediment to appropriate climate policies.

There is now a strong anti-democratic undertone to the debate about climate change policy. David Shearman and Joseph Wayne in *The climate challenge and the failure of democracy* (Praeger 2007) were early and vocal proponents of the view that democracy was actually the root problem; they argued democracies are unable to effectively address common pool market failures like climate change. The authors offered radical solutions that entailed the end of democracy as we know it: authoritarian government, where experts rather than autocrats rule, or some utopian model of community-based, zero-growth political engagement. This theme has been taken up more recently by others. The well-known climate researcher James Hansen, who has been publicly promoting climate policy since 1988, asserted in 2007 that "the democratic process does not work." James Lovelock, in his book *The Vanishing Face of Gaia* (Basic Books 2009) compares climate change to war, emphasizing that we need to abandon

democracy to act decisively: "nothing but blood, toil, tears, and sweat" is urgently needed. Dale Jamieson, professor of environmental studies, philosophy, and law at New York University and author of *Reason in a Dark Time* (2014) warned that climate change is "the largest collective action problem that humanity has ever faced, [but] evolution did not design us to deal with such problems, and we have not designed political institutions that are conducive to solving them... it is not entirely clear that democracy is up to the challenge of climate change." Foreign Policy led its July 2019 issue with an article asserting "Democracy Is the Planet's Biggest Enemy" (<https://foreignpolicy.com/2019/07/20/democracy-is-the-planets-biggest-enemy-climate-change/>). David Runciman wrote "if electoral democracy is inadequate to the task of addressing climate change, and the task is the most urgent one humanity faces, then other kinds of politics are urgently needed. The most radical alternative of all would be to consider moving beyond democracy altogether." He suggested "technocratic solutions that put power in the hands of unelected experts could take key decisions out of the hands of voters." All assert democracy as we know it is flawed and should be set aside or worked around.

Some go further, looking not just to motivate democracies to act but to find alternatives. Many wistfully muse about the apparent successes of authoritarian regimes. Frequently commentators call out China as an example of what is possible if government has the will and capacity to act decisively—their adoption of solar power is cited as a game-changing effort, both shifting the trajectory of carbon emissions in China and offering lower cost options to other nations. Runciman opined "The authoritarian Chinese system has some advantages when it comes to addressing climate change: one-party rule means freedom from electoral cycles and less need for public consultation." Even *The Economist*, one of the world's most liberal-democratic newspapers, has speculated that dictatorships may be better than democracies at fighting climate change, extolling the virtuous efforts in China to set goals and realize cuts of 46% of carbon dioxide emitted per unit of GDP over the 1990-2017 period.

While democracies probably can learn from some of the choices in authoritarian states, the evidence suggests that the authoritarian form of government has little positive to offer the climate agenda. Realizing the global targets for carbon mitigation and reduction does not require giving up on democracy. In spite of angst among the vanguard of climate campaigners about the failings of democracies, the evidence below shows that democracies are actually moving in the

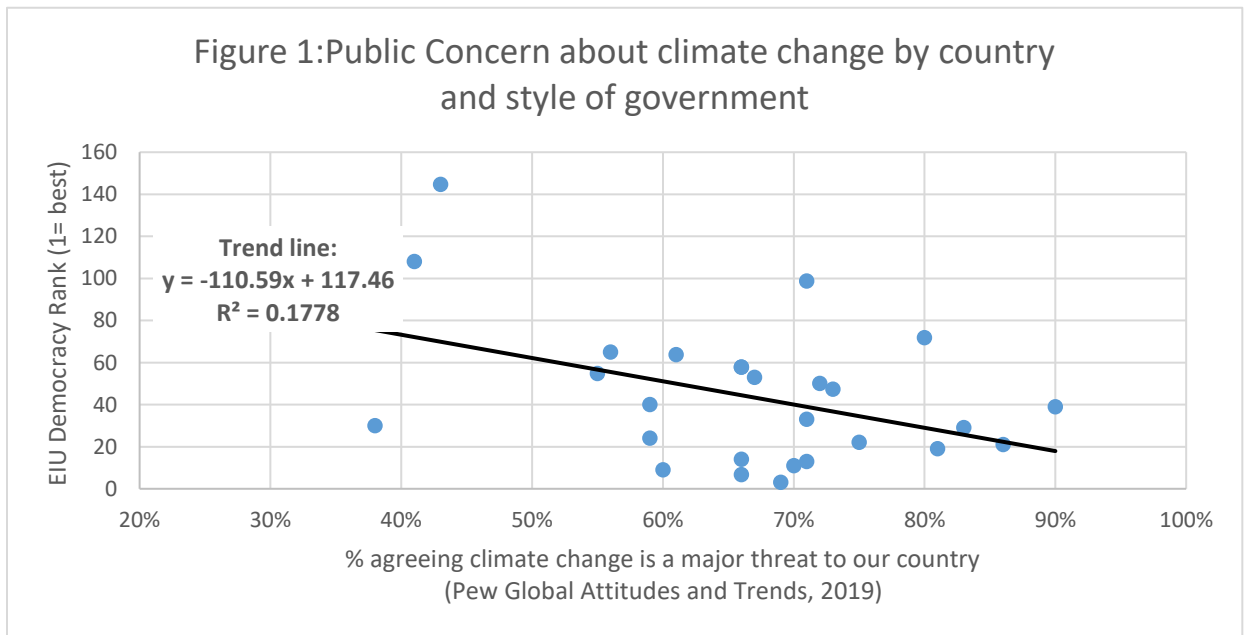
right direction, with democracies unambiguously at the forefront of carbon mitigation. But mitigation is only part of the challenge. Industry reports that they can see no obvious pathway to realize the net zero goals now being proposed without innovation. Any ‘green growth’ agenda to meet the tightening global targets will undoubtedly thrive best in stable democracies.

Opinions about Climate Policy

Climate science has made a compelling and almost universally accepted case that the accumulating emissions of carbon and other greenhouse gasses (GHG) is either totally or partially the result of human action.

Climate change is now firmly fixed in the public consciousness. A recent YouGov survey of 30,000 people in 28 countries and regions revealed that the vast majority of people believe human action is partly or totally the cause of climate change. The balance between those who see climate change as totally anthropomorphic and those who see human activity as important but not the only source of climate change varies across the countries surveyed. In aggregate, the lowest level of support for human responsibility for climate change was 71% in Saudi Arabia and 75% in the US, with the highest acknowledgement of human responsibility above 90% in more than half the countries surveyed. Similarly, a recent Pew study on global attitudes reports that majorities in most surveyed countries agree that global climate change is a major threat to their nation, seen as the top threat in half of the surveyed countries, more than any other issue tested in the survey (<https://www.pewresearch.org/fact-tank/2019/04/18/a-look-at-how-people-around-the-world-view-climate-change/>). Interestingly, while the media and policy system is fixated on the so-called climate change deniers, they represent a vanishingly small portion of any population. The US has the highest number of people (9%) who accept that the climate is changing but are unwilling to assign blame to human development and only 6% who are true deniers of any evidence of the climate changing. Few policy spaces could muster such strong support. Most other contentious policy spaces—including poverty, public health, tax reform, gun control, contraception, gender and end-of-life choices—have much higher rates of skepticism or denial and still are spaces with effective policy engagement (<https://yougov.co.uk/topics/science/articles-reports/2019/09/15/international-poll-most-expect-feel-impact-climate>).

Most of these analyses assess public attitudes by exploring the respondent’s education level and their broader socio-economic circumstances, largely concluding that acceptance of climate science is positively correlated with higher education levels and better socio-economic conditions. But the respondents also live in an array of states with differing relationships with their citizens. The evidence suggests that where you live also may also be important. In 2019 Pew surveyed more than 1000 respondents in each of 27 countries, 15 which were liberal democratic countries and members of the Organisation for Economic Co-operation and Development (OECD); the rest were markedly less democratic. Overall, there was a modest negative relationship between public support for the proposition that climate change is a major threat and the degree of democratic control, with citizens in leading democracies more engaged than in less democratic systems (figure 1). The major breakpoint in opinion was between OECD and non-OECD states, with 70% of respondents in OECD states agreeing climate change is a major threat but only 63% of people in other states agreeing, although with high variability between states within the two groupings.



The climate policy landscape

Governments have listened, and have developed and implemented national climate policies. In 2015, 196 parties came together under the Paris Agreement to commit to change their

development trajectories to mitigate carbon releases enough to limit global warming to 1.5 to 2°C above pre-industrial levels. By April 2016, 161 nationally determined contributions (NDCs) had been submitted, covering 189 parties

(<https://www4.unfccc.int/sites/submissions/indc/Submission%20Pages/submissions.aspx>).

A full evaluation of the commitments from these countries is beyond the scope of this commentary. Suffice it to say that almost all of the countries have offered some efforts to reduce carbon emissions, either from some historical date (1990, 1995, 2005 or another date chosen by the national government) or from some future date. The scale of reductions are in a broad sense proportionate with each nation's sense of their responsibility for the historical build-up as well as their capacity to adapt and still achieve their ambitions in terms of economic development or performance. The types of commitments vary widely, with absolute emission reductions ranging from 9.8 to 75% and in some cases absolute maximum limits. Advanced industrial economies have for the most part committed to larger and earlier cuts than developing nations.

The consensus is that these commitments, even if fully delivered, will not be enough. The United Nations Framework Convention on Climate Change (UNFCCC 2016) calculated that the most likely aggregate GHG emissions resulting from the implementation of the communicated NDCs would be 8.7 Gt CO₂eq, still about 19 % above the mean level of emissions forecast consistent with the 2°C scenarios for 2030. There is a high degree of uncertainty both about the level of carbon that will trigger higher temperatures as well as the nature of the commitments, so the bands of probability are wide for all the variables. Nevertheless, the likelihood that the current commitments are enough is trivially small. Moreover, since 2015 a few countries have backslid on their commitments. On the other side, a number of subnational governments and firms have made new supporting commitments. Nevertheless, a recent joint report from Data-Driven Yale, New Climate Institute, PBL Netherlands Environmental Assessment Agency and CDP Global concluded that the commitments from 2,175 companies and 8,419 cities, states and regions are not sufficient to realise the 2°C goal in the Paris Agreement

(<https://www.edie.net/news/9/Emissions-commitments-from-businesses-and-authorities--insufficient-to-meet-Paris-goals-/>)

Governments are unpopular, not just for their climate stance

Dissatisfaction with government is as old as the institution itself. For every person you can find who will say something positive about their system of government, one can expect to find a skeptic or critic to offer a counterpoint. Around the world, people are unhappy with their systems, both authoritarian regimes and democracies alike. A recent Pew survey across 27 countries reported that overall 51% of respondents are dissatisfied with the way their country is functioning, compared with only 45% who are satisfied. In many ways they are channeling the first half of Winston Churchill's assertion that "it has been said that democracy is the worst form of Government" forgetting his caveat "except for all those other forms that have been tried from time to time."

Discontent varies across countries and regions. Those with the longest history with democracy tend to be most jaded, with the degree of angst often driven by local circumstances. A recent Pew poll shows that about 58% of US respondents were not satisfied, while on average 52% of Europeans were disappointed, with the southern Europeans (esp. Italy at 70% and Spain and Greece at over 80%) and the UK and France (over 50%) especially frustrated. African and Latin American countries were almost universally dissatisfied, with more than 83% of respondents in Mexico and Brazil reporting frustration. Those in the Asia-Pacific region had good majorities satisfied with their governments (from 54% in India to 69% in Philippines); Japan is the exception, where 56% expressed dissatisfaction. A few northern countries are positively disposed, with Canada (at 61%) and Sweden, Netherlands and Germany generally satisfied. Of particular concern to many is that dissatisfaction with democracy is growing. Between 2017 and 2018, more than half the countries surveyed reported rising dissatisfaction with the way democracy is working, with the discontent spread across advanced and emerging economies (<https://www.pewresearch.org/global/2019/04/29/dissatisfaction-with-performance-of-democracy-is-common-in-many-nations/>).

This general angst is not uniquely related to the climate crisis, but concerns are undoubtedly amplified by convergence with the so far intractable challenge of climate change. Ronald Reagan in 1994 suggested that the nine most feared words are "I'm from the government, and I'm here to help." Some climate campaigners seem to agree. But is that objectively true?

Constructing a different perspective on climate policy

Too often we explore policy from the input-output or ends-means approach, which takes institutions as exogenous to much of the analysis. Moreover, we tend to focus on global industries and activities. When we explore states and look to aggregate them, we tend to do that by continent or income level, both which offer some insights but ignore the fact that different styles and structure of government are distributed widely across those sub-groupings.

In order to study the role democracy plays in the climate change policy space, one can juxtapose two independent data sets. In the first instance there is the stream of data on carbon emissions; we now have consistent, consolidated data by country for the period between 1990 and about 2017. Secondly, we have quantitative and qualitative assessments of the styles and nature of the national governments in the 190 some independent states that are engaged in the UNCCC process and have made commitments related to carbon mitigation. We can use this to explore the performance between and across categories of countries using correlation analysis. Given that we have virtually the whole population of countries in the data, it is neither useful nor advised to make statistical inferences—descriptive statistics are the appropriate way to tell the story. The two sources of data used in this analysis are discussed briefly below and the next section presents and analyses the results.

In the first instance, we use the Emissions Database for Global Atmospheric Research (EDGAR), a joint project of the European Commission JRC Joint Research Centre and the Netherlands Environmental Assessment Agency (PBL). The dataset quantifies the global past and present anthropogenic emissions of greenhouse gases and air pollutants by country, calculated using a technology-based emission factor approach consistently applied to all countries. Emissions are calculated for direct greenhouse gases (e.g. CO₂, methane, nitrous oxide and range of other fluorocarbons), ozone precursor gases (e.g. CO and NO_x), acidifying gases (e.g. ammonia and sulfur dioxide), primary particulates, mercury and stratospheric ozone depleting substances (e.g. chlorofluorocarbons and methyl bromide). The formulations of total CO₂ equivalent emissions per country (kton per year), per capita (tons per capita) and per unit of GDP (tons/\$1000 GDP), for the period 1990 to 2017 are accessed and manipulated.

Second, we use the Democracy Index compiled by The Economist Intelligence Unit, the research and analysis division of The Economist Group (which publishes *The Economist* newspaper). Beginning in 2006, the EIU developed and published the Index that assesses 60 indicators grouped in five different categories, measuring pluralism, civil liberties and political culture. The Index offers a numeric score for each country from 0-10, with 10 representing perfect democracy, and an ordinal ranking from for each country from 1 to 161 (table 1). Each of the 161 countries is also assigned to one of four regime types: full democracies (20 in 2019), flawed democracies (55), hybrid regimes (39) and authoritarian regimes (53). About 50 geopolitical units, mostly microstates and semi-autonomous territories, are not indexed. Democracies (whether full or flawed) are home to 48% of the world’s population while 52% of people live in authoritarian or hybrid systems.

Type of regime	EIU Index	Number of countries	Percentage of countries	Percentage of world population
Full democracies	$8 < s$	20	12.0	4.5
Flawed democracies	$6 < s \leq 8$	55	32.9	43.2
Hybrid regimes	$4 < s \leq 6$	39	23.4	16.7
Authoritarian regimes	$s \leq 4$	53	31.7	35.6

Democracy and climate policy

The impact of governing style can be parsed in various ways. In the first instance, because governments are fundamentally at the heart of the process of defining and structuring the public agenda and organizing resources to achieve various public or common pool goods, one can assess whether the style of government influences policy design. A second approach is to see if the resulting systems actually achieve the stated goals.

The question of the impact of government style on design involves a high degree of judgement. At one level, one might consider whether different styles of governments have engaged differently. So far there are no obvious differences in the engagement with the NDC process by different types of government. All parties to the UNFCCC, regardless of their style,

have proposed NDCs; a few, mostly full democracies, actually seem to be fully committed to their NDCs, but many countries, democracies included, have yet to implement the measures domestically necessary to meet their commitments. The one thing one can note from the commitments is that the handful of countries that have legislated net zero targets are all full democracies in the EIU index. A 2018 doctoral thesis by Julia Johannsson at Uppsala investigated how democracy might influence climate change policy by regressing a constructed climate change policy index against various facets of democratic performance, finding that civil liberties enabled collective action, an important pathway for influencing state policy.

The challenge with the focus on policy structuring is that the devil is often in the details. Apparently well-structured policies do not always deliver desired outputs. So looking at the actual carbon footprints of the respective countries is a way of testing for the efficacy of the resulting policy choices. In this context, the evidence is quite compelling that democracies and their policies deliver better carbon mitigation outcomes than other forms of government.

Overall global emissions have been rising, up 65% between 1990 and 2017, albeit with some modest slowing in the overall rate of growth in the past few years. In 2017, the 20 full democracies accounted for about 8% of total global emissions (with 4.5% of the world's population), having shaved off about 0.5% from total emissions since 1990. Flawed democracies with about 43% of the world's population contributed about 40% of total emissions in 2017, about 27% higher than in 1990. Hybrid democratic-authoritarian systems made up about 5% of emissions in 2017 (with about 17% of the world's population), having held growth in overall outputs to just about 2% over the intervening 27 years. Authoritarian systems by 2017 accounted for 44% of total CO₂ equivalent emissions (with 36% of world's population), up 67% since 1990. The democracies (full and flawed) in aggregate saw their share of emissions drop from 62% in 1990 to about 48% in 2017 while the authoritarians (full and hybrid) saw their share jump from about 35% to just over 48% in the same period. International aviation and shipping, and the approximately 50 unclassified microstates and regions jointly contributed less than 3.5% of total emissions in 2017, having held total growth over the 27 year period to about 2%.

	Absolute change, ktons, 2017-1990	% total change	Total emissions, ktons, 2017	% total emissions 2017
Full Democracy	-71,614	-0.5%	3,052,873	8.2%
Flawed Democracy	3,845,170	26.7%	14,791,916	39.9%
Hybrid	333,678	2.3%	1,796,978	4.8%
Authoritarian	9,681,975	67.2%	16,161,746	43.6%
Unclassed microstates & regions	24,159	0.2%	53,199	0.1%
International Aviation	284,440	2.0%	543,381	1.5%
International Shipping	305,444	2.1%	677,248	1.8%
Global emissions, all sources	14,403,252	100.0%	37,077,341	100.0%

Source: Author's calculations using data from the EIU Democracy Index and Emissions Database for Global Atmospheric Research.

Two other important variables worth considering are the output per capita, which is a weak proxy for the intensity of consumption by country or region, and output per unit of GDP, a measure of efficiency of production. We start with averages for both but also consider medians, as it is possible large actors could skew averages. The median shows the mid-range of effort in each group, which is useful for determining whether the composition of the group distorts progress.

First, we see in table 3 that the percent change in the carbon intensity of consumption, measured as tons CO₂ per capita, has on average risen in each of the four governance groups, by an average 4% in full democracies, 76% in the flawed democracies and over 100% for those with an authoritarian bent. The median change is revealing. The middle of the pack among the full democracies posted a 2% drop in emissions while the median flawed democracy posted a more moderate 25% gain over the 27 year period. The middle country in those with hybrid authoritarian systems emitted 67% more in 2017 than in 1990. Interestingly, among the full authoritarian group, the middle country saw emissions rise a more modest 18%, suggesting the greater the central control of the market and economy, the more some governments are able to get things done. This suggests that those countries with governments that are clear about their mandate (full democracies and full authoritarian regimes alike) are relatively more competent in delivering more significant policy outcomes.

The other key measure is whether those countries are decarbonizing their production systems. Democracies (whether full or flawed) are unambiguously decarbonizing their production systems, with both the average and median country posting a drop of somewhere between 17% and 39% in carbon per unit of output over the 27 year period. In contrast, the average emissions per unit of GDP in the authoritarian regimes as a whole rose 18% over the period; the median country in each category held the line. Clearly the economic and industrial structure of the various countries will influence how intensively they use carbon, but interestingly the full democracies unambiguously lead while the authoritarians are unambiguously laggards in adopting technologies and strategies that reduce carbon emissions in the production system.

Table 3: Average and median emissions by style of government									
	Number of countries	Emissions, ton CO ₂ /cap, 2017	% change 1990-2017, ton CO ₂ /cap	Total CO ₂ Emissions kton/year, 2017	% change total CO ₂ Emissions kton/year, 1990-2017	CO ₂ emissions (tonnes) per \$1000 GDP, 2017	% change CO ₂ emissions, tons/\$1000 GDP, 1990-2017	EUI Democracy Rank	2018 EUI Democracy Score
Average									
Full democracy	20	8.1	4%	152,644	31%	0.18	-39%	11	9
Flawed democracy	55	5.5	76%	268,944	148%	0.25	-17%	48	7
Hybrid	34	1.6	105%	52,231	269%	0.22	18%	95	5
Authoritarian	52	5.0	103%	310,846	304%	0.28	18%	141	3
Unclassified	50	6.9	428%	1,533	582%	0.51	77%	-	-
Median									
Full democracy	20	8.0	-2%	43,292	17%	0.17	-36%	11	9
Flawed democracy	55	4.7	25%	49,568	89%	0.22	-26%	48	7
Hybrid	34	1.1	67%	9,413	193%	0.19	0%	95	5
Authoritarian	52	1.1	18%	17,978	192%	0.23	0%	141	3
Unclassified	50	2.7	83%	518	152%	0.17	31%	-	-
Source: Author's calculations using data from the EIU Democracy Index and Emissions Database for Global Atmospheric Research									

Another way to look at the data is by the number of countries in each group that are meeting or exceeding the targets. Table 4 shows that virtually all the full democracies and the lion's share of the flawed democracies are achieving efficiency gains in emissions, with falling emissions per unit of GDP over the 27 year period. In contrast, less than half the hybrid and authoritarian countries achieved any efficiency gains. Things even out a bit more for the consumption intensity, with half the full democracies and 36% of the flawed democracies posting declines in emissions per capita, while less than 30% authoritarian systems posted improvements.

Table 4: Carbon management performance by country, 2017				
	Number of countries	Total emissions, 1990-2017	Emissions per capita, 1990-2017	Emissions per unit GDP, 1990-2017
Number of countries with declines				
Full democracy	20	8	10	19
Flawed democracy	55	16	20	45
Hybrid	34	6	8	14
Authoritarian	52	10	20	25
Unclassified	50	5	12	14
% of total countries in each class of government with declines				
Full democracy	100%	40%	50%	95%
Flawed democracy	100%	29%	36%	82%
Hybrid	100%	18%	24%	41%
Authoritarian	100%	19%	38%	48%
Unclassified	100%	10%	24%	28%
Source: Author's calculations using data from the EIU Democracy Index and Emissions Database for Global Atmospheric Research				

Not all governments are alike, even if they occupy adjoining places on the indices. Povitkina (2018) explored the limits of democracy in tackling climate change, assessing whether the differences in the style of regime affects actual implementation. She found that the level of corruption (measured by the Varieties of Democracy program) was inversely correlated with lower CO2 emissions. Where corruption is high, democracies did not seem to do better than authoritarian regimes. The EIU index offers another way to unpack the structure and competencies of governments. Across the four groups we can see quite a bit of heterogeneity of capacity. Full democracies, somewhat obviously are committed to electoral processes, pluralism and protecting civil liberties; if they have a relative weakness, it is their lower support for

political participation (i.e. voters often are complacent and just don't show up). As we go down the scale through flawed democratic, to hybrid and full authoritarian systems the functioning of government declines more rapidly relative to the overall ranking. Authoritarian systems seem to compensate for lack of support for electoral systems, pluralism and civil liberties with greater capacity to mobilize non-electoral political participation and a stronger collective political culture. As a result, authoritative regimes seem to be able to impose more radical change than those systems committed to accommodating electoral politics and civil liberties. In their case, might seems to compensate for rights.

Table 5: Relative influence of style on EIU Democracy Index, 2019						
	2018 EIU Democracy Score	Electoral process & pluralism	Functioning of government	Political participation	Political culture	Civil liberties
Average						
Full Democracies	8.9	9.7	8.7	7.8	8.6	9.4
Flawed Democracies	7.0	8.7	6.5	6.2	5.9	7.7
Hybrid	5.2	6.3	4.2	5.0	5.1	5.5
Authoritarian	2.8	1.4	2.3	3.4	4.5	2.6
Averages relative to overall index score (% difference)						
Full Democracies	-	9%	-2%	-12%	-3%	7%
Flawed Democracies	-	24%	-7%	-11%	-15%	10%
Hybrid	-	21%	-19%	-4%	-3%	6%
Authoritarian	-	-50%	-20%	19%	59%	-9%
Source: Author's calculations using EIU Democracy Index, 2019.						

Innovation

The issue not addressed in any of this conversation so far is the flip side of climate mitigation – green innovation. In spite of all the enthusiasm and rhetoric in support of states imposing and enforcing climate targets on their economies, virtually all the industries themselves report that they cannot see how they can realize net zero emissions with the current technologies and demands. Individual firms in some countries may succeed in reaching net zero, but the global value chains they are embedded in require new technologies to achieve the overall goal.

That will require innovation. As with much of the literature about technology and the economy, Austrian economist Joseph Schumpeter is credited with the first economic definition of innovation, namely the introduction of a new good or a new quality of an existing good, a new method of production, the opening of a new market, the introduction of a new supply of inputs to a production system or a new organizational structure in an industry. Realizing a low-carbon future that is sustainable in every sense, especially in terms of meeting the socio-economic needs of the global population, will require change across the entire spectrum of new things Schumpeter talked about.

Everyone has their favourite set of mechanisms to spur those changes. But if we step back from that level of detail, one can imagine that doing something new is inherently about creativity. Innovation in that sense can be explored by drawing a metaphor from our biologist colleagues who assert that selective pressure, forced breeding and hybrid vigor are the basis for sustained and cumulative growth. Evolutionary biologist Stuart Kauffman, one of the complexity theorists from the Santa Fe Institute, stressed that the rate and scope of change in any system is a function of the number of adjacent potential opportunities. The more that people and institutions are forced to interact with others, both from their own group and from beyond their group, the more likely that the process of hybridization can work.

Creating more adjacent potentials is thus the overriding priority for societies seeking to innovate. Economic, social and intellectual diversity, and the opportunity to mix and match within those domains, is differentially nurtured and supported in different systems. At root, it is about liberty—which as we have already seen is a core attribute of democracies. We require tolerance, if not alignment, of ideas, institutions and interests. Most eureka's do not pan out; it is next to impossible to pick the one opportunity that will be the enduring solution to a problem from among the multitude of good ideas on offer. A bubbling and dynamic effort to nurture, test and apply ideas is likely to generate a greater array of more relevant solutions. Easy start up and quick and painless exits are the best context for this to happen. Democracies are inherently designed to accommodate such activity. People in democratic systems do not need to ask permission to do new things. They simply get on, try, fail, regroup and try again. The more directed the system the more likely that whimsy, ignorance, interest or prejudice will drive and lock-in suboptimal solutions.

The challenge is that just creating space is not enough. Even the most democratic and liberal society have vested interests that are skeptical if not antagonistic to transformative innovation. Schumpeter reminded us that every good new idea effectively creatively destroys somebody else's existing value. New destroys old; otherwise there would be no room for the new. This is where democracies—be they full or flawed—have their greatest role to play. They offer both more space for creativity and more pathways for recycling and reusing the land, labour and capital stranded or discarded in this creatively destructive process.

Moving ahead

Frustration is common when public attitudes change faster than our governments can or will accommodate. While there is a temptation to look to government as scapegoats, and there are lots that warrant criticism, we should be careful not to overplay this hand. Democracy, while far from perfect, is arguably the best option we have. Authoritarian systems, whether governed by a new class of philosopher kings or by self-interested elites, is not a path to practical, sustainable climate policies that meet the world's socio-economic needs. Democracy, for all its warts, is the most likely system to deliver for us. Our challenge is to engage in the democratic process to advance the agenda, rather than to isolate and replace it.