Business Leadership in Global Climate Change Responses

In the 2015 Paris Climate Change Agreement, 195 countries committed to reducing greenhouse gas emissions in recognition of the scientific consensus on the consequences of climate change, including substantial public health burdens. In June 2017, however, US president Donald Trump announced that the United States would not implement the Paris Agreement.

We highlight the business community's backing for climate change action in the United States. Just as the US federal government is backing away from its Paris commitments, many corporate executives are recognizing the need to address the greenhouse gas emissions of their companies and the business logic of strong environmental, social, and governance practices more generally.

We conclude that climate change could emerge as an issue on which the business and public health communities might align and provide leadership. (*Am J Public Health*. 2018;108:S80–S84. doi:10.2105/AJPH.2018.304336)

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Environmental problems are sometimes hard to detect until they reach a critical threshold and emerge as public health or ecological threats. When the underlying causes are spread widely over space or time or a solution requires significant cost or behavioral change, capturing public focus can be even more challenging. If action requires overcoming entrenched interests that benefit from the status quo, then the political mobilization necessary to produce collective action will be particularly difficult.[1] Climate change presents an extreme case on all counts. After decades of inaction, however, 195 nations committed in the 2015 Paris Climate Change Agreement to reduce greenhouse gas emissions that have been building up in the atmosphere for centuries.

However, President Trump announced on June 1, 2017, that the US government intends to leave the Paris Agreement and retreat from its commitment to a clean energy future. We reviewed scientific evidence for climate change action, and we highlight the present commitment to action, which spans the developing and developed worlds and includes cities, states and provinces, and companies. Indeed, the leadership of mayors, governors, and corporate executives has added bottom-up momentum. Perhaps most notable is the breadth of support in the business community for environmental protection in general and climate change initiatives in particular that have taken place despite the passive disregard and active denial of climate change by some in the business community. We conclude that a growing number of private companies, along with cities, states, universities, and other nongovernmental organizations, are pushing back against the Trump administration's withdrawal from the 2015 Paris Agreement.

Addressing the public health crisis of climate change requires efforts from multiple communities, so commitment from the business sector is of utmost importance. Thus, the better the field of public health understands business's positions on climate change and vice versa, the better climate change can be addressed and the related public health crisis avoided or mitigated. We explore climate change actions by the corporate world, especially in light of changes in the US federal leadership's position on the issue.

CLARIFYING CLIMATE CHANGE SCIENCE

Thousands of scientists from across the world participated in the UN-chartered Intergovernmental Panel on Climate Change.[2] The Intergovernmental Panel on Climate Change's recent *Fifth Assessment Report*[3] makes clear that greenhouse gas emissions threaten to produce not just overall warming but sea level rise, changed range and distribution of disease vectors, and changed rainfall patterns, leading to more droughts, wild fires, and floods. While acknowledging that some scientific uncertainties remain in climate science, an overwhelming scientific consensus has been reached on the seriousness of the problem.[4]

THE 2015 PARIS CLIMATE CHANGE AGREEMENT

Climate change has been recognized since the early 1980s.[5] At the 1992 Earth Summit in Rio de Janeiro, Brazil, 154 presidents and prime ministers signed the UN Framework Convention on Climate Change, committing to reduce greenhouse gas emissions. But little was done by many such nations in the ensuing 2 decades. Globally, emissions and accumulation of greenhouse gases in the atmosphere continued to rise.[6,7]

One reason the 1992 convention delivered little mitigation

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was the lack of consensus on who should do what ("burden sharing," in diplomatic language) beyond a common commitment to the broad principle of "common but differentiated responsibility."[8] The UN Framework Convention on Climate Change split the world into a small group of Annex 1 countries (roughly the 40 most developed nations at that time), which agreed to control emissions, and a long list of non–Annex 1 countries, which made no substantive commitment to emissions control.

The 2015 Paris Agreement changed this dynamic by emphasizing common responsibility and calling on signatories to develop climate change action plans under the banner of "nationally determined contributions" to control greenhouse gas emissions.[8] When negotiations closed, 188 nations issued nationally determined contributions, putting virtually every country in the world on the climate change playing field.

A second breakthrough in the Paris Agreement was the shift from national governments as the primary actors to broader engagement, calling on cities, states and provinces, citizens, and companies to advance efforts on climate change mitigation and adaptation. Indeed, hundreds of mayors, governors, premiers, and corporate leaders made their own commitments to action in Paris.[6] Negotiators acknowledged that climate change has many facets and requires, as former UN secretary-general Ban Ki-moon liked to say, "all hands on deck."[9]

BUSINESS BACKS ACTION

The business community's broad embrace of the 2015 Paris call for corporate action to reduce emissions reflects another point of learning over previous decades. At the 1992 UN Framework Convention on Climate Change, most business leaders were skeptical about climate change and many remained defensive about environmental requirements more generally.[10] Today, although opposition remains, many business leaders recognize the value of environmental protection.[11,12] A growing number of business leaders have built energy, environmental, and sustainability elements into their day-to-day corporate strategy.[13] Some chief executive officers (CEOs) have been vocal for years about opportunities to "do good and do well" simultaneously. Paul Polman of Unilever, for example, developed the Sustainable Living Plan, which puts environmental progress on the household and societal levels at the center of his business growth strategy and charges all the company's 170 000 worldwide employees to fold sustainability into their work.[14] Similarly, Elon Musk, CEO of Tesla, in his 2006 Master Plan, put "provide zero emission electric power generation options" alongside "build sports car" as core elements of Tesla's mission.[15]

The range of corporate leaders calling for climate change action is now much broader. The World Economic Forum organized an open letter in 2015, before the Paris Agreement, from nearly 100 CEOs to world leaders affirming "that the private sector has a responsibility to engage actively in global efforts to reduce greenhouse gas emissions, and to help the world move to a low-carbon, climate-resilient economy."[16] In urging President Trump to stay in the Paris Agreement, Jeff Immelt, CEO of General Electric, recently declared that "climate change is real" and that actions to reduce emissions make business as well as environmental sense.[17] More than 1000 companies joined the World Bank's 2015 call for a carbon charge.[18] Hundreds of companies joined the Carbon Pricing Leadership Coalition, a group of governments and businesses launched in 2014 at the UN Climate Summit and led by the World Bank, which aims to grow the application of carbon pricing to lower emissions of greenhouse gases, while keeping economic advantages.[19] Hundreds of US companies publicly announced support for the Paris Agreement and commitments to reduce their emissions.[20]

Many corporate leaders now recognize that companies cannot thrive in societies with ecological and public health problems of the sort that climate change threatens to cause.[21] More notably, a growing number of executives recognize that a strategic focus on environmental issues can pay off in the marketplace.[22] Although compliance with environmental regulations can be costly for some industries, ignoring sustainability challenges exposes companies to serious risks, including changed customer expectations and product displacement, nongovernmental organization protests or boycotts, unfavorable media exposure, and governmental pushback, including new regulatory obligations.[23] However, environmental or sustainable strategies can deliver cost savings. Companies investing in energy efficiency—for example, LED lighting, updated equipment, and more efficient logistics—often achieve cost reductions.[13] Likewise, businesses that reduce waste and improve production practices to minimize scrap and increase resource productivity cut costs and strengthen competitive position.[24]

More dramatically, many companies have found ways to drive growth through environmental initiatives.[25] Businesses that can offer products or services that solve customers' energy or environmental challenges can see competitive positions strengthen as these market offerings deliver added value.[26] A recent Massachusetts Institute of Technology and Bonston Consulting Group study found that half of all companies they surveyed reported changing their business models to take advantage of sustainability opportunities.[27] Mondelez International (formerly Kraft Foods), for example, discovered that integrating sustainability throughout its value chain opened new markets, expanded its consumer base, and increased profitability. Similarly, General Electric's position in the jet engine marketplace was strengthened by success in increasing its engines' fuel efficiency. The company's strategic focus on "ecomagination" has spurred sustainability-oriented innovation across many of General Electric's business lines.[28] Our research shows an ever-growing number of companies reporting substantial sustainability-driven revenues and rising profits, with 9 companies reporting more than $1 billion in profit from sustainable products or services.[29]

Beyond the bottom line, a significant number of business leaders today recognize that environmental leadership often translates into enhanced brand awareness and other elements of intangible value. When Coca-Cola's CEO James Quincey makes sustainability a corporate value and urges President Trump not to abandon the Paris

Agreement, he is not just acknowledging his company's dependence on water. He is also recognizing that Coca-Cola has a market capitalization that reflects more than $80 billion in intangible value[30] that might be threatened if the consuming public concludes that the company was acting in an environmentally irresponsible manner. On the other hand, a number of companies have discovered that failing to embrace sustainability as a core value can result in damaged reputations and other business challenges.[31] BP and Volkswagen are notable recent cases of environment-driven brand damage that translated into billions of dollars of lost market capitalization.[32,33]

Robust corporate environmental efforts have also been demonstrated to enhance customer loyalty and deepen employee engagement (particularly of today's prized knowledge workers).[34] Investors are increasingly asking about environmental, social, and governance practices of companies with a special worry about the future prospects of any business that has significant carbon exposure or other evidence of environmental practices that could become liabilities.[35]

PROTECTING THE PAST VS BUILDING THE FUTURE

Despite the efforts we have described, the business sector does not uniformly support climate change mitigation, and some companies openly support a rollback of America's climate change commitments. They have brought significant political pressure through their campaign contributions and lobbying efforts.[36] Coal companies, in particular, have celebrated the prospect of abandoning the Obama administration's Clean Power Plan, the structure of state-by-state greenhouse gas emission targets for the utility sector that the Environmental Protection Agency (EPA) developed to induce a shift toward cleaner fuels and greater energy efficiency.[37] In fact, a recent study of climate change communications from ExxonMobil concluded that the company misled the public regarding climate change science.[38] Still, the Trump administration's decision to pull out of the 2015 Paris Agreement and its plan to walk away from the Clean Power Plan seem unlikely to reverse the decline of coal as a source of US electricity for several reasons.

First, market economics continue to steer utilities away from coal-fired generation and toward natural gas and to emphasize solar and wind power.[39,40] Simply put, those building power plants, which have decades-long lifetimes, do not see coal as a good bet over a 40- or 50-year timeframe.[41,42] Second, the Clean Power Plan cannot be eliminated with the stroke of a pen. US administrative law allows the EPA to revise its rules only after going through a new regulatory process, including building a scientific record that supports inaction or reduced emphasis on climate change.[43,44] Third, if the EPA introduces much weaker emissions controls, it will almost certainly be challenged in court, especially if it withdraws the so-called endangerment finding that requires emissions controls under the US Clean Air Act for any air pollutant, including greenhouse gas emissions found to "endanger public health and public welfare."

Ultimately, any EPA effort to construct an administrative record that purports to suggest that greenhouse gas emissions are not a public health threat in support of weaker regulations would seem likely to run afoul of the fundamental administrative law standard of review: that the EPA not act in a "arbitrary and capricious" manner.[45] Finally, much of the disincentive for burning coal comes from the EPA's Mercury and Air Toxics Standards, not climate change regulations.[46]

LONG-TERM GAINS AT SHORT-TERM COSTS

Environmental protection, like many public health issues, often involves changing behavior and short-term investments for long-term benefits. Around the world, including in the United States, much (but not all) of the public has come to recognize the threat of climate change.[47] Even without leadership from Washington, governors and mayors in 34 states have rolled out climate change action plans.[48] Climate change action plans are only part of broader state-level commitments to a transformed energy future. California, Florida, and 15 other states have strengthened their renewable portfolio standards, developed new incentives for renewable energy deployment, or refined their carbon reduction programs.[49] Connecticut, New York, and a growing number of other states have launched green banks to finance broader deployment of renewable power and expanded energy efficiency.[50]

In the aftermath of Trump's decision to leave the Paris Agreement, California, New York, and Washington State announced the formation of the US Climate Alliance, a coalition of states that will work to meet their commitments under the Paris Agreement.[51] Hundreds of mayors, university presidents, and corporate leaders are working on a proposal to present to the United Nations that would allow them to submit their climate targets and emissions reductions for inclusion alongside countries in the Paris Agreement.[52]

In the private sector, some companies are investing in the energy efficiency and renewable power breakthroughs required to deliver a clean energy future. Google, Apple, Facebook, and more than 90 other companies around the world, for example, have committed to using 100% renewable energy in all of their operations.[53] Meanwhile, companies increasingly recognize the opportunity energy efficiency initiatives provide to reduce operational costs and improve their carbon footprints.[54] A growing number of companies are establishing internal greenhouse gas emissions reduction goals, with 85% of companies recently surveyed by the Carbon Disclosure Project reporting that they have established emissions targets.[55]

In brief, the 2015 Paris Agreement has galvanized a push for real change in the energy foundations of the global economy. The expectation that the world will now move on to a more sustainable energy path has an important dimension that is self-fulfilling as business leaders lock in assumptions about their future energy options and cost expectations.

Ironically, although the United States may experience more hurricanes and suffer damage to farming and forests as well as other climate change consequences in the next several decades, much of the early and most severe impacts will be in the developing world.[56] Island nations and other low-lying countries, such as Bangladesh, are likely to be particularly hard hit.[57]

The prospect of more command and control regulations that limit individual and corporate choices draws particular ire. But fear of more big government controls will lead to a debate over policy instruments, not objection to action on climate change generally. Clearly, US politics has unique elements that provide some explanation for its anomalous position in the global conversation about climate change. Notably, the fossil fuel industry pushes back against climate change science more aggressively in the United States than in other parts of the world.

With the future health and welfare of the United States and the rest of the world at stake, the fact that an important swath of US political leadership evinces a lack of concern about climate change and unwillingness to act must be seen as a public health communications problem as well. Public health experts helped change American understanding and attitudes (and thus the direction of US politics) with regard to smoking, seatbelts, and a number of other issues. That same degree of effort to increase awareness may now be needed for climate change.

A changing climate is anticipated to bring substantial health burdens with increases in many environmental exposures that harm health, including wildfires, droughts, air pollution, and disease-bearing vectors, among others, as well as the potential for harmed health through conflict and environmental refugees from dwindling resources. The health effects of climate change are numerous and an area of active research. The 2017 Lancet Commission on Health and Climate Change tracks progress on health and climate change on the basis of 40 indicators.[58] To list just a few, health impacts included weather-related disasters, food security and food-borne diseases, infectious disease, and air pollution. In fact, a survey of members of the American Thoracic Society from 68 countries indicated that most had already observed adverse health outcomes of climate change in their patients.[59] The 2015 Paris Agreement highlighted the health consequences of climate change as a driving reason to control greenhouse gas emissions.[60] The agreement also noted the potential for coimpacts (often called cobenefits): the short-term improvements in air quality and subsequently in health from policies designed to lower greenhouse gas emissions that also lower levels of harmful air pollutants.

The consensus for climate change science is broad and deep across the rest of the world. The US public broadly supports climate change mitigation efforts. But US opposition to action, although limited, remains strong. Environmental groups have been beating the climate change drum for years. Much of the business world has come to regard climate change action as a good, not a bad, thing. In vast numbers, corporate leaders support greenhouse gas emission controls and are ready for the shift to a clean energy future, and in the future, we will see if such support translates into action. But these voices are not carrying the day politically in the United States. Additional champions are required. As the public health community is already a critical voice in advancing the call for climate change action, climate change could emerge as an issue on which the business and public health communities align. AJPH

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