

Business Interests, Energy Competition, Climate Change and Norms-based Actors

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Abstract:

Popular discourse has tended to see climate change as an issue on which ‘business’ is united in its opposition to action to address climate change — helped by works such as Naomi Klein’s (2015) *This changes everything: Capitalism vs. the climate*. Even more scholarly analysis has tended to talk of business as a unified actor, and even the Secretariat of the Framework Convention on Climate Change expected the International Chamber of Commerce to speak on behalf of all business. But climate change policy is a classic example of regulatory policy, albeit in an international, multi-arena setting, and so it divides business along sectoral lines, which meant that the ICC — a peak association — was unable to make much of a contribution on behalf of its diverse membership. This paper will critically discuss the business interests that have been active within the several arenas that constitute the climate change regime, and paying particular attention to the activities of MNCs, showing how they are split according to various factors, but especially the carbon-intensiveness of energy sources. Moreover, at the ‘coalface’ of political action, MNCs (such as Adani) are targeted by transnational advocacy networks, while individual firms have also been active in support of global policy (with EnRon perhaps the most notorious example). The paper will show that ‘Bootlegger and Baptist’ coalitions, commonly found with regulatory policies, are present in the politics surrounding climate change, and are affecting the outcomes of sectoral energy competition in responses to the issue, but the global politics of climate change involves a complex mix of MNCs, sector associations and peak associations acting at various levels.

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Popular discourse has often depicted climate change as an issue on which ‘business’ is united in its opposition to action to address climate change — helped by works such as Naomi Klein’s (2015) *This changes everything: Capitalism vs. the climate*. Even more scholarly analysis has tended to talk of business as a unified actor, and even the Secretariat of the Framework Convention on Climate Change expected the International Chamber of Commerce to speak on behalf of all business.¹

But climate change policy is a classic example of a regulatory policy, albeit in an international, multi-arena setting, and so it divides business along sectoral lines, which meant that the ICC — a global peak business association — was unable to make much of a contribution on behalf of its diverse membership. Klein clearly had in mind that climate change was a *redistributive* policy issue that involved choices between capital and labour, haves and have-nots, and so on. Rather, climate change is a regulatory policy, a distinction made famously by Theodore J. Lowi (1964), with his ‘Arenas of Power’ approach to the classification of public policies. Whereas redistributive policies mobilise groups (and even parties) along roughly class lines, regulatory policies mobilise sectoral business associations. Regulatory policies might involve explicit choices between sectoral interests that mobilise on each side of the issue in the classic pattern of pluralist politics, or regulate sectoral interests in order to promote or protect some public interest.

With climate change, the public interest is global, but nevertheless protected by environment non-governmental organisations (ENGOS), which of course must overcome the rationality of collective action to mobilise support for their cause, often resorting to the use of rhetorical devices and appeals to altruism, since they are unable to employ the classic devices Mancur Olson suggested could be used to overcome the obstacles to collective action: the use of coercion or the provision of exclusive benefits that will alter the balance of the rationality of action and lead to the mobilization of support. (With ENGOS, one might mount an argument that joining or supporting² brings with it the ‘psychic benefit’ of the satisfaction that one is ‘saving the planet’).

Those parts of climate change policies that relate to the mitigation of the emissions of greenhouse gases (GHGs) do not therefore pose a challenge to capitalism, but pose a threat to some sectoral interests and numerous opportunities to others. All energy sources are not created equal when it comes to GHG emissions, and so decarbonisation policies will impact some worse than others, and this relative impact is what is important. Clearly, fossil fuels will be the most disadvantaged, since their utilisation inevitably involves the combination of carbon and hydrocarbons and oxygen in an endothermic reaction producing carbon dioxide, water and energy. Decarbonisation therefore will work to the advantage of those with interests in nuclear energy and hydro-electricity and other forms of renewable energy, such as solar, wind and biomass.

Moreover, within the category ‘fossil fuels’ there are sectoral differences in impact, reflecting differences in carbon content and efficiency of utilization. In electricity generation, the key difference is between coal and natural gas, with coal containing much more carbon with much of the energy in gas coming from hydrocarbons. The IEA states that the average global

¹ I am grateful to Jack Whelan, then climate change specialist at the International Chamber of Commerce for this observation. Interview with Jack Whelan, International Chamber of Commerce, Paris, 25 May 2003.

² It should be noted here that Greenpeace (unlike, say, Friends of the Earth) is not a membership organisation, but a private transnational corporation that solicits donations from supporters.

efficiency of coal-fired electricity is 33%, but it can be as low as the mid-20s with brown coal (or lignite) with a high moisture content (where much of the energy goes into vaporizing the water, the latent heat of evaporation). Single cycle thermal generation can perform in the 35-42% range, although state-of-the-art Hypersupercritical plant can achieve 45% and further technological developments such as Integrated Gasification Combined Cycle promise even higher efficiencies. Gas can outperform coal, however, with Combined Cycle Gas Turbine plant already offering around 54% in base-load operation, with advantages also in GHG emissions because of the characteristics of the fuel. Gas plant can also be operated quite flexibly, so is most suitable for providing back-up for renewables such as solar and wind, which are subject to both short- and long-term variability.

Policies aimed at addressing climate change by mitigating CO₂ therefore intersect with different energy sectors differently. They advantage relatively nuclear and renewables over gas, and gas over coal. It should be noted, however, that this analysis reflects only emissions of CO₂, and then only as the result of utilization. The appropriate measure for comparison of emissions, of course, must include a life-cycle assessment. The steel in the tower of a wind generator, for example, requires perhaps 220 tonnes of coking coal to manufacture, and photovoltaics compare unfavourably with nuclear energy (Fthenakis & Kim, 2007). One analysis (Ferroni & Hopkirk, 2016) suggests that more energy goes into manufacturing solar panels than is produced by them in locations such as Germany and Switzerland, although this is contested (Raugei, *et al*, 2017). But aside from 'Energy Return on Energy Invested', the manufacture of photovoltaic panels has a controversial GHG balance, not just because they are often made in China using (inefficient) coal-fired electricity, but because their manufacture involves the release of substances such as the solvents nitrogen trifluoride (NF₃), which was not covered by the first commitment period under the Kyoto Protocol, but which is 16,000 times more powerful a GHG than CO₂, and sulphur hexafluoride (SF₆) which is 23,900 times more powerful than CO₂ (Arnold, *et al*, 2013).

As this brief analysis shows, GHG mitigation measures can advantage or disadvantage different energy sources according to how they treat them. Because CO₂ is thought to be an effective climate forcing agent for over a century, the fact that the FCCC and Kyoto deal only with annual emissions rather than historical contributions to elevated, accumulated GHG levels is erroneous. (Brazil proposed architecture while Kyoto was being negotiated that allocated burdens according to historical emissions, which would have required more of the UK and Germany and less of the US compared with Kyoto). And which gases were included, and which were excluded (as the NF₃ example shows) also makes a difference.

This differential impact on different energy sectors also aggregates to differential implications for nation states, and this paper analyses the significance the way national and sectoral business interests have affected and been affected by global climate policy. It begins by discussing critically the business interests that have been active within the several arenas that constitute the climate change regime, and paying particular attention to the activities of multinational corporations (MNCs), showing how they are split according to various factors, but especially the carbon-intensiveness of energy sources. Moreover, at the 'coalface' of political action, MNCs (such as Adani) are targeted by transnational advocacy networks, while individual firms have also been active in support of global policy (with EnRon perhaps the most notorious example). The paper will show that 'Bootlegger and Baptist' coalitions, commonly found with regulatory policies, are present in the politics surrounding climate change, and are affecting the outcomes of sectoral energy competition in responses to the issue, but the global politics of climate change involves a complex mix of MNCs, sector associations and peak associations

acting at various levels.

It then moves to look specifically at the way in which the trajectory of climate change negotiations affected and has been affected by different aggregations of sectoral interests in national interests.

Global Business and Global Climate Policy

In suggesting that Capitalism and Climate are opposed, Klein seems to have missed the enthusiasm of business actors for action on climate. For example John Palmisano, representative at Kyoto of Enron (at the time, the 'poster child' of both corporate capitalism and the environmental movement) enthused to his colleagues upon return:

One final point, Terry, if you remember, I predicted an agreement that would yield a 5% reduction by 2010; we got 7% by 2012. I now predict ratification within 3 years. I predict business opportunities within 18 months. I predict this agreement will have very significant influences on the energy sector within OECD and transitional economies and will accelerate renewable markets in developing countries.

This agreement will be good for Enron stock!! (Bradley, 2012).

Business, rather than being united on an issue like climate change, is divided by the carbon intensity of the energy sources it exploits. This, of course, aggregates at the national level to constitute varying national interests that are carried into international negotiations. For example, Denmark not only places considerable reliance on wind energy, but hosts a leading manufacturer of wind turbines in Vestas. Energy interests are not the only interests surrounding climate change, of course. The insurance industry has a stake because its policies, both retail and reinsurance, are costed on past probabilities of extreme weather events that might be altered by climate change, and it has long been concerned at possible public reaction to the classification of events as floods or storms, because the former can be excluded from some policies. The financial sector developed a significant interest in climate change thanks to provisions for emissions trading, with various financial instruments derived from emission reductions constituting a new opportunity for trading. Concerns over climate change have also helped reinforce the case for high levels of energy taxation, such as transport fuel taxes in the UK, which often led to protests by truck drivers in the past.

Just how these varied business interests interact, form coalitions and intersect with business associations, nation states and economic integration institutions like the European Union is by no means straightforward. While those which fall largely within national boundaries are likely to be active within national business groups and seek to affect national policies and negotiating positions, multinational corporations are likely to engage across national boundaries and engage selectively with business associations, depending on the extent to which their corporate interests resonate with the positions of the associations. For MNCs there is often a difficult choice to be made as to whether they support or oppose the positions of governments within the jurisdiction of which the corporation might operate.

For example, in the oil sector, after BP merged with AMOCO in 1998, 60% of its asset base was in the US. BP then faced the decision of whether to go with the US or UK position on Kyoto. Did it associate with the International Chamber of Commerce national committee in the US or the UK? Or that in Netherlands? Shell, as a corporate policy, has traditionally joined the

national committee of the ICC (the route by which firms join the ICC) wherever its feet touch the ground. In fact, there were divergences of opinion within one company within the ICC, so there was a tendency for lowest common denominator positions within peak associations like the ICC, when policy-makers are seeking specific views. (Specific groups such as the World Business Council for Sustainable Development could more readily develop a single view, but they were not restricted by having to be representative, and their positions did not represent a consensus).

Large multinational corporations are therefore more reluctant to engage through a multi-layered process and they often seek to engage directly with negotiators (Whelan, 2003). The problem then is how they manage to do so effectively. The secretariats of treaty organizations are not particularly influential. Access to international political machinery has traditionally been through national delegations, and so MNCs have been able to access the global policy process in this way, but they could not register as delegates themselves at international meetings, and so they used the ICC. In the 1990s, however, the UN opened up access to NGOs, and the FCCC in particular now has many hundreds of NGOs attending its conferences of the parties, and this also opened access to business as well as ENGOs, and this meant individual firms, not just ICC. Individual corporations now have multiple choices. Some are more direct, though not necessarily more effective, than through ICC representation.

The relationship between states and energy interests is further complicated by questions of policy and ownership. Not only have renewables in Europe been supported by subsidies (either explicitly or implicitly in regulatory policies), but coal was supported by substantial subsidies that proved difficult politically to end, and the shale gas revolution that has transformed US energy markets (and GHG emissions) has been prohibited by government regulation. In the case of Spain, simultaneous subsidies for coal and renewables did much to squeeze out private investment in gas-fired electricity that would have lowered GHG emissions *and* eased pressure on the national budget.

That relationship is clearest, of course, where public ownership essentially places energy sectoral interests at the heart of national interests, such as state ownership of EDF in France, with its heavy commitment to nuclear energy – adopted as a response to energy security concerns raised by 1970s oil crises. A similar relationship existed in the UK, where moves in the early 1980s by the Thatcher government to end inefficiencies and subsidies in the 173 coal mines owned by the National Coal Board precipitated a miners' strike that (ironically) closed the mines – for months in the short term in 1984-85, but permanently for most of them. The coal sector was privatized in 1994 and within fifteen years there were only six operating pits. The cost of steaming coal in the UK was of the order of four times that exported by Australia, so climate change intersected with energy competition and energy security. (The slightly earlier privatization of the UK's Central Electricity Generating Board also had significant consequences for climate change negotiations).

The intersection between interests and norms-based actors is also worth noting, and MNCs are especially significant in what Bruce Yandle (1983) has called 'Bootlegger and Baptist' coalitions. These are (often tacit) coalitions between those who wish to prohibit some activity because they consider it to be morally wrong (Baptists) and those who wish to prohibit it because this will advantage their interests (Bootleggers). So Baptists oppose the sale of alcohol on a Sunday because it is morally wrong, while Bootleggers do so because they can sell alcohol at a profit on a Sunday only if it is illegal. These coalitions are not necessarily consummated by any formal agreement, but in supporting the same policy they act in concert (in the sense of harmony). Moreover, the norms-based campaigners enhance the influence of the self-interested

actor by providing a moral cloak and making respectable that which would otherwise stand exposed as more naked self-interest.

As noted earlier, regulatory policies usually excite business political activity at the level of sector groups, although governments have also turned to subsidies (or Distributive policies) in their pursuit of decarbonisation, with Elon Musk's Tesla and Solar City reportedly having benefited from \$4.9b in government subsidies (Hirsch, 2015). The now-common targeting of individual corporations in civil society campaigns has also led to the adoption of defensive strategies in the name of 'corporate social responsibility', and the contact with NGOs that this has brought often facilitates the development of Bootlegger and Baptist coalitions, sometimes even involving the direct provision of financial support by corporations to ENGOS, which reciprocate by providing political support or public endorsement, as can be shown (together with other aspects discussed in this section) in a brief case study.

Enron: A Case Study

There is perhaps no clearer example of the way in which climate change might advantage business, giving lie to Klein's suggestion that it is an issue that threatens 'capitalism', than the energy company Enron, which collapsed in spectacular fashion on 2 December 2001, and which Jeremy Leggett (1999: 204) described as 'the company most responsible for sparking off the greenhouse civil war in the hydrocarbon business.' Its conduct during and after the negotiation of Kyoto reveals much of the behavior of MNCs during climate negotiations.

As Patrick J. Michaels (2002) pointed out shortly after its collapse on, Enron was a strong supporter of Kyoto and had lobbied in support of key features of it. Michaels refers to a now widely-circulated e-mail from Enron's representative at Kyoto, John Palmisano on 12 December 1997 reporting on proceedings ('Implications of the Climate Change Agreement in Kyoto & What Transpired')³, where he states that 'If implemented, this agreement will do more to promote Enron's business than will almost any other regulatory initiative outside of restructuring of the energy and natural gas industries in Europe and the United States.' He went on to state that 'The endorsement of joint implementation within Annex-1 is exactly what I have been lobbying for and it seems like we won. The clean development will be a mechanism for funding renewable projects. Again, we won.' In addition to business opportunities in renewable and low-carbon energy, including gas pipelines, Enron expected opportunities from emissions trading: 'The endorsement of emissions trading was another victory for us.'

Palmisano's e-mail revealed considerable detail of Enron's interests climate change policy and its tactics in seeking to maximize those interests.

Enron also supported ENGOS that were helping to drive the climate policy that was advantageous to its interests, donating almost \$1.5m to environmental groups supporting international action on climate change, with \$990,000 donated by the Enron Foundation between 1994 and 1996 to the Nature Conservancy (Lickert and Morris, 2002). Enron also worked together with ENGOS in other ways, with Enron CEO Kenneth Lay named a member of President Clinton's 'Council on Sustainable Development' in 1997, along with Fred Krupp, executive director of the Environmental Defense Fund (EDF) and representatives from the Sierra Club, National Wildlife Federation and the Natural Resources Defense Council (NRDC). The National Environmental Trust, a public relations organization funded by the Pew Charitable Trusts, worked with Lay to place pro-Kyoto editorials under his signature in the

³ Palmisano's e-mail has been archived by one of its recipients (Bradley, 2012).

Houston Chronicle, the *Austin-American Statesman* and the *Salt Lake City Tribune*.

Enron's support for ENGOs was reciprocated. Daniel Kirshner, an EDF senior economic analyst, endorsed Enron's 39-megawatt 'Enron Earth Smart Power' wind farm in Southern California, with a statement that 'The Environmental Defense Fund hopes that buying environmentally-friendly electricity will soon be as popular as recycling is now' (Lickert and Morris, 2002). ENGOs also supported Enron's 1997 purchase of Portland General Electric after Enron urged NRDC and a coalition of Oregon environmental groups to sign a memorandum of agreement endorsing the purchase, in the face of objections by the state Public Utility Commission. The groups later received Enron grants totalling nearly \$500,000. (Northwest Environmental Advocates received \$30,000, Salmon Watch \$15,000, and American Rivers \$5,000).

This tacit coalition with ENGOs extended to Kyoto, after which Palmisano reported to his colleagues in his e-mail that

Through our involvement with the climate change initiatives, Enron now has excellent credentials with many "green" interests including Greenpeace, WWF, NRDC, GermanWatch, the US Climate Action Network, the European Climate Action Network, Ozone Action, WRI, and Worldwatch. This position should be increasingly cultivated and capitalized on (monetized).

Palmisano played a prominent role at Kyoto. He reported in his e-mail that he gave three speeches – on emissions trading, energy efficiency/renewables, and the role of business in promoting clean energy outcomes. He also received an award on behalf of Ken Lay and Enron from the Climate Institute for their work promoting clean-energy solutions to climate change. The other recipients were Sven Auken, Minister for Energy and Environment in Denmark, and former Environment Minister for the UK, John Gummer.

Enron did not confine its lobbying to the US government, however, and its status as an MNC was used to effect, to seek to advance its interests both in the US and abroad. As Palmisano pointed out to his colleagues, the inclusion of 'Joint Implementation' for Annex-1 developed countries and 'economies in transition', meant that Enron projects in Russia, Bulgaria, Romania and other eastern countries could be monetized, in part, by capturing carbon reductions for sale back in the US or other Western countries. In addition to lobbying the Clinton administration and supporting the US, Enron also worked at Kyoto with delegates from the EU to oppose US positions, particularly because the US was advocating that there should be no rules governing the trading of carbon emissions on the grounds that rules would 'inhibit trading.' Palmisano's position was that rules defining who owned what reductions, how reductions were traded, how they were tracked, and liability rules would help promote trading, 'since rules give both buyers and sellers more confidence in the commodity.'

Enron, therefore, did not confine its political activity to the level of the US government, but it also acted strategically in its relations to sector groups beyond the level of the individual firm, demonstrating the behavior pursued by many firms that frequently protect their corporate reputations by expecting business associations to take a more aggressive line on issues with which they do not wish to associate themselves. Palmisano noted that at Kyoto some companies and 'trade associations' continued to criticize developing countries for not doing more, but noted that no company wanted to 'be specific' on this issue. To the extent any company did wish to push that line, he expected that they would 'hide under the shield of a trade association.' He considered that shield would soon be pierced, and believed that some companies would

soon break from that position – ‘a weak position in terms of equity and suicidal in terms of their commercial interests in these countries.’

Once Kyoto was signed, Enron was an enthusiastic and very public supporter of climate change action, touting to the world its capacities to deliver energy that would fit a post-Kyoto world, and pointing to its membership of bodies such as the Pew Centre on Global Climate Change. The World Business Council for Sustainable Development, and the US and European Business Councils for Sustainable Energy, and its winning in 1998 the US Environmental Protection Authority’s Climate Protection Award for its ‘exemplary efforts and achievements in protecting the global climate’ (Enron, n.d.: 6). Enron realized that ratification would only receive a dozen or so votes in the Senate, so sought to delay that rather than have ratification rejected, and Michaels quotes a letter from CEO Ken Lay to President Bill Clinton stating ‘We urge the Kyoto Protocol not be submitted to the Senate in the near future, where pre-emptive rejection would remove the U.S. from a political leadership role’ (Michaels, 2002: 2).

Michaels (2002: 1-2) also refers to a part of Lay’s letter to Bill Clinton where he seeks ‘in essence, to harm the reputations and credibility of scientists who argued that global warming was an overblown issue. Apparently they were standing in Enron’s way’ (Michaels, 2002: 1). Lay asked Clinton to attempt to close down the public scientific debate on global warming, and to ‘moderate the political aspects’ of the discussion by appointing a bipartisan ‘Blue Ribbon Commission.’ The proposed commission was described as an ‘educational effort’ that would lead to ‘subsequent policy actions,’ which Lay himself recommended, including a directive to ‘establish the rules for crediting early, voluntary emissions reductions [of carbon dioxide].’

While seeking this action from President Clinton, Enron had apparently also commissioned its own study on the science of global warming, engaging as one of its consultants James Hansen, Director of the GISS at NASA, who had initiated the political alarm over global warming with his theatrical testimony to a Congressional committee in 1988. Michaels cites this report as concluding that there was a ‘very real possibility that the great climate alarm could be a false alarm. The anthropogenic warming could well be less than thought and favorably distributed’ (Michaels, 2002: 2).

Enron continued its lobbying efforts after the election of George W. Bush, and Enron had been a generous campaign contributor to Bush and several appointed to his administration, but this did not produce the desired result. Enron lobbied for a domestic ‘cap and trade’ scheme which would allow it to trade permits and to transmit through its pipelines the gas that would be advantaged over coal by such a policy.

From corporate sectoral interests and ENGOS

The play of interests demonstrated by Enron are not atypical and have continued through to the present, with the key struggle between coal and gas continuing, although the nuclear industry has been severely dented by the accident at Fukushima in March 2011.

The contest between coal and gas in the US swung decisively in favour of gas under the Obama administration, assisted greatly by the technological revolution of ‘fracking’ shale deposits containing oil and gas, which has driven down the price of gas relative to coal, resulting in substantial fuel switching in the electricity sector and the US nearing the position of becoming a net exporter of energy, a position it has not enjoyed since around 1970. It has meant that the US has met its Kyoto target, even though it refused to ratify Kyoto and various attempts to legislate policies such as cap-and-trade failed. In the face of Congressional resistance, Obama used executive orders to restrict coal and assist the use of gas, but these were placed at

considerable risk by the election as president of Donald Trump who is able to overturn any or all of Obama's executive orders (and withdraw from the Paris Agreement).

The shift to gas in the US was assisted by ENGOs such as the Sierra Club which mounted a 'Beyond Coal' campaign. It was supported in this by natural gas interests in a continuation of Bootlegger and Baptist coalition seen with Enron. Chesapeake Energy was exposed in 2012 as having donated \$25m to the Sierra Club. Chesapeake's founder and CEO at the time, in 2008 Aubrey McClendon also founded the American Clean Skies Foundation, a non-profit foundation that promoted natural gas and was funded by both the company and by McClendon. (McClendon left Chesapeake and committed suicide in 2016 the day after the Justice Department initiated anti-trust proceedings against him).

The Obama administration was not content with restricting coal and promoting gas domestically, however. It succeeded in having the World Bank adopt in 2014 a Directions Statement which restricted finance for coal-fired power stations in developing countries, using its quasi-hegemonic position in the Bank. It tried a similar move in the OECD to restrict the use of export credits to finance coal-fired power stations, but the different decision rules in that arena allowed Japan and Korea (which export technology) and Australia (which exports coal) to allow their continued use for High Efficiency, Low Emissions (HELE) technology. Early work on this topic in the OECD had included gas along with coal, and it seems likely that the US was responsible for the confinement of the final decision to coal.

It is somewhat surprising, given the common cause that gas producers and ENGOs have found on climate change that ExxonMobil has come in for concerted campaigns specifically against it, with Greenpeace establishing a dedicated website, Exxonsecrets.org, in 2004 to expose the perfidy of Exxon's funding 'think tanks, associations and individuals denying global warming' (Greenpeace, 2004). Greenpeace sought to draw attention to the fact that since 1998 ExxonMobil had spent more than US\$12m (or \$2m pa) on 'climate sceptics.' To put this in context, ExxonMobil at that time was making annual donations to all recipients totalling in excess of \$100m (more than \$200m at the time of writing). Greenpeace assumed that because, among its many donations, it donated to the Cato Institute (for example) which took a sceptical position on climate change that somehow Exxon was buying influence with think tanks that would patently take the position they did *without* receiving a cent from ExxonMobil. Moreover, the illogic of Greenpeace's argument (which commits the logical fallacy known as the genetic fallacy — that the truth of any statement depends upon its origin) was demonstrated by ExxonMobil donating \$100m over several years to Stanford University's Global Climate and Energy Project; nobody has suggested that the views of Stanford faculty such as Paul Ehrlich or Stephen Schneider were tainted by this association.

ExxonMobil has been the poster child for the 'fossil fuel industry' obstructing the development of policy to deal with climate change, with Naomi Oreskes (2015) making the extraordinary charge (backed by legal action initiated by some Democrat Attorneys-General) that Exxon knew the 'truth' of climate change by the mid-1980s yet funded those 'denying' climate science, especially after the formation of the Global Climate Coalition in 1989. The claim is remarkable, given that when James Hansen presented his famous submission to Congress in 1988 he was very much ahead of the scientific consensus, and attribution of observed climate change to anthropogenic causes did not come in the Intergovernmental Panel on Climate Change until its 1996 Second Assessment Report — and even then under controversial circumstances. Moreover, if the reports of Hansen's report to EnRon are accurate, even Hansen had doubts in the late 1990s.

In fact, Exxon had had many of its in-house scientists undertake research, but it was of the view in 1989 that climate science was being exaggerated in an alarmist direction and was concerned about some of the policy directions. In particular, it was very much aware in 1989 of the regional impact of the impacts of climate change and the policies being proposed to address it. A briefing for the Exxon board in early 1989 stated ‘We can expect continued pressure to overstate current scientific understanding’ (Levine, 1989: 32). It was expected that, together with media exaggeration, there would be continuing initiatives to extend international negotiations. ‘As the degree of these efforts exceeds understanding (or the ability to respond constructively) there is a tendency towards a “crisis mentality”.’ The strategy recommended to the Board was to ‘recognise and support’ the need to improve the understanding of the problem – not just the science, ‘but the costs and economics tempered by the socio-political realities. That’s going to take years (probably decades)’ (Levine, 1989: 33). If anything, in other words, the perception by Exxon that climate science was being exaggerated led to it supporting actions and think tanks that would help understanding of the science, economics and ‘socio-political realities’ of climate science.

Exxon, while an MNC, focused its political activity in the US, but it received condemnation that was global, coming not just from ENGOs such as Greenpeace, but also from the Royal Society, especially under the presidency of Lord Robert May and head of public relations Bob Ward, who has a first degree in geology and an unfinished PhD thesis on palaeopiezometry. Ward even wrote to the director of corporate affairs at Esso, Exxon’s UK subsidiary, chiding him for Exxon’s continuing support (to the tune of \$2.9m in 2005) to ‘organisations in the United States which misinformed the public about climate change through their websites’ (Ward, 2006).

The targeting of Exxon was strange, because (after Gazprom) it held the second largest reserves of gas, and stood to benefit from decarbonisation policies, but it undoubtedly took a contrarian approach and recognized the different regional impacts of climate change and related policies, and that the way in which the responses developed had markedly unequal transatlantic impacts. But if Exxon was opposed *per se* to decarbonisation policies it would be acting against its corporate interests, as can be shown by a comparison with Royal Dutch Shell, which established a special business unit to lobby both the Obama administration and the World Bank to adopt its Directions Statement in 2014 restricting financing of coal-fired power stations in the developing world.

Decarbonisation has been more marked in the US than Germany, and the political activity by business in this process is interesting. By 2015, carbon dioxide emissions from electricity generation were the lowest since 1993 and US energy-related emissions were 12% below their 2005 levels thanks to the availability of cheap shale gas (EIA, 2017). This process has been assisted in recent years by the Obama Administration, with tighter regulation of coal stations (including listing CO₂ as a pollutant by the EPA) driving up prices, and the Sierra Club with its ‘Beyond Coal’ campaign, supported (in addition to funding by Chesapeake Energy) by \$80m in donations from Michael Bloomberg and armed with 200 lawyers seeking to close down coal plant-by-plant (Grunwald, 2015). The ‘War on Coal’ was central the 2016 presidential election campaign, with Donald Trump promising to end it and Hilary Clinton famously stating ‘we’re going to put a lot of coal miners and coal companies out of business . . .’ (CNN, 2016). Clinton won the popular vote, but amassed a surplus of vote in liberal Democrat states and lost the election by perhaps as few as 70,000 votes in in rustbelt states where unemployed coal miners and the like voted for Trump. As a result, Trump was elected promising to end the war on coal and wind back the Paris Agreement.

If anything, the political climate on climate change in the US has become more divided on partisan lines, helped by campaigns by groups such as 350.org in favour of divestment by fund managers and individuals of holdings in fossil fuel companies. Modelled on the divestment campaign against Apartheid South Africa, this is not likely to succeed, as it ignores the effect on share prices (Teoh, Welch and Wazzan, 1999). If such campaigns *do* drive down share prices, they do not directly affect the corporation and they make buying shares more attractive to investors with fewer scruples (MacAskill, 2015). Indeed, in rather bad news for ‘ethical’ investment funds, divestment campaigns and private regulatory regimes involving product certification schemes, ‘sinful’ investments (or ‘sinvestments’) consistently outperform comparable stocks and institutions subject to norms pay a financial cost in abstaining from these stocks (Hong and Kacperczyk, 2009).

A further problem arises when one considers that divestment could have little effect on global oil production because, while Exxon is the largest oil (and gas) company in the US, it is only the 11th biggest oil company in the world in terms of reserves. Royal Dutch Shell is 19th and BP the 20th largest. All but one (the Russian Lukoil) of the rest of the top 20 in terms of reserves are owned by governments: Iran, Saudi Arabia, Venezuela, Iraq, Nigeria, and Russia. As Ridley (2015) has pointed out

These regimes will pay no attention to students occupying senior common rooms in London. Indeed, if they see quoted firms hurt by divestment and pulling out of oil, they will shed a crocodile tear, jack up the price, and move in.

One advocate of divestment has been Tom Steyer, identified as one of Obama’s largest campaign contributors who as a trustee of Stanford University was unable to persuade his fellow trustees to divest its \$22 billion endowment in 2016. He and his wife provided Stanford with \$40 million in 2009 to establish the TomKat Center for Sustainable Energy and another \$7 million in 2010 for the Steyer-Taylor Center for Energy Policy and Finance, which was aimed at ensuring ‘that investments are made in an economically and environmentally reasonable way across the entire energy system: in renewable sources, fossil fuels and nuclear power, and critically, in energy-efficiency technologies.’ (Kahn and Hulac, 2016). Stanford’s decision came on the same day that Steyer committed \$25m for a campaign on climate change in the 2016 elections (White, 2016) – down somewhat from the \$100m he contributed in the 2014 mid-terms (Valdmanis, Jensen and Paul, 2014).

Somewhat ironically, Steyer’s hedge fund Farallon Capital Management had made much of his fortune investing in coal in Australia and Indonesia, continuing to do so after he stepped down from his management role in 2012 and embraced renewables (Valdmanis, Jensen and Paul, 2014). Steyer was not alone in backing both sides, with George Soros also backing campaigns against fossil fuels through Move.On.org – against both gas and coal – and then investing later in both sectors (Mathiesen, 2015). Both Steyer and Soros have channeled funds to the campaign against the Carmichael coal mine in Australia, which the Indian company Adani has sought to develop to supply steaming coal for power generation in India (Barbaro and Davenport, 2014; Torres, Alec, 2014). Steyer was also accused of standing to benefit from the cancellation of the Keystone XL pipeline because he was invested in Kinder Morgan, a company that owned a rival pipeline connecting the Alberta tar sands to the Pacific coast (Contorno, 2014).

Making Sense of MNCs and Climate Change

As this analysis shows, Klein is completely wrong in suggesting that climate change represents a challenge to capitalism. Rather, it poses both threats and opportunities at a sectoral level, with different impacts on different sectors. Indeed, some business actors have sought advantage in decarbonisation and have actively supported both ENGOs and governments in their efforts to

bring this result about. How MNCs see their interests as affected depends on the energy portfolios of individual firms, and whether they are concerned by questions of regional energy competition. Enron saw nothing but opportunities, both in the US and abroad, and sought to lobby in both state and national policy arenas in the US, but also participated directly in the process at Kyoto. It did so by means of conventional business lobbying strategies, but also sought to amplify its influence by forming ‘Bootlegger and Baptist’ coalitions with ENGOs, not just by seeking common outcomes, but by providing them with direct material support — support that was reciprocated in kind by the ENGOs supporting Enron’s efforts.

In contrast, Exxon was more focused on the US and the unequal impact of Kyoto on each side of the Atlantic and chose to encourage scepticism in both science and economic domains. As a result, it has been continuously attacked by ENGOs — even though its interests have been assisted by US policies under Obama to favour gas and disadvantage coal. Ironically, Exxon’s CEO from 2006 to 2016, Rex Tillerson, has now been appointed Secretary of State in a Trump administration that immediately began winding back Obama’s executive orders on energy and climate. Exxon under Tillerson embraced a carbon tax in 2009 (Tillerson, 2009) and endorsed the Paris Agreement, but even then Exxon was excoriated by ENGOs for just engaging in ‘PR’. Moreover, ExxonMobil was one of a number of petroleum and gas producers that urged Trump to remain in the Paris Agreement in 2017 (Henry, 2017).

Within climate change politics lies a complex web of relationships that extend to the politics of energy competition, with numerous ‘Bootlegger and Baptist’ coalitions — or coalitions between those focused on what March and Olsen (1984) would call the ‘logic of appropriateness’ and those focused on the ‘logic of consequences’. Sometimes these global networks are not particularly obvious, but apparent only at a level that goes largely unexamined by the media, and even academics.

To give a recent example, there has been a global campaign against the proposal by the Indian MNC Adani to develop the Carmichael coal mine in Queensland, Australia, to provide steaming coal for export to India. The Sunrise Project campaign has involved NGOs such as Getup! and there has been substantial funding from organisations supported by George Soros and his charitable foundations. Interestingly, Soros, having initially supported the controversial anti-fracking movie *Gasland*, has subsequently invested in fracked gas interests in both the US and in places such as Argentina. Assisting campaigns by ENGOs aimed at restricting coal via global campaigns thus supports and provides cover for Soros’s economic interests.

All this suggests that the emergence of multiple arenas of power in the global system has confused our understanding of how firms, sector associations and peak business associations participate in the making of policy that is increasingly global in nature. It is developed across Lowi’s (2001) three tracks (Micro, Meso and Macro) and involves alliances and coalitions — both tacit and explicit — with norms based actors. MNCs can choose to act through sector associations or peak associations or engage as single firm actors, but they can conduct their affairs through different channels in each of the three tracks — acting through a sector association or peak association globally, but pursuing a single firm strategy domestically. The macro level peak association, the ICC, has had little role precisely because climate change policy is regulatory. And EnRon was aware of the strategy that would be played by any company that might wish to protect its individual reputation against attack by ENGOs by engaging in accommodation while expected they ‘hide under the shield of a trade association.’ Sector groups can thus adopt a less popular stance in the face of sectoral threats while allowing individual corporations to signal their virtue by demonstrating Corporate Social Responsibility adopting Triple Bottom Line Accounting and engaging with their stakeholders.

Financial MNCs such as hedge funds can more readily exploit arbitrage opportunities arising from regulatory policies dealing with climate change and energy competition because they are not directly involved in any economic activity and are therefore not harmed by campaigns targeting particular energy sources – indeed, they exploit and encourage such campaigns.

Those actors focused on the ‘logic of appropriateness’ can also act in multiple arenas and any coalitions with interest-based actors are not necessarily readily discernible. The multi-national, multi-arena nature of the global policy process complicates the manner in which interests organize around policy issues not just according to policy type, but according to the strategic selection of mode of political action and choice of arena. This is much in agreement with Philip Cerny’s (1995) observation that overlapping ‘playing fields’ were developing, comprised of increasingly heterogeneous arenas at transnational, local, and intermediate levels, which correspond closely to Lowi’s three levels.

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