

The Climate Crisis and the Death of the Carbon Peace

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The contemporary international order is eroding. Evidence of its erosion is everywhere. Consider the United States, the nation that led the construction of this system after World War II and that, until quite recently, was its strongest supporter. Today, the American president tells the UN General Assembly that “the future does not belong to globalists. The future belongs to patriots.” And indeed, such thinking has appeared to guide the administration’s foreign policy. Since January of 2017, the Trump administration has waged war on the postwar international trade system, disparaged the United Nations, accused America’s closest allies of taking advantage of the United States in trade and military spending, and handed to Putin the prize that the Soviet Union and Russia have pursued since 1948—a split in the Western alliance. The cautious optimism that characterized the Obama administration’s approach to China has given way to growing conviction that China threatens America’s national security.

Although it would be convenient to lay all of this at Trump’s feet, most of the major Democratic candidates for president embrace many of these same positions, though express them somewhat more politely. They uniformly propose far-reaching changes to America’s trade policy, none openly support America’s continued military engagement in the global order, and all consider China to be more of a security threat than a partner.

Support for the international order is no stronger on the other side of the Atlantic. The United Kingdom is exiting the European Union, Russian President Vladimir Putin is meddling in elections in an attempt to undermine Western democracies, and the rise of right wing and populist parties challenges the survival of many young democracies in Eastern and Central Europe. In Brazil, President Jair Bolsonaro, the so-called “Trump of the Tropics,” has embraced a populist nationalism that is deeply skeptical of global multilateral cooperation. We have reached a global low in state support for the institutions and policies, and even some of the principles, that constitute the postwar liberal international order. As two leading scholars recently commented “the dark forces of world politics—illiberalism, autocracy, nationalism, protectionism, spheres of influence, territorial revisionism—have reasserted themselves.”¹

Why is the postwar order eroding? Most existing answers to this question stress the re-emergence of great power competition and a backlash against globalization.² I propose an alternative explanation rooted in what I call the Carbon Peace. The Carbon Peace hypothesizes that the postwar international order rested on fossil fuels. The order is now eroding because the climate crisis and the associated questions about fossil fuels and renewable energy have risen to the top of the political agenda within societies and in the international system. The ascendancy of these challenges has destabilized the political coalitions that have long provided the principal support for the postwar order and galvanized the formation of new coalitions, none of which provide robust support for the current international order.

It is easy to find support for the proposition that the erosion of the postwar international order is caused by the climate crisis and associated energy transition. Internationally, climate change and energy have split the postwar alliance among liberal democracies. The United States under the Trump administration denies climate science and champions the role of fossil fuels in the global economy. Trump has sought to position the US among an emerging coalition composed of the

¹ Deudney and Ikenberry 2019.

² See, e.g., Mearsheimer 2019; Brands 2019; Ikenberry 2018; Deudney and Ikenberry 2018; Kagan 2018; Walt 2018; Wright 2018.

major fossil fuel producers that includes, among others, Putin's Russia, Saudi Arabia and other OPEC members, and Australia, for which coal and gas exports are critically important. Mohammed Barkindo, OPEC General Secretary, succinctly characterizes the position of this coalition of deniers: "Civil Society is being misled to believe that oil is the cause of climate change." In contrast, most of America's postwar allies, including most long-term members of the European Union and NATO, have created a coalition of transitionists, who are deeply concerned about climate change and are taking steps to decarbonize. Norway, for example, has committed to ending the sale of new cars powered by internal combustion engines by 2025; Germany committed to end coal-fired electricity generation by 2038 at the latest. A third group of states, more loosely tied together, attempts to straddle these two positions. Here we find China, India, and many other middle- and low-income societies who acknowledge the climate crisis but prefer that someone other than themselves bear the costs of mitigation.

One sees practically identical transformations of political coalitions inside the Western democracies. In the United States, bipartisan support for global engagement has been replaced by a pro-fossil fuel coalition and a Green New Deal coalition. This American realignment might soon be mirrored in the United Kingdom, where Prime Minister Boris Johnson, a representative of the right wing of the Conservative Party, is on record as a climate science skeptic, a characteristic embraced by other members of his Cabinet. The Labour Party has just embraced its own version of the Green New Deal at its 2019 Party Congress, a decision that could push climate and energy to the center of the next election and lead to a reorganization of British politics. Similar developments are evident across Europe, where far right and populist parties are almost universally skeptical of climate science, while parties of the left advocate a rapid transition to renewables. With increasing frequency, emerging political coalitions at home as well as in the international system offer voters a choice between fossil-fueled nationalism on the one hand and renewable energy cosmopolitanism on the other. The era of the Carbon Peace has ended.

Fossil Fuels and the Politics of Abundance

The Carbon Peace arose as a manifestation of a historically novel "political economy of abundance." The political economy of abundance has been defined by three core elements. First, the application of fossil fuels to agriculture and transportation systems (especially motor vehicle production) transformed the material basis of the economic systems and income and wealth creation. In the agrarian economy, all wealth is derived from land, which is fixed in supply. Regrettably, the income generated by labor and capital applied to land exhibits decreasing returns. The agrarian economy is thus characterized by zero expected growth and stochastic shocks. In the carbon economy, wealth is derived from the use of carbon-powered machines (the capital stock) to transform raw materials into marketable products, enabling the increase of capital stock. The carbon economy is thus characterized by positive expected growth in output per capita.

Second, change in the material foundations transformed the central issues of politics. In the agrarian economy, politics revolved around the need to manage the land/labor ratio. Having too little labor relative to land made it difficult to produce energy and having too much labor relative to land created too much demand for energy. Thus, rulers used migration, annexation, and colonialization to maintain their desired land/labor ratio. As a result, the agrarian order was characterized by conflict within and between societies over land and over people. In the carbon economy, managing the land/labor ratio became relatively unimportant because fossil fuels raised agricultural productivity and per capita industrial output. Thus, politics revolved around distributing the economic surplus that fossil fuels generated and encouraging the global diffusion of this carbon economy model. Reduced to its most fundamental principles, politics shifted from zero sum conflict

in the agrarian system to positive sum cooperation in the carbon order. Thus, as society transitioned from agrarian to carbon economies, the central logic of politics shifted from zero sum conflict over land to positive sum cooperation over the distribution of a growing economic surplus.

Finally, the transformation of the material environment altered human decision making. As life history theory has found, characteristics of the material environment exert a powerful impact on individual attitudes toward the future and toward risk, as well as influence the willingness of people to cooperate. People who are raised in harsh environments are more likely to discount the future and be risk tolerant than individuals who are raised in environments of abundance. In addition, individuals who live in “harsh environments...defect more, forgive less...and punish cheaters less. They also describe themselves as less prosocial and score lower on agreeability questionnaires.”³ In the agrarian economy, people were generally present oriented, risk tolerant, and disinclined to cooperate. In the carbon economy, individuals value the future more, are risk averse, and are willing to pursue cooperation. Thus, as society transitioned from the politics of scarcity to the politics of abundance, people became less willing to bear the cost of conflict and more willing to cooperatively distribute the economic surplus.

These three elements transformed the ecosystem within which domestic and international politics occurs, displacing the traditional zero-sum political economy of scarcity of the pre-carbon era in which cooperation was rare and conflict ever present and establishing in its place the positive-sum political economy of abundance in which political cooperation to secure joint gains became the norm. During the mid-twentieth century, social groups and governments created institutions that allowed them to capture and distribute the newly available gains from the carbon economy. Within countries, economic groups negotiated a series of agreements that distributed the economic surplus generated by the carbon economy between farm and factory, between labor and capital, and even, to a degree, between the core and the periphery of the international system through foreign aid programs. The US pioneered such structures and settlements domestically between 1932 and 1950 and then exported them to the rest of the world as a central component of America’s postwar hegemony. Internationally, the US pushed its World War II allies to create and participate in global multilateral institutions that promoted the global diffusion of and trade in the carbon economy model and its industrial products. Working first through NGOs and private foundation funding, and then through the World Bank, the US promoted the global diffusion of a carbon-based model of agriculture centered on the energy-intensive Haber-Bosch process for fertilizer production and the mechanization of farm work by increased reliance on tractors and other farm implements powered by internal combustion engine. The resulting international order, organized around American power and fueled by cheap fossil fuels ushered in the Carbon Peace: a seventy-year period of steadily rising prosperity and relative peace across the international system.

The rise to the top of the political agenda of climate change and the associated transition away from fossil fuels challenges each element of the Carbon Peace. First, it remains unclear what will take the place of autos and steel as a source of employment and income for low-skilled workers in a renewable energy regime. It seems unlikely that the world will continue to produce 100 million or more cars per year in a post-carbon world. Global auto makers are already preparing for what appears to be an inevitable contraction; some estimates suggest that as many as half of current jobs in German automakers are at risk.⁴ What industry will generate the jobs and the incomes necessary to sustain and expand the global middle class in the green economy? The Green New Deal emphasizes the renewable energy industry as a source of jobs. Yet, the purpose of the energy sector isn’t to create jobs, but to improve economic productivity by enabling us to substitute machine

³ Baumard and Chevalier 2015, 3.

⁴ <https://www.nytimes.com/2019/06/06/business/auto-industry-fiat-renault.html>

power for human power. In some ways, therefore, using lots of labor to produce energy is somewhat akin to replacing tractors with people in order to produce food. Thus, the economic future is far more uncertain today than it was in 1960.

Second, the transition out of the carbon economy occurs in a context in which groups remain differentially exposed to and thus assign different weights to the threats posed by climate change and decarbonization. Some groups, by virtue of their accumulated human capital, have become largely insulated from the economic consequences of a transition to renewable energy and thus attach highest importance to the climate crisis. The tech-sector and financial services, for instance, are extremely energy-intensive, but they can function perfectly well on renewable energy. Consequently, employees in these sectors are more concerned about climate than about the negative impact of decarbonization. At the moment, the same isn't true for steel, cement, ammonia, ethylene, aviation, and shipping. Industrial processes in all of these industries remain dependent on fossil fuels as feed stock, to generate the heat required, and for aviation and shipping, for fuel. Collectively, these industries produce approximately one-quarter of total GHG emissions.⁵ Thus, a significant segment of the workforce remains firmly embedded in the carbon economy and unsurprisingly attaches greater importance to the impact that a rapid energy transition is likely to have on their standard of living. Thus, the common interest of labor and capital in the fortunes of the auto and steel industries that developed in the first half of the 20th century has been replaced by a sectoral decoupling of low-skill labor and human capital resulting in varying exposures to decarbonization. As a result, the policy goals that each group pursues is perceived as an existential threat to the other; how can low-skill workers sustain their living standards in a decarbonized economy? Can humanity survive if GHG emissions continue unabated?

Finally, people have responded to rising uncertainty by changing their expectations; people fear that the future will be worse than the present. The logic of life history theory suggests that in harsh environments individuals heavily discount the future, become more willing to embrace risk, and become less willing to cooperate with others. Recent polling by Pew Center supports this claim, finding that only “37% of Americans believe that today’s children will grow up to be better off financially than their parents.”⁶ Pew found similar levels of pessimism in Canada and the European Union. As a result, therefore, as we face challenges that require a heightened focus on long run outcomes and require significant cooperation to manage, people on average have become more focused on the immediate threats, more inclined to accept risk in order to work towards their goals, and less willing to cooperate.

Thus, the old coalitions that predominated within the political economy of abundance have weakened significantly and new coalitions are emerging in their place. These new coalitions organize around opposing orientations toward the fossil fuel energy regime and advocate very different responses to the two-sided challenge that we face. These coalitions are more likely to focus on short-run challenges and less likely to pursue cooperation. Thus, we are transitioning back towards a zero-sum politics in which political conflict becomes more common and cooperation becomes more difficult.

The death of the Carbon Peace is a contemporary manifestation of the historical relationship between energy and social order. Since the very beginning of human civilization, social orders have been strongly shaped by the amount of energy available to them. Leslie White noted seventy years ago that social complexity increases as a function of per capita energy availability. Thirty-five years ago Joseph Tainter highlighted the obvious converse of White’s Law, that a decline in energy per capita causes the collapse of complex societies. Current restructuring emerges as a corollary to

⁵ McKinsey and Company. 2018. *Decarbonization of industrial sectors: the next frontier*, June.

⁶ <https://www.pewresearch.org/global/2017/06/05/2-public-divided-on-prospects-for-the-next-generation/>

White's Law: energy transitions cause transitions of social orders. To quote Tainter, "Energy flow and sociopolitical organization are opposite sides of an equation. Neither can exist...without the other, nor can either undergo substantial change without altering both the opposite member...Energy flow and sociopolitical organization must evolve in harmony."⁷

The Realignment

The climate and energy cleavage now defines American politics. Without exception, every Democrat running for president embraces some variant of the Green New Deal. The GND strives to harness the power of the American state to accomplish a rapid decarbonization of the American energy system in the context of a dramatic reorientation of the American economy. And while America's deindustrialization is not a recent phenomenon, the fusion of deindustrialization and decarbonization constitutes the first explicit assertion that the shift away from the postwar carbon economy is a permanent rather than temporary phenomena. The Trump administration, in contrast, has worked persistently to rescue and reconstruct the carbon economy as it existed in some idealized form in the early 1960s. Indeed, the administration's laser-like focus on reconstructing the carbon industrial base has been its most coherent policy; the campaign slogan "Make America Great Again" appears to have been a euphemism for Recarbonize the American Economy. Trump, therefore, as well as Bernie Sanders, Elizabeth Warren and AOC are all manifestations of a political system that has been polarized by the climate crisis.

This climate and energy cleavage also increasingly shapes policies and alignments in international politics. Here again we see a group of actors making great strides in reducing their exposure to the carbon economy and a second group who seem determined to double down on the persistence of the carbon economy. Thus, the small European states have embraced a soft green statism to encourage an energy transition and cultivate the development of human capital. The larger European states, Germany especially, lag behind but are striving to catch up by pushing for electric vehicles and planning to phase out coal. China has embraced a much stronger version of green statism to drive the development of solar and wind capacities. A strong form of carbon nationalism has developed alongside green statism. Here we find Trump's US, Putin's Russia, the Saudi regime, Australia, Brazil, and Turkey working along common lines, though not yet constituting a coalition, but discovering over time that they share a common interest in the persistence of the carbon economy. And America's schizophrenic Russia policy, in which congressional Democrats and some moderate Republicans push a punitive sanctions regime while Trump seeks a better relationship with Putin reflects the interplay between the domestic and international consequences of the climate and energy cleavage.

Yet, in spite of their differences, these emerging coalitions hold two things in common that challenge the core principles of the postwar international order. First, both coalitions seem willing to suspend and violate democratic norms in pursuit of their broader objectives. The soft statism that characterizes industrial policy among advocates of the Green New Deal in the US and elsewhere could easily transform into a green authoritarianism under pressure from the intensifying climate crisis. Partly this reflects the urgency of the matter and partly this reflects the growing appeal of China's state-centered approach to the energy transition. As Jeff Feffer recently wrote in *The Nation*, "if democracies don't embrace moonshots like the Green New Deal—along with the administrative apparatus to force powerful interests to comply—then the increasing political and economic chaos of climate change will usher in yet more authoritarian regimes."⁸ The carbon nationalism that

⁷ Tainter 1988, 91

⁸ Jeff Feffer, 2019. "The Case for a Coercive Green New Deal, *The Nation* (July 30) <https://www.thenation.com/article/china-coercive-green-new-deal/> (accessed October 30, 2019).

characterizes the Trump administration certainly leans in to authoritarianism while many of Trump's international friends and fellow travelers embrace it. The future therefore seems almost certain to be less democratic than the recent past, thereby pushing the arc of history in a regressive direction.

Second, both coalitions are highly critical of the current structure of globalization. The carbon nationalists have little interest in global value chains and cross-border technological diffusion. Some, such as Russia, remain largely outside these global production networks and thus stand to lose little from their destruction. Others, such as Trump's America, strives to renationalize production and must dismantle these networks to do so. For the Green New Deal coalition, current global economic institutions limit what states can do to support domestic green industries and restrict their ability to tax imports of high-carbon goods produced elsewhere. These constraints have led to proposals to amend WTO rules and even to suspend the much of the WTO rule set for ten years.⁹ We thus are drifting away from the rules-based multilateral liberal trade system that has structured global economic interactions for 75 years.

Delivering a New Order

We cannot resuscitate the Carbon Peace. The critical question moving forward is thus not how do we save the postwar order, but what will take its place? One possibility is that the Carbon Peace will give way to costly and ultimately deadly (and perhaps even catastrophically so) great power rivalries. In the past, we have transitioned from one international order to another through war, as advocates of a new global order challenged defenders of the established international order. By many indications, including the Trump administration's 2018 National Security Strategy and the authoritarian turn in China and elsewhere, we have already embarked on a journey toward this future.

But another less dangerous path exists and demands consideration. This alternative path is constructed from four key elements. The first element is rebuilding a constructive relationship with China. Since 2013, China has emerged as a global leader in clean energy technology. America's energy transition can and should profit from China's achievements. Our ability to do so requires us to normalize our economic relationship with China. Yet, the Trump administration has damaged our relationship with China and the leading candidates for 2020 among the Democrats envisage climate change programs that exclude Chinese technology and products in favor of home-grown solutions. Elizabeth Warren for instance, promises to commit \$400 billion to clean energy research over ten years "with [trade] protections in place to ensure that technology is manufactured here at home, not overseas." Spending half a trillion dollars and ten years to reinvent windmills and solar panels that we can now import from China more cheaply is not only remarkably inefficient, but it fails entirely to embrace the urgency of the crisis we face.

The second element involves rebuilding trust and a productive partnership between the US and its traditional democratic allies in Europe. Rebuilding this relationship is critical because the high-income countries will have to cooperatively manage the consequences of climate change. The coming decades are almost certain to generate severe disruptions that take the form of greater volatility of global food output and an increased frequency of mass population movements in response to environmental and economic crises. Each year since 2008, 24 million people have been displaced by extreme weather events. The World Bank has estimated that over the next 30 years an additional 143 million people will be displaced by extreme weather events in Asia, sub-Saharan

⁹ Todd N. Tucker. 2019. "The Green New Deal: A Ten-Year Window to Reshape International Economic Law," *Roosevelt Institute Working Paper* (July).

Africa, and Latin America.¹⁰ Such displacements will occur closer to home as well. Climate change is about to create its first American refugees, as coastal communities in Louisiana will soon be submerged by rising seas. These events will require a coordinated response from the US and its NATO allies, one that leans heavily on military logistics that only the US possesses and imposes a significant financial burden that is more readily carried if broadly distributed.

The third critical element employs this more cooperative relationship among the US, the EU, and China to create the international institutions to support the transition away from the Carbon Peace. Whether such institution building occurs through the reform of existing institutions such as the WTO, the IMF, the World Bank, and the UN, or instead by the construction of new institutions, a cooperative response to the climate crisis and energy transition requires a rules-based framework. And because the crisis is fundamentally novel, the requisite rules don't yet exist. The most obvious place for common rules is in the regulation of GHG emissions, as well as rules governing property rights for the technologies associated with alternative energies and carbon capture mechanisms. But the need for cooperation extends well beyond emissions reductions and energy technology. For example, presently international law does not recognize the category of "environmental refugee", and thus those forced to flee their homes by severe weather or rising sea levels enjoy no international legal protections. Similarly, governments might find it useful to use border carbon adjustments to discourage carbon-intensive products, but the ability to do so effectively will require them to articulate common international rules that govern design and implementation. In short, the challenges the climate crisis and energy transition generated can only be solved through international cooperation.

Finally, choosing this cooperative alternative becomes possible only with change in American government. The Trump administration will not opt for cooperation. And even with a Democrat in the White House, a Republican majority in the Senate will continue to block effective policy. A meaningful response to the climate crisis thus rests on the ability of the Democrats to defeat Trump, gain a majority in the Senate, and retain its current majority in the House. Accomplishing this electoral victory requires a pragmatic focus on raising public awareness about the reality of the climate crisis and articulating a plan to lead us through it. The Green New Deal provides a useful conceptual frame, but to be successful it must focus like a laser on climate emergency and energy.

And as we move forward over the next year, it is important to remember that on November 3, 2020 we will decide which version of the future our children and grandchildren will experience. Re-electing the Trump administration and the broader social forces that it represents, locks us into an exceedingly grim future through the middle of the next decade. By 2025, we will all wish that we had those five years back. Consequently, the 2020 election must focus on one and only one issue: how to move forward after the death of the Carbon Peace.

¹⁰ World Bank. 2018. *Groundswell: Preparing for Internal Climate Migration*. <https://openknowledge.worldbank.org/handle/10986/29461>